

MODEL : SDR-240-48

## OUTPUT FUNCTION TEST

| NO | TEST ITEM                      | SPECIFICATION                                  | TEST CONDITION                                               | RESULT                                                 | VERDICT |
|----|--------------------------------|------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------|---------|
| 1  | RIPPLE & NOISE                 | V1:50 mVp-p (Max )                             | I/P: 230VAC<br>O/P:FULL LOAD<br>Ta:25℃                       | V1: 20 mVp-p (Max )                                    | P       |
| 2  | PEAK POWER                     | V1:360W (>3sec.)                               | I/P: 230VAC<br>O/P:360W<br>Ta:25℃                            | OK                                                     | P       |
| 3  | OUTPUT VOLTAGE<br>ADJUST RANGE | CH1:48 V~ 55V                                  | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:MIN LOAD<br>Ta:25℃       | 46.97 V~ 56.32 V/ 230 VAC<br>46.96 V~ 56.31 V/ 115 VAC | P       |
| 4  | OUTPUT VOLTAGE<br>TOLERANCE    | V1: 1 %~ -1 % (Max)                            | I/P: 100 VAC / 264 VAC<br>O/P:FULL/ MIN LOAD<br>Ta:25℃       | V1: 0.04 %~ -0.04 %                                    | P       |
| 5  | LINE REGULATION                | V1: 0.5 %~ -0.5 % (Max)                        | I/P: 100VAC ~ 264 VAC<br>O/P:FULL LOAD<br>Ta:25℃             | V1: 0.02 %~ -0.02 %                                    | P       |
| 6  | LOAD REGULATION                | V1: 1 %~ -1 % (Max)                            | I/P: 230 VAC<br>O/P:FULL ~MIN LOAD<br>Ta:25℃                 | V1: 0.03 %~ -0.03 %                                    | P       |
| 7  | SET UP TIME                    | 230VAC: 650 ms (Max)<br>115 VAC: 1300 ms (Max) | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:FULL LOAD<br>Ta:25℃      | 230VAC/ 458.2 ms<br>115VAC/ 910 ms                     | P       |
| 8  | RISE TIME                      | 230VAC: 60 ms (Max)<br>115VAC: 60 ms (Max)     | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:FULL LOAD<br>Ta:25℃      | 230VAC/ 43 ms<br>115VAC/ 41 ms                         | P       |
| 9  | HOLD UP TIME                   | 230VAC: 20 ms (TYP)<br>115VAC 20 Ms 【typ】      | I/P: 230 VAC<br>O/P:FULL LOAD<br>Ta:25℃                      | 230VAC/ 35.6 ms<br>115 VAC/ 31.5 ms                    | P       |
| 10 | OVER/UNDERSHOOT TEST           | < +5%                                          | I/P: 230 VAC<br>O/P:FULL LOAD<br>Ta:25℃                      | TEST: <5 %                                             | P       |
| 11 | DYNAMIC LOAD                   | V1: 4800 mVp-p                                 | I/P: 230 VAC<br>O/P:FULL /Min LOAD<br>90%DUTY/1KHZ<br>Ta:25℃ | 192 mVp-p                                              | P       |

## INPUT FUNCTION TEST

| NO | TEST ITEM             | SPECIFICATION                                     | TEST CONDITION                                                                                                                          | RESULT                                     | VERDICT |
|----|-----------------------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------|
| 1  | INPUT VOLTAGE RANGE   | 88VAC~264 VAC                                     | I/P:TESTING<br>O/P:FULL LOAD<br>Ta:25℃                                                                                                  | 81 V~264V                                  | P       |
|    |                       |                                                   | I/P:<br>LOW-LINE-3V= 85V<br>HIGH-LINE+15%=300 V<br>O/P:FULL/MIN LOAD<br>ON: 30 Sec . OFF: 30 Sec 10MIN<br>( AC POWER ON/OFF NO DAMAGE ) | TEST: OK                                   |         |
| 2  | INPUT FREQUENCY RANGE | 47HZ ~63 HZ<br>NO DAMAGE OSC                      | I/P: 100VAC ~ 264 VAC<br>O/P:FULL~MIN LOAD<br>Ta:25℃                                                                                    | TEST: OK                                   | P       |
| 3  | POWER FACTOR          | 0.94 / 230 VAC(TYP)<br>0.99 / 115 VAC(TYP)        | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:FULL LOAD<br>Ta:25℃                                                                                 | PF= 0.948 / 230 VAC<br>PF= 0.997 / 115 VAC | P       |
| 4  | EFFICIENCY            | 94% (TYP)                                         | I/P: 230 VAC<br>O/P:FULL LOAD<br>Ta:25℃                                                                                                 | 94.1 %                                     | P       |
| 5  | INPUT CURRENT         | 230V/ 1.3 A (TYP)<br>115V/ 2.6 A (TYP)            | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:FULL LOAD<br>Ta:25℃                                                                                 | I = 1.17 A/ 230 VAC<br>I = 2.28 A/ 115 VAC | P       |
| 6  | INRUSH CURRENT        | 230V/ 55 A (TYP)<br>115V/ 33 A(TYP)<br>COLD START | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:FULL LOAD<br>Ta:25℃                                                                                 | I = 53.9 A/ 230 VAC<br>I = 28 A/ 115 VAC   | P       |
| 7  | LEAKAGE CURRENT       | < 1 mA / 240 VAC                                  | I/P: 264 VAC<br>O/P:Min LOAD<br>Ta:25℃                                                                                                  | L-FG: 0.72 mA<br>N-FG: 0.72 mA             | P       |

## PROTECTION FUNCTION TEST

| NO | TEST ITEM                   | SPECIFICATION                                                                                                                                                                                                                                                                      | TEST CONDITION                                          | RESULT                                                                                                                                                                                                                                                                                                 | VERDICT |
|----|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 1  | OVER LOAD PROTECTION        | 110 %~ 150 %<br><br>Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down o/p voltage with auto-recovery<br>>150% rated power, constant current limiting with auto-recovery within 2 seconds and may cause to shut down if over 2 seconds | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:TESTING<br>Ta:25°C  | 116 %/ 230 VAC<br>116 %/ 115 VAC<br><br>Normally works within 110 ~ 150% rated output power for more than 3 seconds and then shut down o/p voltage with auto-recovery<br>>150% rated power, constant current limiting with auto-recovery within 2 seconds and may cause to shut down if over 2 seconds | P       |
| 2  | OVER VOLTAGE PROTECTION     | CH1: 56 V~ 65V                                                                                                                                                                                                                                                                     | I/P: 230 VAC<br>I/P: 115 VAC<br>O/P:MIN LOAD<br>Ta:25°C | 61.09 V/ 230 VAC<br>61.07 V/ 115 VAC<br>Shut down o/p voltage with auto-recovery                                                                                                                                                                                                                       | P       |
| 3  | OVER TEMPERATURE PROTECTION | SPEC:<br>TSW1: 95 ± 5°C O.T.P.<br>NO DAMAGE                                                                                                                                                                                                                                        | I/P: 230 VAC<br>O/P:FULL LOAD                           | O.T.P. Active<br>Shut down o/p voltage , recovers automatically after temperature goes down                                                                                                                                                                                                            | P       |
| 4  | SHORT PROTECTION            | SHORT EVERY OUTPUT<br>1 HOUR NO DAMAGE                                                                                                                                                                                                                                             | I/P: 264 VAC<br>O/P:FULL LOAD<br>Ta:25°C                | NO DAMAGE<br>Shut down Re-power ON                                                                                                                                                                                                                                                                     | P       |

## CONTROL FUNCTION TEST

| NO | TEST ITEM                          | SPECIFICATION                                      | TEST CONDITION                | RESULT | VERDICT |
|----|------------------------------------|----------------------------------------------------|-------------------------------|--------|---------|
| 1  | DC OK REALY CONTACT RATINGS (max.) | 60Vdc/0.3A, 30Vdc/1A,<br>30Vac/0.5A resistive load | I/P: 230 VAC<br>O/P:FULL LOAD | OK     | p       |

## ENVIRONMENT TEST

| NO | TEST ITEM                                                         | SPECIFICATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | TEST CONDITION                                                       | RESULT                        | VERDICT |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
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| 1  | TEMPERATURE RISE TEST                                             | <div>MODEL : SDR-240-24</div> <div>1. ROOM AMBIENT    BURN-IN : 2 HRS</div> <div>I/P: 230VAC    O/P: FULL LOAD    Ta=25.2   °C</div> <div>2. HIGH AMBIENT    BURN-IN : 1 HRS</div> <div>I/P: 230VAC    O/P: FULL LOAD    Ta=66.2   °C</div> <table><tr><th>NO</th><th>Position</th><th>P/N</th><th>ROOM AMBIENT<br/>Ta=25.2   °C</th><th>HIGH AMBIENT<br/>Ta= 66.2   °C</th></tr><tr><td>1</td><td>Q1</td><td>STP21NM60N 17A/600V</td><td>44.9°C</td><td>85.4°C</td></tr><tr><td>2</td><td>Q5</td><td>STF25NM50N 22A/500V</td><td>44.9°C</td><td>85.6°C</td></tr><tr><td>3</td><td>U1</td><td>NCP1606A</td><td>56.4°C</td><td>97.0°C</td></tr><tr><td>4</td><td>U900</td><td>L6599D</td><td>61.3°C</td><td>103.4°C</td></tr><tr><td>5</td><td>C16</td><td>47u/25V UL10Kh YXM</td><td>61.3°C</td><td>100.3°C</td></tr><tr><td>6</td><td>C27</td><td>100u/25V UL10Kh    YXM</td><td>64.7°C</td><td>102.9°C</td></tr><tr><td>7</td><td>C151</td><td>100u/25V UL10Kh 6.3*11<br/>YXM</td><td>62.2°C</td><td>101.3°C</td></tr><tr><td>8</td><td>C105</td><td>1500u/35V UL10Kh ZLH</td><td>61.1°C</td><td>102.4°C</td></tr><tr><td>9</td><td>C20</td><td>22u/50V UL10Kh 5*11 YXM</td><td>52.6°C</td><td>94.3°C</td></tr><tr><td>10</td><td>C5</td><td>220u/450V 105°C    HU</td><td>49.8°C</td><td>90.5°C</td></tr><tr><td>11</td><td>C58</td><td>100u/25V UL5Kh KY</td><td>48.3°C</td><td>88.4°C</td></tr><tr><td>12</td><td>C60</td><td>100u/25V UL5Kh KY</td><td>45.8°C</td><td>85.9°C</td></tr><tr><td>13</td><td>C9</td><td>105/400V 10% 6A2G105K</td><td>50.3°C</td><td>94.1°C</td></tr><tr><td>14</td><td>C109</td><td>560u/35V    ZLH</td><td>55.7°C</td><td>96.8°C</td></tr><tr><td>15</td><td>T1 COIL</td><td>TF1863</td><td>78.6°C</td><td>119.3°C</td></tr><tr><td>16</td><td>T1 CORE</td><td>TF1863</td><td>74.2°C</td><td>113.8°C</td></tr><tr><td>17</td><td>T2</td><td>TF1865</td><td>56.1°C</td><td>96.5°C</td></tr><tr><td>18</td><td>L1</td><td>TR837</td><td>47.7°C</td><td>89.0°C</td></tr><tr><td>19</td><td>Q100</td><td>IRFB3307 130A/75V</td><td>60.3°C</td><td>104.3°C</td></tr><tr><td>20</td><td>BD1</td><td>10A/600VGLASS D10XB60</td><td>47.1°C</td><td>87.6°C</td></tr><tr><td>21</td><td>TSW</td><td>ST-22 95°C /W-TYPE</td><td>46.1°C</td><td>86.5°C</td></tr><tr><td>22</td><td>D3</td><td>BYT79X-600 15A/600V</td><td>50.9°C</td><td>91.8°C</td></tr><tr><td>23</td><td>LF1</td><td>TR827</td><td>45.4°C</td><td>86.3°C</td></tr><tr><td>24</td><td>LF2</td><td>TR828</td><td>48.2°C</td><td>89.5°C</td></tr><tr><td>25</td><td>TA</td><td></td><td>25.2°C</td><td>66.2°C</td></tr></table> |                                                                      |                               | NO      | Position | P/N | ROOM AMBIENT<br>Ta=25.2   °C | HIGH AMBIENT<br>Ta= 66.2   °C | 1 | Q1 | STP21NM60N 17A/600V | 44.9°C | 85.4°C | 2 | Q5 | STF25NM50N 22A/500V | 44.9°C | 85.6°C | 3 | U1 | NCP1606A | 56.4°C | 97.0°C | 4 | U900 | L6599D | 61.3°C | 103.4°C | 5 | C16 | 47u/25V UL10Kh YXM | 61.3°C | 100.3°C | 6 | C27 | 100u/25V UL10Kh    YXM | 64.7°C | 102.9°C | 7 | C151 | 100u/25V UL10Kh 6.3*11<br>YXM | 62.2°C | 101.3°C | 8 | C105 | 1500u/35V UL10Kh ZLH | 61.1°C | 102.4°C | 9 | C20 | 22u/50V UL10Kh 5*11 YXM | 52.6°C | 94.3°C | 10 | C5 | 220u/450V 105°C    HU | 49.8°C | 90.5°C | 11 | C58 | 100u/25V UL5Kh KY | 48.3°C | 88.4°C | 12 | C60 | 100u/25V UL5Kh KY | 45.8°C | 85.9°C | 13 | C9 | 105/400V 10% 6A2G105K | 50.3°C | 94.1°C | 14 | C109 | 560u/35V    ZLH | 55.7°C | 96.8°C | 15 | T1 COIL | TF1863 | 78.6°C | 119.3°C | 16 | T1 CORE | TF1863 | 74.2°C | 113.8°C | 17 | T2 | TF1865 | 56.1°C | 96.5°C | 18 | L1 | TR837 | 47.7°C | 89.0°C | 19 | Q100 | IRFB3307 130A/75V | 60.3°C | 104.3°C | 20 | BD1 | 10A/600VGLASS D10XB60 | 47.1°C | 87.6°C | 21 | TSW | ST-22 95°C /W-TYPE | 46.1°C | 86.5°C | 22 | D3 | BYT79X-600 15A/600V | 50.9°C | 91.8°C | 23 | LF1 | TR827 | 45.4°C | 86.3°C | 24 | LF2 | TR828 | 48.2°C | 89.5°C | 25 | TA |  | 25.2°C | 66.2°C | P |
| NO | Position                                                          | P/N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ROOM AMBIENT<br>Ta=25.2   °C                                         | HIGH AMBIENT<br>Ta= 66.2   °C |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 1  | Q1                                                                | STP21NM60N 17A/600V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 44.9°C                                                               | 85.4°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 2  | Q5                                                                | STF25NM50N 22A/500V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 44.9°C                                                               | 85.6°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 3  | U1                                                                | NCP1606A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 56.4°C                                                               | 97.0°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 4  | U900                                                              | L6599D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 61.3°C                                                               | 103.4°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 5  | C16                                                               | 47u/25V UL10Kh YXM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 61.3°C                                                               | 100.3°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 6  | C27                                                               | 100u/25V UL10Kh    YXM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 64.7°C                                                               | 102.9°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 7  | C151                                                              | 100u/25V UL10Kh 6.3*11<br>YXM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 62.2°C                                                               | 101.3°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 8  | C105                                                              | 1500u/35V UL10Kh ZLH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 61.1°C                                                               | 102.4°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 9  | C20                                                               | 22u/50V UL10Kh 5*11 YXM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 52.6°C                                                               | 94.3°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 10 | C5                                                                | 220u/450V 105°C    HU                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 49.8°C                                                               | 90.5°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 11 | C58                                                               | 100u/25V UL5Kh KY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 48.3°C                                                               | 88.4°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 12 | C60                                                               | 100u/25V UL5Kh KY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 45.8°C                                                               | 85.9°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 13 | C9                                                                | 105/400V 10% 6A2G105K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 50.3°C                                                               | 94.1°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 14 | C109                                                              | 560u/35V    ZLH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 55.7°C                                                               | 96.8°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 15 | T1 COIL                                                           | TF1863                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 78.6°C                                                               | 119.3°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 16 | T1 CORE                                                           | TF1863                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 74.2°C                                                               | 113.8°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 17 | T2                                                                | TF1865                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 56.1°C                                                               | 96.5°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 18 | L1                                                                | TR837                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 47.7°C                                                               | 89.0°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 19 | Q100                                                              | IRFB3307 130A/75V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 60.3°C                                                               | 104.3°C                       |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 20 | BD1                                                               | 10A/600VGLASS D10XB60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 47.1°C                                                               | 87.6°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 21 | TSW                                                               | ST-22 95°C /W-TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 46.1°C                                                               | 86.5°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 22 | D3                                                                | BYT79X-600 15A/600V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 50.9°C                                                               | 91.8°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 23 | LF1                                                               | TR827                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 45.4°C                                                               | 86.3°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 24 | LF2                                                               | TR828                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 48.2°C                                                               | 89.5°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 25 | TA                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 25.2°C                                                               | 66.2°C                        |         |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 2  | OVER LOAD BURN-IN TEST                                            | NO DAMAGE<br>1 HOUR ( MIN )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | I/P: 230 VAC<br>O/P: 110 % LOAD<br>Ta:25°C                           | TEST : OK                     | P       |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 3  | LOW TEMPERATURE<br>TURN ON TEST                                   | TURN ON AFTER    2    HOUR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | I/P: 230 VAC<br>O/P: 100 % LOAD<br>Ta= -30   °C                      | TEST : OK                     | P       |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 4  | HIGH HUMIDITY<br>HIGH TEMPERATURE<br>HIGH VOLTAGE<br>TURN ON TEST | AFTER 12    HOURS<br>IN CHAMBER ON<br>CONTROL    60   °C<br>NO DAMAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | I/P: 272 VAC<br>O/P:FULL LOAD<br>Ta= 60   °C<br>HUMIDITY=    95 %R.H | TEST : OK                     | P       |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 5  | TEMPERATURE<br>COEFFICIENT                                        | ± 0.03 %(0~50°C)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | I/P: 230 VAC<br>O/P:FULL LOAD                                        | ± 0.001    %(0~50°C)          | P       |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |
| 6  | VIBRATION TEST                                                    | A.1 Carton & 1 Set<br><div>(1) Waveform: Sine Wave                      (2) Frequency:10~500Hz</div> <div>(3) Sweep Time:10min/sweep cycle    (4) Acceleration:2G</div> <div>(5) Test Time:1 hour in each axis (X.Y.Z)</div> <div>(6) Ta:25°C</div><br>B. 1 Set<br>Mounting: Compliance to IEC60068-2-6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                      | TEST : OK                     | P       |          |     |                              |                               |   |    |                     |        |        |   |    |                     |        |        |   |    |          |        |        |   |      |        |        |         |   |     |                    |        |         |   |     |                        |        |         |   |      |                               |        |         |   |      |                      |        |         |   |     |                         |        |        |    |    |                       |        |        |    |     |                   |        |        |    |     |                   |        |        |    |    |                       |        |        |    |      |                 |        |        |    |         |        |        |         |    |         |        |        |         |    |    |        |        |        |    |    |       |        |        |    |      |                   |        |         |    |     |                       |        |        |    |     |                    |        |        |    |    |                     |        |        |    |     |       |        |        |    |     |       |        |        |    |    |  |        |        |   |

## SAFETY TEST

| NO | TEST ITEM            | SPECIFICATION                                                                              | TEST CONDITION                                                                                              | RESULT                                                                                      | VERDICT |
|----|----------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------|
| 1  | WITHSTAND VOLTAGE    | I/P-O/P: 3 KVAC/min<br>I/P-FG: 2 KVAC/min<br>O/P-FG: 0.5 KVAC/min<br>O/P-DC OK:0.5KVAC/min | I/P-O/P: 3.6 KVAC/min<br>I/P-FG: 2.4 KVAC/min<br>O/P-FG: 0.6 KVAC/min<br>O/P-DC OK: 0.6 KVAC/min<br>Ta:25°C | I/P-O/P: 6.07 mA<br>I/P-FG: 4.67 mA<br>O/P-FG: 23.99 mA<br>O/P-DC OK: 0.017 mA<br>NO DAMAGE | P       |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ<br>I/P-FG: 500VDC>100MΩ<br>O/P-FG:500VDC>100MΩ                        | I/P-O/P: 500 VDC<br>I/P-FG: 500 VDC<br>O/P-FG: 500 VDC<br>Ta:25°C / 70%RH                                   | I/P-O/P: 3.47 GΩ<br>I/P-FG: 3 GΩ<br>O/P-FG: 27.2 GΩ<br>NO DAMAGE                            | P       |
| 3  | GROUNDING CONTINUITY | FG(PE) TO CHASSIS<br>OR TRACE < 100 mΩ                                                     | 40 A / 2min<br>Ta:25°C / 70%RH                                                                              | 25 mΩ                                                                                       | P       |
| 4  | APPROVAL             | TUV: Certificate NO : R50136177<br>UL: File NO : E215312                                   |                                                                                                             |                                                                                             | P       |

## E.M.C TEST

| NO | TEST ITEM                                   | SPECIFICATION                                      | TEST CONDITION                                                | RESULT                        | VERDICT |
|----|---------------------------------------------|----------------------------------------------------|---------------------------------------------------------------|-------------------------------|---------|
| 1  | HARMONIC                                    | EN61000-3-2,-3<br>CLASS A<br>CLASS D               | I/P: 230/240/220 VAC/50HZ<br>O/P:100/75/50/25%LOAD<br>Ta:25°C | PASS                          | P       |
| 2  | CONDUCTION                                  | EN55022<br>CLASS B                                 | I/P: 230 VAC (50HZ)<br>O/P:FULL/50% LOAD<br>Ta:25°C           | PASS<br>Test by certified Lab | P       |
| 3  | RADIATION                                   | EN55022<br>CLASS B                                 | I/P: 230 VAC (50HZ)<br>O/P:FULL LOAD<br>Ta:25°C               | PASS<br>Test by certified Lab | P       |
| 4  | E.S.D                                       | EN61000-4-2<br>INDUSTRY<br>AIR:8KV / Contact:4KV   | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C                 | CRITERIA A                    | P       |
| 5  | E.F.T                                       | EN61000-4-4<br>INDUSTRY<br>INPUT: 2KV              | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C                 | CRITERIA A                    | P       |
| 6  | SURGE                                       | IEC61000-4-5<br>INDUSTRY<br>L-N :2KV<br>L,N-PE:4KV | I/P: 230 VAC/50HZ<br>O/P:FULL LOAD<br>Ta:25°C                 | CRITERIA A                    | P       |
| 7  | Test by certified Lab & Test Report Prepare |                                                    |                                                               |                               |         |

## M.T.B.F &amp; LIFE CYCLE CALCULATION

| NO | TEST ITEM                   | SPECIFICATION                                                                                                                                                                                                                             | TEST CONDITION | RESULT | VERDICT |
|----|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------|---------|
| 1  | CAPACITOR<br>LIFE CYCLE     | SDR-240-24:SUPPOSE C 105 IS THE MOST CRITICAL COMPONENT<br>I/P: 230VAC O/P:FULL LOAD Ta= 25 °C LIFE TIME= 261285 HRS<br>I/P: 230VAC O/P:FULL LOAD Ta= 60 °C LIFE TIME= 22614 HRS<br>I/P: 230VAC O/P:75%OAD Ta= 60 °C LIFE TIME= 43752 HRS |                |        | P       |
| 2  | MTBF                        | MIL-HDBK-217F NOTICES2 PARTS COUNT<br>TOTAL FAILURE RATE: 169.3K HRS                                                                                                                                                                      |                |        | P       |
| 3  | DMTBF/Accelerated Life Test | Demonstration Mean Time Between Failure : Above 30,000 hours @ TA 60°C                                                                                                                                                                    |                |        | P       |

# COMPONENT STRESS TEST

| NO | TEST ITEM                                                     | SPECIFICATION                                 | TEST CONDITION                                                                                                                      | RESULT                                    | VERDICT |
|----|---------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------|
| 1  | Power Transistor<br>( D to S) or (C to E) <b>Peak Voltage</b> | Q 5 Rated<br>STF25NM50N 22A/550V              | I/P:High-Line +3V = 267 V<br>O/P: (1)Full Load Turn on<br>(2) Output Short<br>Ta:25℃                                                | (1) 540 V<br>(2) 466 V                    | P       |
| 2  | Diode Peak <b>Voltage</b>                                     | Q100 Rated<br>YA868C15RSC 30A/150V            | I/P:High-Line +3V = 267 V<br>O/P: (1)Full Load Turn on<br>(2)Output Short<br>Ta:25℃                                                 | (1) 113 V<br>(2) 152 V                    | P       |
| 3  | <b>PFC Transistor</b><br>( D to S) or (C to E) Peak Voltage   | Q1 Rated<br>STP21NM60N 17A/600V               | I/P:High-Line +3V = 267 V<br>O/P: (1)Full Load Turn on<br>(2)Output Short<br>Ta:25℃                                                 | (1) 588 V<br>(2) 556 V                    | P       |
| 4  | <b>Input Capacitor Voltage</b>                                | C5 Rated<br>220u/450V 105℃ HU                 | I/P:High-Line +3V = 267 V<br>O/P: (1)Full Load Turn on /Off<br>(2) Min load Turn on /Off<br>(3)Full Load /Min load Change<br>Ta:25℃ | (1) 410.3 V<br>(2) 410.4 V<br>(3) 410.3 V | P       |
| 5  | <b>Control IC Voltage Test</b>                                | U900 Rated<br>L6599D 16V (max)<br>8.85V (min) | I/P:High-Line +3V = 267 V<br>O/P: (1)Full Load Turn on /Off<br>(2) Min load Turn on /Off<br>(3)Full Load /Min load Change<br>Ta:25℃ | (1) 12.56 V<br>(2) 12.46 V<br>(3) 12.54 V | P       |

| TEST RESULT | TESTER     | APPROVAL      |
|-------------|------------|---------------|
| PASS        | SANFORD SU | VINCENT TSENG |

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