



Test Report: HRP-300N3-12

300W Ultra-High Peak Power Supply

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

Control Function Test

Component Stress Test

■ SAFETY & E.M.C. TEST

Safety Test

E.M.C. Test

■ RELIABILITY TEST

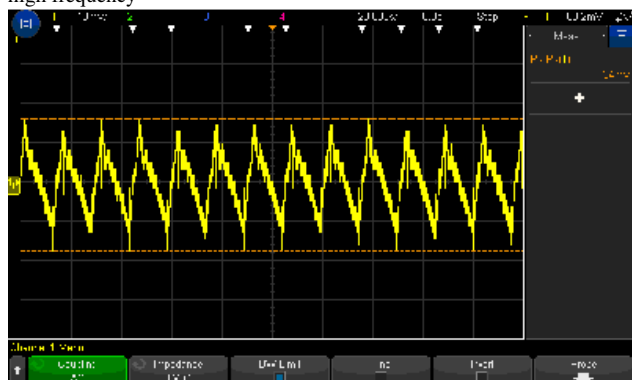
ENVIRONMENT TEST

DESIGN VERIFY TEST

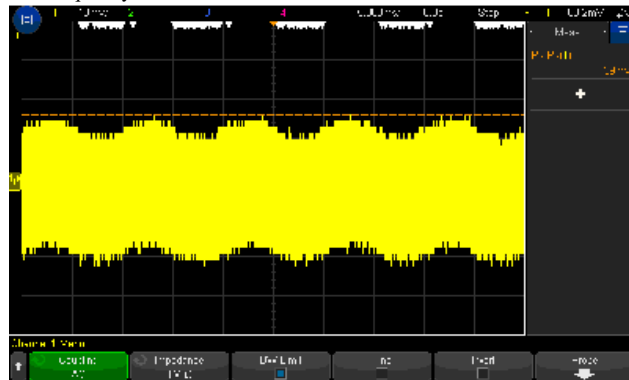
OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1:10.2 V~ 13.8 V	I/P : 230VAC I/P : 115VAC O/P : MIN LOAD Ta : 25°C	9.83V~ 14.61V/230VAC 9.83V~ 14.61V/115VAC
2	OUTPUT VOLTAGE(Max) TOLERANCE	V1:-1.0 % ~ +1.0 %	I/P: 85VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1: -0.04 % ~ 0.02 %
3	LINE REGULATION (Max)	V1:-0.3 % ~ +0.3 %	I/P: 85VAC~ 264VAC O/P:FULL LOAD Ta:25°C	V1: -0.01 % ~ 0.01 %
4	LOAD REGULATION(Max)	V1:-0.5 % ~ +0.5 %	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.04 % ~ 0.02 %
5	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	0.8%
6	RIPPLE & NOISE(Max)	V1: 120mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	V1: 39mVp-p

high frequency :



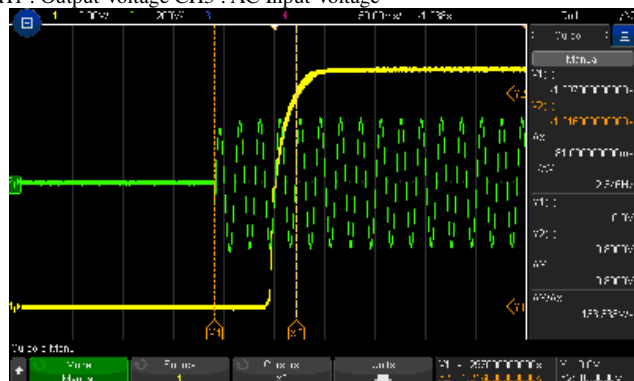
low frequency :



7	SET UP TIME(Max)	230VAC/ 1000ms 115VAC/2500ms	I/P : 230VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 81 ms 115VAC/ 151.8 ms
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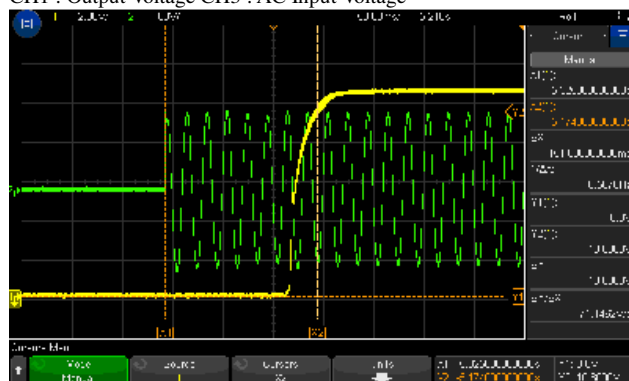
INPUT=230VAC/50HZ @ FULL LOAD

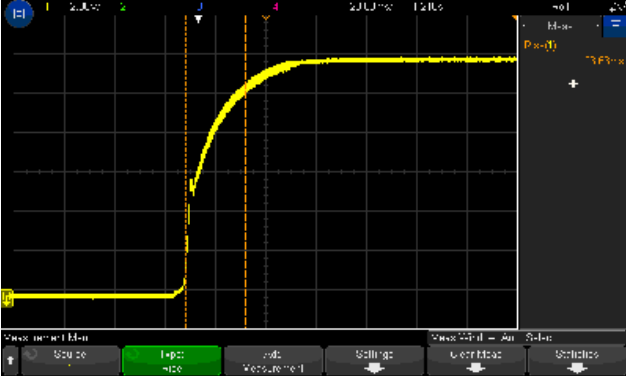
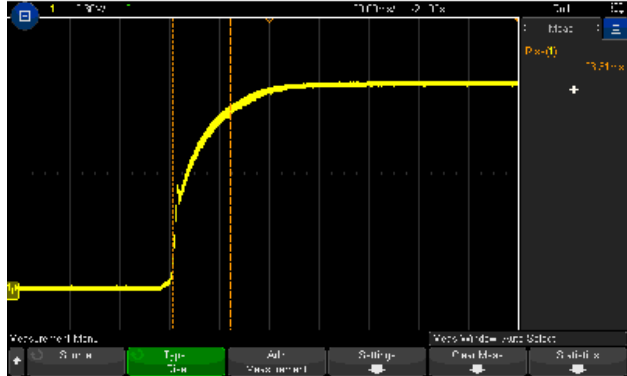
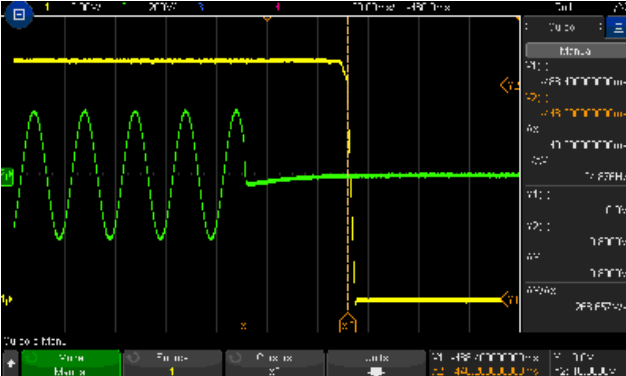
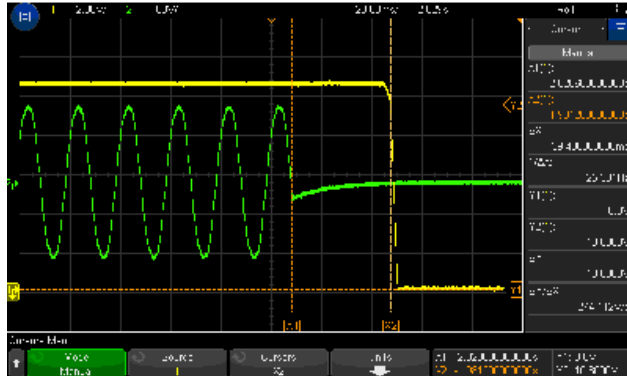
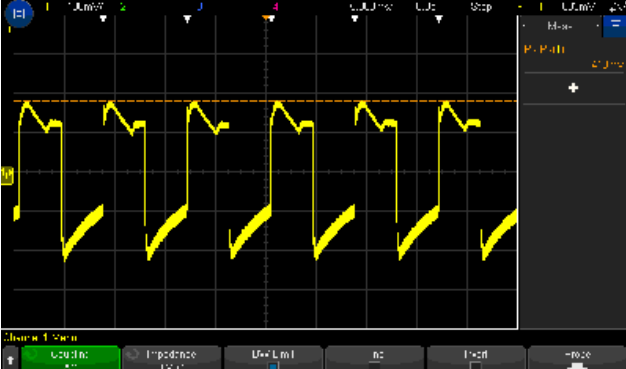
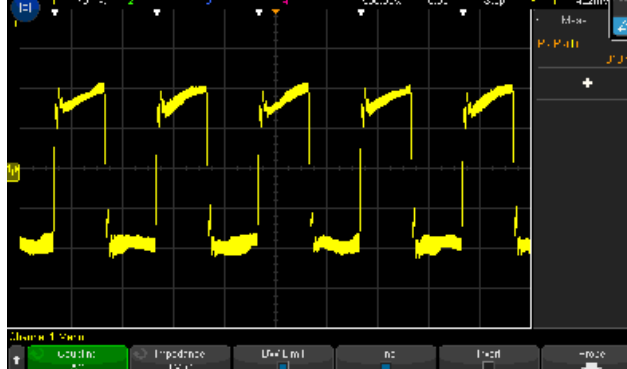
CH1 : Output Voltage CH3 : AC Input Voltage

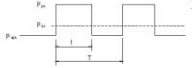
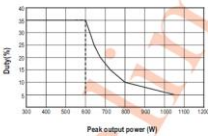


INPUT=115VAC/60HZ @ FULL LOAD

CH1 : Output Voltage CH3 : AC Input Voltage

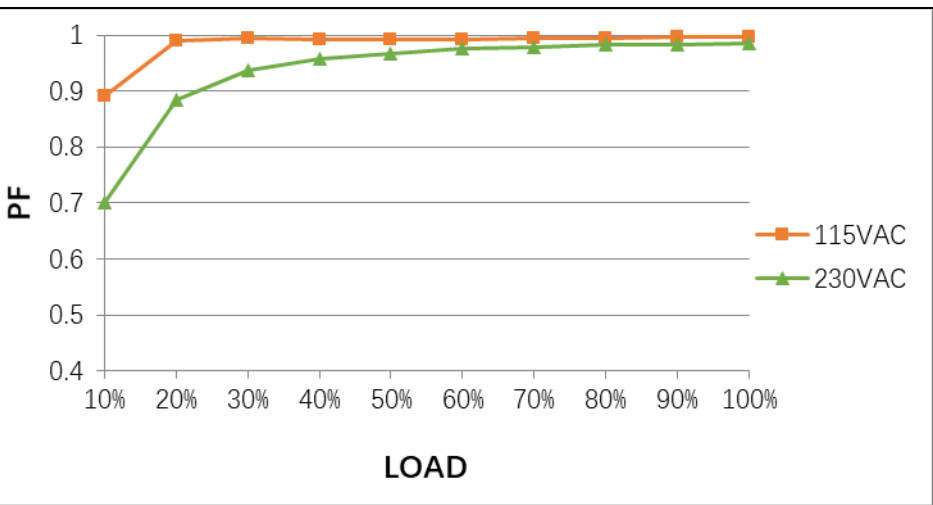
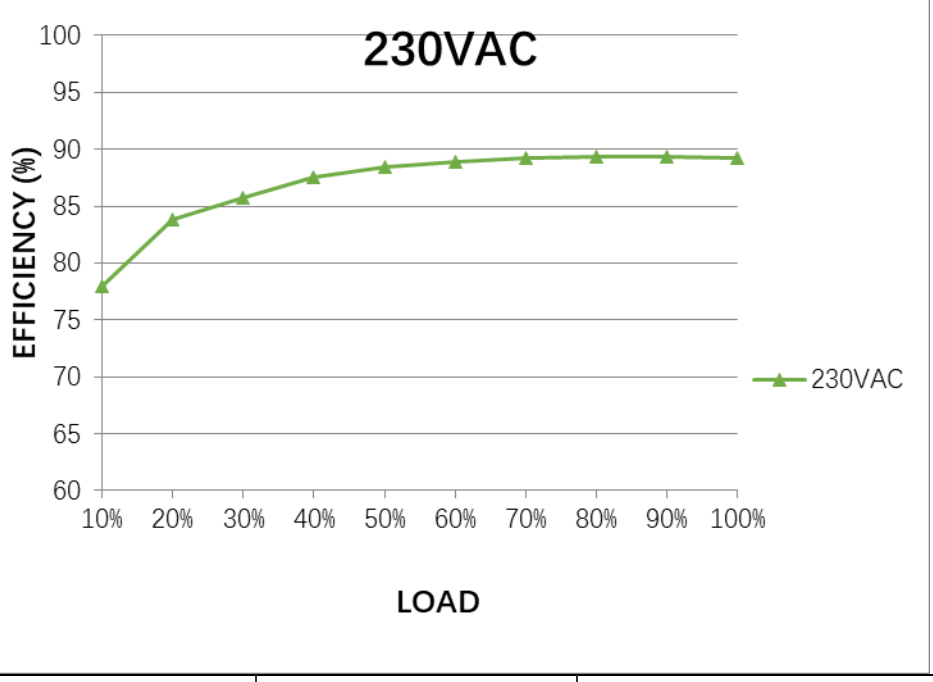


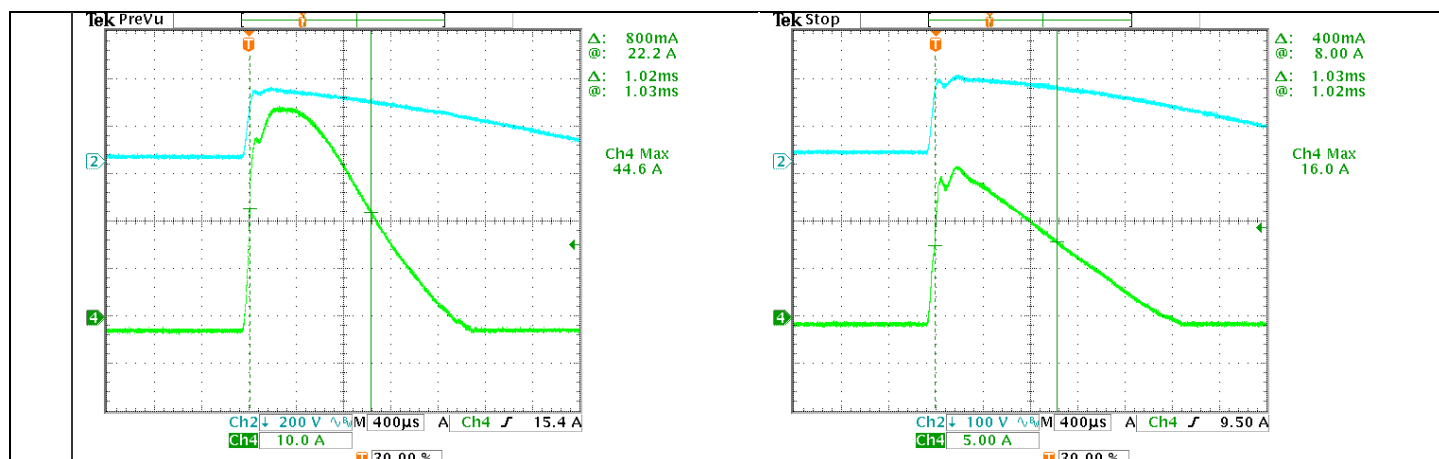
8	RISE TIME (Max)	230VAC/50ms 115VAC/50ms	I/P : 230VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 23.6 ms 115VAC/ 23.31 ms
INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage 				
INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage 				
9	HOLD UP TIME (Typ.)	230VAC/16ms 115VAC/16ms	I/P : 230VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 40.2 ms 115VAC/ 39.4 ms
INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH3 : AC Input Voltage 				
INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH3 : AC Input Voltage 				
10	DYNAMIC LOAD	V1: 1200 mVp-p	I/P: 230VAC O/P: (1)FULL/50% LOAD 50%DUTY / 120HZ (2)FULL/50% LOAD 50%DUTY / 1KHZ Ta:25°C	410mVp-p 310mVp-p
FULL /50% LOAD 50%DUTY / 120HZ 				
FULL /50% LOAD 50%DUTY / 1KHZ 				

11	TRANSIENT RECOVERY TIME	V1: 1200 mVp-p	I/P: 230VAC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	241mVp-p
12	PEAK POWER	1 HOUR NO DAMAGE Function Manual 1. Peak Power $P_{out} = \frac{1}{T} \times \int_0^T P_{out}(t) dt \leq P_{out}$ $Duty = \frac{t}{T} \times 100\% \leq 35\%$ $t \leq 5 \text{ sec}$  (b) If 17.5 times peak is required, please see below figure (t < 5 sec)  For example (24V model): $V_{in} = 200V$ $Duty_{max} = 15\%$ $P_{out} = P_{rated} \times 3.38W$ $P_{out} = 930W$ $t \leq 5 \text{ sec}$ $T \leq \frac{5.25C}{15\%} \approx 60 \text{ sec}$ $P_{out} = \frac{P_{out} \times P_{out} \times (T/G)}{T} \times \frac{8500d + P_{out}(50-5)}{50} < 3380W$ $P_{out} = 284.4W$	I/P : 200VAC I/P : 100VAC O/P:TESTING Ta:25°C	TEST: OK

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	85VAC~264VAC 120VDC~ 370VDC	(1) I/P:TESTING O/P:FULL LOAD (2) I/P:DC TESTING(L:+ N:-) O/P: FULL / 50% LOAD (3) I/P:DC TESTING(L:- N:+) O/P: FULL / 50% LOAD Ta:25°C I/P: LOW-LINE-3V=97 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	(1) 79.5V~264V (2) 101.1 Vdc~370Vdc/FULL LOAD 101.0Vdc~370Vdc/50% LOAD (3) 101.0Vdc~370Vdc/FULL LOAD 101.0Vdc~370Vdc/50% LOAD TEST: OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:85 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK
3	INPUT CURRENT (Typ.)	230V/ 1.8 A 115V/ 3.5A	I/P : 230VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	I = 1.62A/230VAC I = 3.30 A/115VAC
4	LEAKAGE CURRENT	< 2mA / 240 VAC	I/P : 240 VAC O/P : Min LOAD Ta : 25°C	1.34 mA
5	POWER FACTOR (Typ.)	0.95/ 230VAC 0.99/115VAC	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF= 0.986 /230VAC PF= 0.995 /115VAC
	P.F vs LOAD			

				
6	EFFICIENCY(Typ.)	88%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	89.1 %
	EFFICIENCY vs LOAD 			
7	INRUSH CURRENT(Typ.)	230V/75A 115V/35A COLD START	I/P : 230VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	I = 44.6 A/ 230VAC I = 16.0 A/ 115VAC T50= 1020 us/230V
	INPUT=230VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH4 : Input current		INPUT=115VAC/ 60HZ @ FULL LOAD CH2 : AC Input Voltage CH4 : Input current	



PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	Output power >105% rated for more than 5 seconds then shut down o/p voltage, re-power on to recover Constant current limiting for output power >380% (1140W) rated for more than 5 seconds and then shut down o/p voltage, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 100VAC O/P: TESTING Ta: 25°C	117%/ 264VAC 117%/ 230VAC 117%/ 100VAC 5S TEST: OK PROTECTION TYPE : Output power >105% rated for more than 5 seconds then shut down o/p voltage, re-power on to recover Constant current limiting for output power >380% (1140W) rated for more than 5 seconds and then shut down o/p voltage, re-power on to recover
2	OVER VOLTAGE PROTECTION	14.4V~16.8V Protection type : Shut down o/p voltage, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 85VAC O/P: MIN LOAD Ta: 25°C	15.4V/ 264VAC 15.4V/ 230VAC 15.4V/ 85VAC PROTECTION TYPE : OK Shut down o/p voltage , re-power on to recover .
3	OVER TEMPERATURE PROTECTION	Protection type : TSW1: Shut down o/p voltage , recovers automatically after temperature goes down . RTH3: Shut down o/p voltage , re-power on to recover	I/P: 264VAC I/P: 85VAC O/P: FULL LOAD	O.T.P. Active PROTECTION TYPE : OK TSW1: Shut down o/p voltage , recovers automatically after temperature goes down . RTH3: Shut down o/p voltage , re-power on to recover
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264VAC I/P: 85VAC O/P: FULL LOAD Ta: 25°C	NO DAMAGE PROTECTION TYPE : OK Constant current limiting, and shut down after 5 seconds , re-power on to recover .

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	REMOTE SENSE	S+ / S- >0.3V Compensate voltage drop on the load wiring up to 0.3V.	I/P: 230 VAC O/P: FULL LOAD Ta: 25°C	1.06V

2	DC OK SIGNAL	High (3.3 ~ 5.6V) :PSU turn on Low (0 ~ 1V) : PSU turn off. I/P: 230 VAC O/P:FULL LOAD Ta:25℃ Test Result :								
		<table><tr><td>Vout</td><td>DC OK SIGNAL</td></tr><tr><td>PSU turn on</td><td>5.118V</td></tr><tr><td>PSU turn off</td><td>0.09V</td></tr></table>			Vout	DC OK SIGNAL	PSU turn on	5.118V	PSU turn off	0.09V
Vout	DC OK SIGNAL									
PSU turn on	5.118V									
PSU turn off	0.09V									
3	FAN ON/OFF CONTROL	Load 35±15% or RTH2≥50℃ FAN ON	I/P: 230VAC O/P:TESTING	<table><tr><td></td><td>RTH(℃)</td><td>LOAD(%)</td></tr><tr><td>FAN ON</td><td>OK</td><td>33.3%</td></tr></table>		RTH(℃)	LOAD(%)	FAN ON	OK	33.3%
	RTH(℃)	LOAD(%)								
FAN ON	OK	33.3%								

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q3/Q4 Rated : 18 A/ 600 V	AC ON/OFF I/P: High-Line =300V VDS: O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8)Peak Load (350%) Ta:25°C	Q3 VDS: (1) 561V (2) 565V (3) 553V (4) 553V (5) 557V (6) 557V (7) 553V (8) 541V Q4 VDS: (1) 557V (2) 553V (3) 549V (4) 557V (5) 557V (6) 549V (7) 553V (8) 557V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated :34 A/ 600 V	I/P: High-Line =267V AC ON/OFF O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8)Peak Load (350%) Ta:25°C	Q1 VDS: (1) 429V (2) 429V (3) 429V (4) 429V (5) 429V (6) 429V (7) 429V (8) 429V
3	P.F.C DIODE	D1 Rated : 8A/ 600 V	I/P: High-Line =267V AC ON/OFF O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (4)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (5)Peak Load (350%) Ta:25°C	(1) 384V (2) 392V (3) 384V (4) 384V (5) 400V

4	Diode Peak Voltage	Q101 Rated :75 A/ 100 V VGS $\pm$ 20V Q103 Rated : 75 A/100 V VGS $\pm$ 20 V	AC ON/OFF I/P: High-Line =300V Vomax O/P: (1)Full Load (2)Output Short (3)Dynamic Load Full Load/ Min. Load 90%Duty/1KHz (4)Dynamic Load Full Load/ Min. Load 90%Duty/3KHz (5)Dynamic Load Full Load/ Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8).NO LOAD (9)Peak Load (350%) Vo: O/P: (1)Full Load Ta:25°C	Q101: Vomax VDS: (1) 83.7V (2) 82.9V (3) 82.9V (4) 83.7V (5) 83.7V (6) 83.7V (7) 80.5V (8) 80.5V (9) 74.0V Vo: (1) 81.3V Q103: Vomax VDS: (1) 91.9V (2) 89.3V (3) 92.7V (4) 92.7V (5) 91.9V (6) 91.9V (7) 86.1V (8) 85.3V (9) 86.3V Vo: (1) 92.7V
5	Input Capacitor Voltage	C5 Rated: : 150 μ / 400 V	I/P High-Line =267V O/P: (1)Full Load input on/off (2) Min load input on /Off (3)Full Load /Min load Change (4)Full load continue (5)Peak Load on/off (350%) (6)Peak Load continue (350%) Ta:25°C	(1) 380V (2) 376V (3) 396V (4) 380V (5) 396V (6) 396V
6	Control IC Voltage Test	PWM IC U1 Rated 11V~ 30 V O/P IC U201/ U101 Rated 3 V~ 30 V	AC ON/OFF I/P: High-Line =300V O/P: (1) FULL LOAD (2) Output Short (3) O.L.P (4) O.V.P. (5) NO LOAD VRmin (LOW LINE) Ta:25°C	U1 (1) 14.7V (2) 14.9V (3) 14.7V (4) 14.7V (5) 14.7V U201/U101 (1) 12.2V (2) 12.7V (3) 12.2V (4) 14.7V (5) 11.9V U110 (1) 16.5V (2) 14.7V (3) 16.4V (4) 15.7V (5) 13.V

SAFETY& E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 3KVAC/min I/P-FG :2KVAC/min O/P-FG:0.5KVAC/min	I/P-O/P: 3.6 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:0.6 KVAC/min Ta:25°C	I/P-O/P: 6.25mA I/P-FG: 5.58mA O/P-FG: 7.64mA NO DAMAGE
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ I/P-FG: 500VDC>100MΩ O/P-FG:500VDC>100MΩ	I/P-O/P: 600 VDC I/P-FG: 600 VDC O/P-FG: 600 VDC Ta:25°C	I/P-O/P:9999MΩ I/P-FG:9999MΩ O/P-FG:9999MΩ NO DAMAGE

3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100mΩ	40A / 2min Ta:25°C	3mΩ
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E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	EN55032 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	EN55032 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 AIR: 8KV / Contact: 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	EN61000-4-4 INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	IEC61000-4-5 L-N : 2KV L,N-PE : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
7	Test by certified Lab & Test Report Prepare Any contradictions of the test results, please refer to the latest EMC test report			

RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	TEMPERATURE RISE TEST	MODEL : HRP-300N3-12		
		1. ROOM AMBIENT BURN-IN : 2HRS		
		I/P : 230VAC O/P : FULL LOAD Ta= 25.0℃		
		2. HIGH AMBIENT BURN-IN : 2HRS		
		I/P : 230VAC O/P : FULL LOAD Ta= 50.0℃		

NO	Position	ROOM AMBIENT Ta= 25.0 °C	HIGH AMBIENT Ta= 50.0 °C
1	ZNR1	25.8℃	53.6℃
2	LF1	28.9℃	56.0℃
3	LF2	29.6℃	57.4℃
4	RTH1	28.9℃	56.6℃
5	RY1	41.3℃	68.9℃
6	BD1	38.4℃	65.2℃
7	L3	51.1℃	77.1℃
8	D1	40.6℃	67.2℃
9	Q1	38.7℃	65.7℃
10	C5	34.0℃	61.4℃
11	TSW1	33.8℃	61.0℃
12	U1	41.6℃	68.9℃

		<table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 25.0 °C</th><th>HIGH AMBIENT Ta= 50.0 °C</th></tr><tr><td>13</td><td>T2</td><td>41.5°C</td><td>69.3°C</td></tr><tr><td>14</td><td>Q3</td><td>45.6°C</td><td>74.7°C</td></tr><tr><td>15</td><td>Q4</td><td>46.1°C</td><td>74.9°C</td></tr><tr><td>16</td><td>T1 Core</td><td>55.2°C</td><td>82.0°C</td></tr><tr><td>17</td><td>T1 Coil</td><td>49.3°C</td><td>76.3°C</td></tr><tr><td>18</td><td>C124</td><td>43.6°C</td><td>71.8°C</td></tr><tr><td>19</td><td>R28</td><td>44.0°C</td><td>71.3°C</td></tr><tr><td>20</td><td>Q101</td><td>41.3°C</td><td>70.1°C</td></tr><tr><td>21</td><td>Q103</td><td>38.3°C</td><td>66.8°C</td></tr><tr><td>22</td><td>L100</td><td>55.7°C</td><td>84.7°C</td></tr><tr><td>23</td><td>C105</td><td>39.1°C</td><td>66.4°C</td></tr><tr><td>24</td><td>C106</td><td>35.1°C</td><td>62.1°C</td></tr><tr><td>25</td><td>RTH3</td><td>55.2°C</td><td>83.7°C</td></tr><tr><td>26</td><td>U201</td><td>33.2°C</td><td>60.2°C</td></tr><tr><td>27</td><td>U110</td><td>36.3°C</td><td>63.2°C</td></tr><tr><td>28</td><td>ZD102</td><td>43.0°C</td><td>70.9°C</td></tr><tr><td>29</td><td>J111</td><td>46.6°C</td><td>72.7°C</td></tr><tr><td>30</td><td>U101</td><td>43.5°C</td><td>71.3°C</td></tr><tr><td>31</td><td>R105</td><td>43.0°C</td><td>72.4°C</td></tr><tr><td>32</td><td>U2</td><td>35.7°C</td><td>63.0°C</td></tr><tr><td>33</td><td>D30</td><td>39.2°C</td><td>66.5°C</td></tr></table>				NO	Position	ROOM AMBIENT Ta= 25.0 °C	HIGH AMBIENT Ta= 50.0 °C	13	T2	41.5°C	69.3°C	14	Q3	45.6°C	74.7°C	15	Q4	46.1°C	74.9°C	16	T1 Core	55.2°C	82.0°C	17	T1 Coil	49.3°C	76.3°C	18	C124	43.6°C	71.8°C	19	R28	44.0°C	71.3°C	20	Q101	41.3°C	70.1°C	21	Q103	38.3°C	66.8°C	22	L100	55.7°C	84.7°C	23	C105	39.1°C	66.4°C	24	C106	35.1°C	62.1°C	25	RTH3	55.2°C	83.7°C	26	U201	33.2°C	60.2°C	27	U110	36.3°C	63.2°C	28	ZD102	43.0°C	70.9°C	29	J111	46.6°C	72.7°C	30	U101	43.5°C	71.3°C	31	R105	43.0°C	72.4°C	32	U2	35.7°C	63.0°C	33	D30	39.2°C	66.5°C
		NO	Position	ROOM AMBIENT Ta= 25.0 °C	HIGH AMBIENT Ta= 50.0 °C																																																																																								
		13	T2	41.5°C	69.3°C																																																																																								
		14	Q3	45.6°C	74.7°C																																																																																								
		15	Q4	46.1°C	74.9°C																																																																																								
		16	T1 Core	55.2°C	82.0°C																																																																																								
		17	T1 Coil	49.3°C	76.3°C																																																																																								
		18	C124	43.6°C	71.8°C																																																																																								
		19	R28	44.0°C	71.3°C																																																																																								
		20	Q101	41.3°C	70.1°C																																																																																								
		21	Q103	38.3°C	66.8°C																																																																																								
		22	L100	55.7°C	84.7°C																																																																																								
		23	C105	39.1°C	66.4°C																																																																																								
		24	C106	35.1°C	62.1°C																																																																																								
		25	RTH3	55.2°C	83.7°C																																																																																								
		26	U201	33.2°C	60.2°C																																																																																								
		27	U110	36.3°C	63.2°C																																																																																								
		28	ZD102	43.0°C	70.9°C																																																																																								
		29	J111	46.6°C	72.7°C																																																																																								
		30	U101	43.5°C	71.3°C																																																																																								
		31	R105	43.0°C	72.4°C																																																																																								
		32	U2	35.7°C	63.0°C																																																																																								
		33	D30	39.2°C	66.5°C																																																																																								
		2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 117% LOAD Ta : 25°C	TEST : OK																																																																																							
		3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 264VAC/100VAC O/P : 100 %LOAD Ta= -45 °C	TEST : OK																																																																																							
		4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C/95 %R.H NO DAMAGE	I/P : 272 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK																																																																																							
		5	TEMPERATURE COEFFICIENT	± 0.03%/°C (0~50°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.009%/°C (0~50°C)																																																																																							
		6	STORAGE TEMPERATURE TEST	-40~85°C	1. Thermal shock Temperature : -45°C ~ +90°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 10 CYCLE 5. Input/Output condition : STATIC																																																																																								
		7	THERMAL SHOCK TEST	-40~50°C	1. Thermal shock Temperature : -45°C ~ +55°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 16 CYCLE 5. Input/Output condition : 15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST 1cycle:230V/ FULL LOAD Burn In Test																																																																																								

8	VIBRATION TEST	10 ~ 500Hz, 5G 10min./1cycle, 60min. each along X, Y, Z axes	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 10min/sweep cycle (4) Acceleration : 6G (5) Test Time : 180min in each axis (X.Y.Z) (6) Ta : 25℃
9	CAPACITOR LIFE CYCLE	SUPPOSE C105 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta= 25 ℃ LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta= 50 ℃ LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 50 ℃ LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 50 ℃ LIFE TIME	(1) 1286350.6HRS (2) 193886.5HRS (3) 268320.7HRS (4) 341452.5HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 529.1K hrs min. Telcordia SR-332 (Bellcore) ; 201.43K hrs min. MIL-HDBK-217F (25℃)	
11	Ongoing Reliability Test	I/P : 230VAC O/P : FULL LOAD TA=50℃ Demonstration Mean Time Between Failure : 50,000 hours	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	Liutt		Wangdz

2020.10.01 TAG-QA-009