



Test Report: UHP-1500-380

1500W Conduction Cooling with High Voltage Output

■ 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

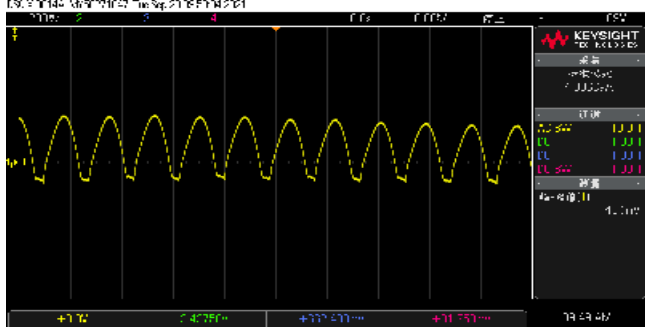
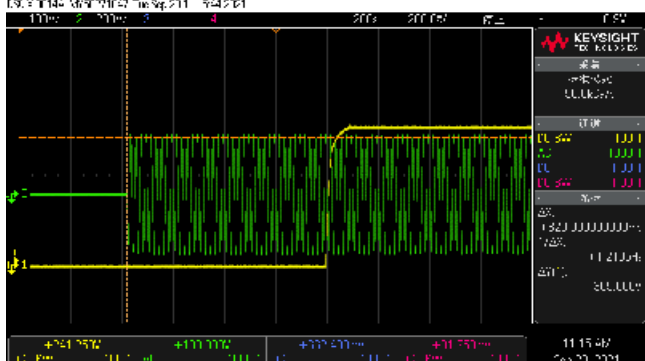
E.M.C. Test

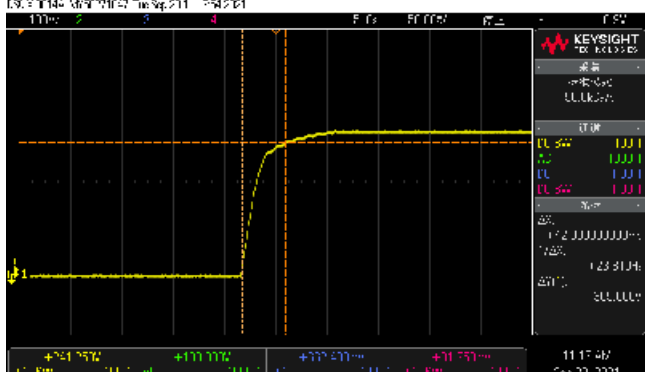
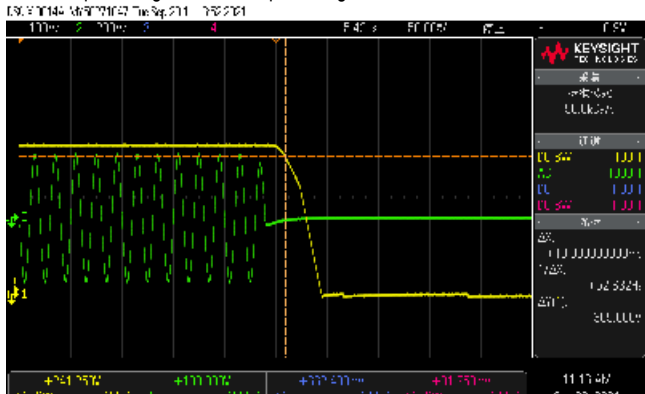
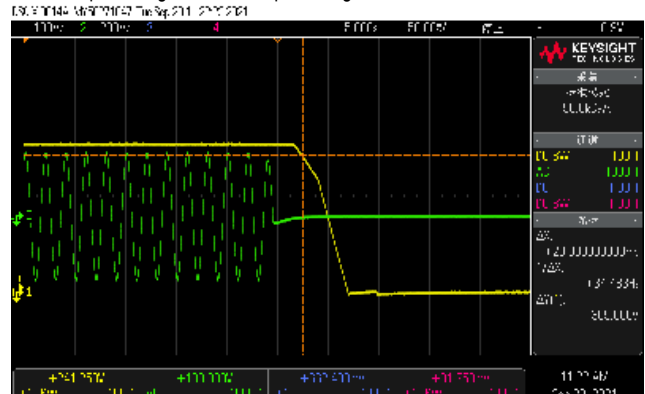
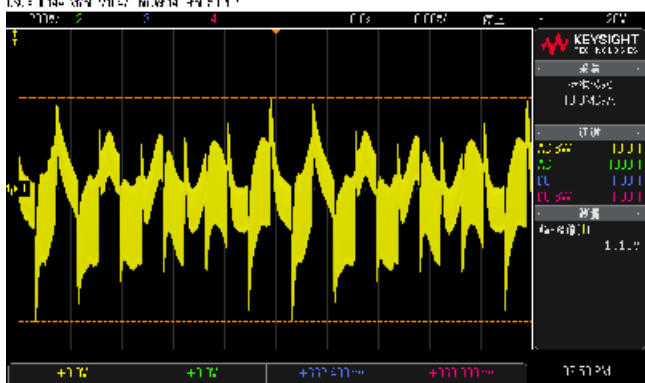
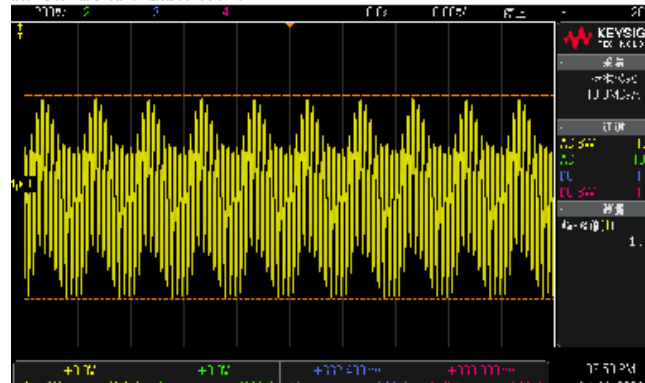
■ RELIABILITY TEST

ENVIRONMENT TEST

DESIGN VERIFY TEST

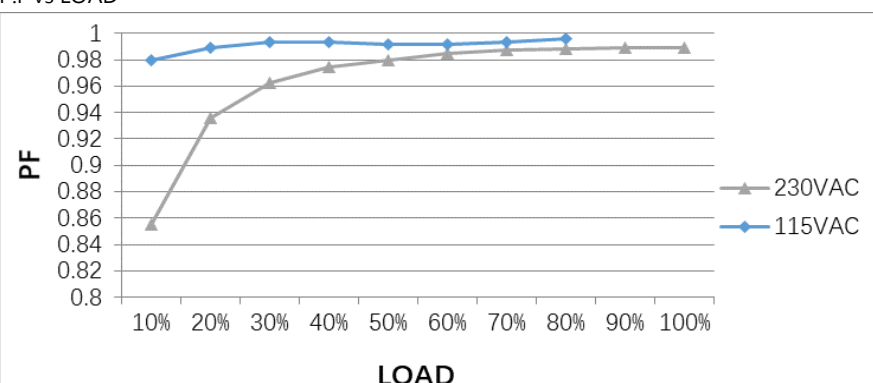
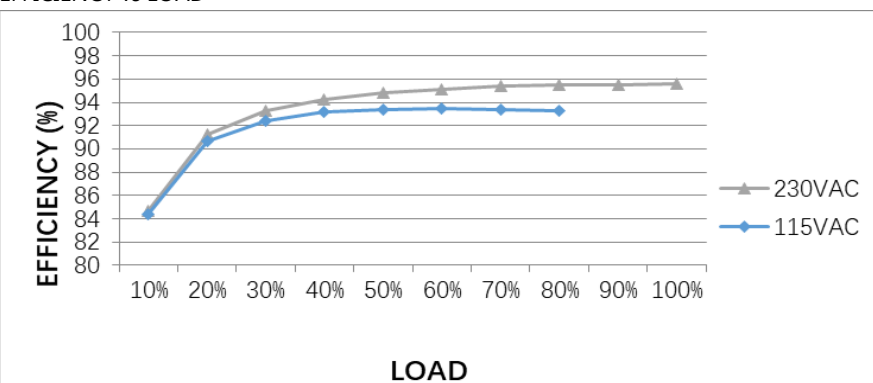
OUTPUT FUNCTION TEST

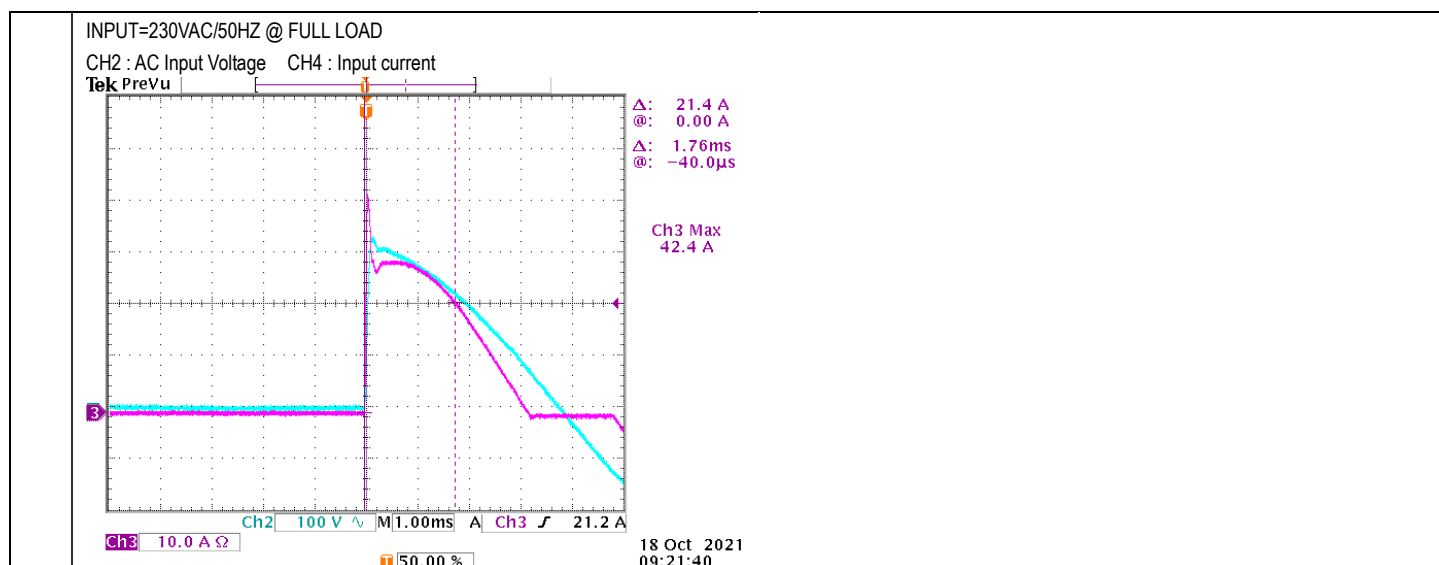
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 260V~400V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	252.84V~404.21V/230VAC 252.69V~404.46V /115VAC
2	OUTPUT VOLTAGE(Max) TOLERANCE	V1: 1%~ -1 %	I/P: 90VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1:-0.032%~0.137%
3	LINE REGULATION (Max)	V1: 0.5%~-0.5 %	I/P: 90VAC ~ 264VAC O/P:FULL LOAD Ta:25°C	V1: 0%~-0.0342%
4	LOAD REGULATION(Max)	V1: 0.5%~ -0.5%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.084%~0.011%
5	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	2.11%
6	RIPPLE & NOISE(Max)	V1: 3800mVp-p	I/P: 230 VAC O/P:(1) FULL LOAD Ta:25°C	(1) 960 mVp-p (Max)
high frequency :  low frequency : 				
7	SET UP TIME(Max)	230VAC/1800ms	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 820 ms
INPUT=230VAC/50HZ @ FULL LOAD CH2 : Output Voltage CH3 : AC Input Voltage 				
8	RISE TIME (Max)	230VAC/60ms	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 42 ms

INPUT=230VAC/50HZ @ FULL LOAD CH2 : Output Voltage 				
9	HOLD UP TIME (Typ.)	230VAC/10ms at full load 230VAC/16ms at 75% load	I/P : 230 VAC O/P : FULL LOAD/75% LOAD Ta : 25°C	230VAC/ 19 ms /full load 230VAC/ 29 ms/75% load
INPUT=230VAC/50HZ @ FULL LOAD CH2 : Output Voltage CH3 : AC Input Voltage  INPUT=230VAC/60HZ @ 75% LOAD CH2 : Output Voltage CH3 : AC Input Voltage 				
10	DYNAMIC LOAD	V1: 38000 mVp-p	I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C	1110 mVp-p 1000mVp-p
FULL /50% LOAD 50%DUTY / 120HZ  FULL /50% LOAD 50%DUTY / 1KHZ 				

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
----	-----------	---------------	----------------	--------

1	INPUT VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P:FULL LOAD Ta:25℃	180V~264V full load 90V 60% load
			I/P: LOW-LINE-3V=87 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)	TEST:OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:90 VAC ~264 VAC O/P:FULL ~MIN LOAD Ta:25℃	TEST: OK
3	INPUT CURRENT (Typ.)	230V/ 8 A	I/P : 230 VAC O/P : FULL LOAD Ta : 25℃	I = 6.886 A/ 230VAC
4	LEAKAGE CURRENT	< 0.75mA / 240 VAC	I/P : 240 VAC O/P : Min LOAD Ta : 25℃	L-FG : 0.5825 mA N-FG : 0.5755 mA
5	POWER FACTOR (Typ.)	0.95/ 230VAC	I/P : 230 VAC O/P : FULL LOAD Ta : 25℃	PF=0.989 /230VAC
P.F vs LOAD				
				
6	EFFICIENCY(Typ.)	95.5%	I/P:230 VAC O/P :FULL LOAD Ta:25℃	96.5%
			EFFICIENCY vs LOAD	
				
7	INRUSH CURRENT(Typ.)	230VAC/60A COLD START	I/P : 230 VAC O/P : FULL LOAD Ta : 25℃	I=42.4A/ 230VAC T50=1760 us/230V

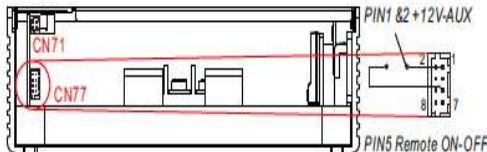


PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105%~ 125 %	I/P: 264VAC I/P: 230VAC I/P: 180VAC O/P: TESTING Ta: 25°C	PROTECTION TYPE : Constant current limiting, unit will shutdown after 5 sec, re-power on to recover. 264VAC : 111.39% 230VAC : 111.14% 180VAC : 111.90 %
2	OVER VOLTAGE PROTECTION	420V~460V	I/P: 264VAC I/P: 230VAC I/P: 90VAC O/P: MIN LOAD Ta: 25°C	PROTECTION TYPE : Shut down O/P voltage, re-power on to recover 264VAC : 431 V 230VAC : 431 V 90VAC : 431V
3	OVER TEMPERATURE PROTECTION	NO DAMAGE	I/P: 264VAC I/P: 90VAC O/P: FULL LOAD	O.T.P. Active OK Protection type : Shut down O/P voltage, recovers automatically after temperature goes down
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 264VAC I/P: 90VAC O/P: FULL LOAD Ta: 25°C	NO DAMAGE OK PROTECTION TYPE : Constant current limiting, unit will shutdown after 5 sec, re-power on to recover.

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
----	-----------	---------------	----------------	--------

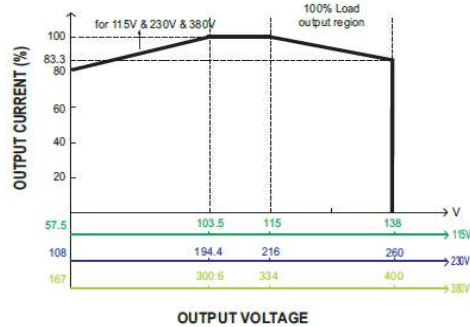
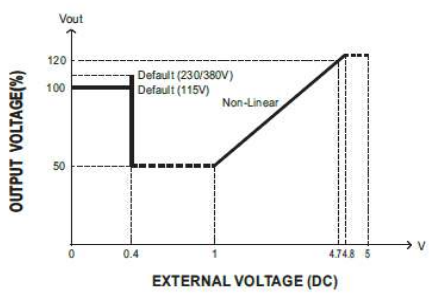
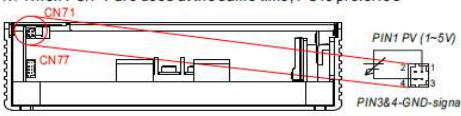
1	AUXILIARY POWER (AUX)	I/P: 230 VAC O/P:FULL LOAD Ta:25°C Test Result : <table><tr><td>AUX</td><td>TOLERANCE</td><td>RIPPLE</td><td>TEST RESULT</td></tr><tr><td>12V / 0.4A</td><td>10.8~13.2 V</td><td>150mVp-p</td><td>11.86V/ 23mV</td></tr></table>	AUX	TOLERANCE	RIPPLE	TEST RESULT	12V / 0.4A	10.8~13.2 V	150mVp-p	11.86V/ 23mV				
AUX	TOLERANCE	RIPPLE	TEST RESULT											
12V / 0.4A	10.8~13.2 V	150mVp-p	11.86V/ 23mV											
2	REMOTE ON/OFF CONTROL	Remote ON-OFF Control The power supply can be turned ON/OFF individually or along with other units in parallel by using the "Remote ON-OFF" function.  I/P: 230 VAC O/P:FULL LOAD Ta:25°C Test Result : <table><tr><td>Between ON/OFF and +12V-AUX</td><td>Power Supply Status</td></tr><tr><td>SW SHORT(10.8 ~ 13.2V)</td><td>12.04V / ON</td></tr><tr><td>SW OPEN(-0.5 ~ 0.5V)</td><td>0.166V/OFF</td></tr></table> <table><tr><td>Remote ON-OFF</td><td>Power Supply Status</td></tr><tr><td>Short circuit</td><td>ON</td></tr><tr><td>Open circuit</td><td>OFF</td></tr></table>	Between ON/OFF and +12V-AUX	Power Supply Status	SW SHORT(10.8 ~ 13.2V)	12.04V / ON	SW OPEN(-0.5 ~ 0.5V)	0.166V/OFF	Remote ON-OFF	Power Supply Status	Short circuit	ON	Open circuit	OFF
Between ON/OFF and +12V-AUX	Power Supply Status													
SW SHORT(10.8 ~ 13.2V)	12.04V / ON													
SW OPEN(-0.5 ~ 0.5V)	0.166V/OFF													
Remote ON-OFF	Power Supply Status													
Short circuit	ON													
Open circuit	OFF													

3	OUTPUT VOLTAGE PROGRAMMABLE(PV)
---	---------------------------------

1.Output Voltage Programming (or, PV / remote voltage programming / remote adjust / margin programming / dynamic voltage trim)

※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 50%~120% by applying EXTERNAL VOLTAGE.

※ When PC/PV are used at the same time, PC is preferred



◎The rated current should change with the Output Voltage Programming accordingly

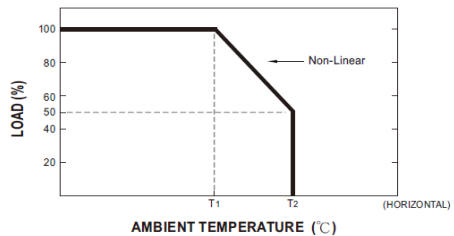
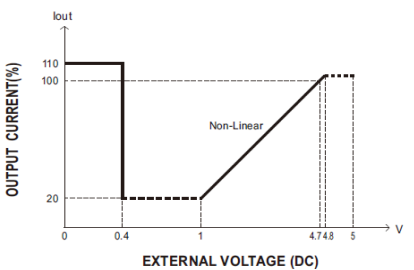
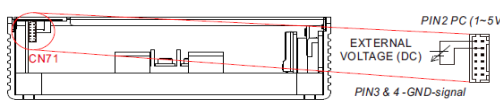
I/P: 230 VAC
O/P:FULL LOAD
Ta:25°C
TEST RESULT :

	0V (0~0.3V)	1V (0.45~1V)	4.7V	5V
MODEL				
SPEC	334V±5%	167V±5%	400V±5%	407V±5%
Vout	333.85V	162.19V	402.52V	407.421V

4	OUTPUT CURRENT PROGRAMMABLE (PC)
---	----------------------------------

2.Constant Current Programming (or, PC / remote current programming / dynamic current trim)

※ The output current can be trimmed to 20~100% of the rated current by applying EXTERNAL VOLTAGE.



◎Covered by over temperature protection auto de-rating function works under operation either in PC mode or under control by communication protocol.
T₁(Typ.): Maximum ambient temperature of full load.
T₂(Typ.): T₁+5°C.

I/P: 230 VAC
O/P:TESTING
Ta:25°C

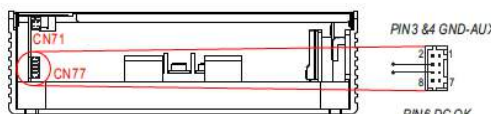
ADJ V	0V (0~0.3V)	1V (0.45~1V)	4.7V	5V
SPEC	110%±5%	20%±5%	100%±5%	100%±5%
TEST	109.4%	20.1%	100.7%	102.3%

5

DC OK CONTACT RATINGS

4.DC-OK Signal

DC-OK signal is a TTL level signal. The maximum sink current is 10mA and the maximum external voltage is 5.6V.



PIN 3 &4 GND-AUX

PIN 6 DC OK

DC-OK signal	Power Supply Status
"High" >4.4~5.5V	ON
"Low" <-0.5~0.5V	OFF

CH1: CH3:

I/P: 230 VAC

O/P: TESTING

Ta:25°C

DC-OK signal	Power Supply Status
"High" >4.5~5.5V	5.13V / ON
"Low" <-0.5~0.5V	0.016V/OFF

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q903 Rated 22A/ 600V	AC ON/OFF I/P: High-Line +3V = 267V 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) NO LOAD (9) 200% Load I/P: Low-Line -3V = 177V 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) 200% Load Ta: 25°C	VDS: (1) 443V (2) 439V (3) 447V (4) 447V (5) 451V (6) 463V (7) 483V (8) 443V (9) 443V VDS: (1) 455V (2) 439V (3) 459V (4) 459V (5) 463V (6) 475V (7) 487V (8) 447V (9) 439V

2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q51 Rated 34A/ 600V	I/P:High-Line +3V =267 V 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) NO LOAD (9) 200% Load I/P:Low-Line -3V = 177V 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) NO LOAD (9) 200% Load Ta:25°C	VDS: (1)464V (2)397V (3)462V (4)466V (5)462V (6)466V (7)442V (8)446V (9)422V VDS: (1)478V (2)390V (3)466V (4)466V (5)470V (6)470V (7)458V (8)458V (9)414V
3	Diode Peak Voltage	D201 Rated: 10A/600V D203 Rated: 10A/600V	AC ON/OFF I/P:High-Line +3V =267 V 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) burst Mode (10) (6) 200% Load Ta:25°C	D201: (1)389V (2)3.44V (3)390V (4)390V (5)390V (6)394V (7)394V (8)390V (9)390V (10)35.5V D203: (1)402V (2)47.9V (3)398V (4)402V (5)402V (6)410V (7)406V (8)406V (9)406V (10)41.2V
4	Input Capacitor Voltage	C5 Rated: 220u/450V	I/P:High-Line +3V =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 Ta:25°C	(1)443V (2)439V (3)444V (4)443V

5	Control IC Voltage Test	PWM IC U800 Rated 8.85 V~ 16V MCU IC U701 Rated -0.3V~ 4V MCU IC U450 Rated 2.3V~ 6.5V	AC ON/OFF I/P:High-Line +3V =267 V O/P(1)FULL LOAD (2) Output Short (3)O.L.P (4)O.V.P. (5)NO LOAD VRmin(LOW LINE) (6)NO/FULL LOAD (AC on) (7)NO LOAD(AC on) Ta:25°C	U800: (1) 16.1 V (2) 16.5V (3) 14.7 V (4) 13.5V (5) 13.5V (6) 13.3V (7) 13.3V U701: (1) 3.50 V (2) 3.54V (3) 3.50V (4) 3.46 V (5) 3.42V (6) 3.38V (7) 3.34V U450 (1)5.57V (2) 5.33V (3)5.17V (4)5.65V (5)5.09V (6) 5.09V (7) 5.09V
6	TOP SWITCHING STAND BY POWER	U601 Rated 800V	AC ON/OFF I/P:High-Line +3V =267 V O/P: (1)Full Load (2)Remote On/Off I/P:Low-Line -3V =97 V O/P: (1)Full Load (2)Remote On/Off Ta:25°C	U601 (1)551V (2)575V (1)543V (2)575V

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 6KVDC/min I/P-FG: 4KVDC/min O/P-FG:4KVDC/min	I/P-O/P: 6.6 KVDC/min I/P-FG: 4.4 KVDC/min O/P-FG:4.4KVDC/min Ta:25°C	I/P-O/P:0.3 mA I/P-FG: 1.3mA O/P-FG:0.6 m A 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: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: >9999MΩ I/P-FG: >9999 MΩ O/P-FG: >9999 MΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	3 mΩ

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 A	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 INDUSTRY 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 INDUSTRY INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	IEC61000-4-5 INDUSTRY 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 : UHP-1500-380 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 33.4℃ 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta=51.6℃ <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 33.4 ℃</th><th>HIGH AMBIENT Ta=51.6 ℃</th></tr><tr><td>1</td><td>LF3</td><td>77.4℃</td><td>91.1℃</td></tr><tr><td>2</td><td>BD2</td><td>91.3℃</td><td>108.6℃</td></tr><tr><td>3</td><td>Q52</td><td>79.4℃</td><td>94.0℃</td></tr><tr><td>4</td><td>Q65</td><td>81.5℃</td><td>95.5℃</td></tr><tr><td>5</td><td>L2</td><td>86.3℃</td><td>102.7℃</td></tr><tr><td>6</td><td>L3</td><td>80.2℃</td><td>101.2℃</td></tr><tr><td>7</td><td>C8</td><td>76.1℃</td><td>92.0℃</td></tr><tr><td>8</td><td>C967</td><td>78.1℃</td><td>93.8℃</td></tr><tr><td>9</td><td>T2</td><td>90.7℃</td><td>104.7℃</td></tr><tr><td>10</td><td>RY1</td><td>68.5℃</td><td>84.9℃</td></tr><tr><td>11</td><td>T1</td><td>83.2℃</td><td>100.4℃</td></tr><tr><td>12</td><td>R601</td><td>100.0℃</td><td>112.7℃</td></tr><tr><td>13</td><td>C652</td><td>84.6℃</td><td>97.8℃</td></tr><tr><td>14</td><td>U761</td><td>99.6℃</td><td>109.3℃</td></tr><tr><td>15</td><td>D15</td><td>82.1℃</td><td>100.5℃</td></tr><tr><td>16</td><td>Q901</td><td>79.1℃</td><td>99.4℃</td></tr><tr><td>17</td><td>Q904</td><td>81.6℃</td><td>106.8℃</td></tr><tr><td>18</td><td>C53</td><td>81.1℃</td><td>95.4℃</td></tr><tr><td>19</td><td>R62</td><td>88.3℃</td><td>103.0℃</td></tr><tr><td>20</td><td>D204</td><td>75.6℃</td><td>99.8℃</td></tr><tr><td>21</td><td>D205</td><td>72.4℃</td><td>98.2℃</td></tr><tr><td>22</td><td>C114</td><td>66.9℃</td><td>81.6℃</td></tr><tr><td>23</td><td>C123</td><td>69.9℃</td><td>83.6℃</td></tr><tr><td>24</td><td>RTH5</td><td>75.3℃</td><td>91.6℃</td></tr><tr><td>25</td><td>TC</td><td>61.8℃</td><td>78.5℃</td></tr></table>			NO	Position	ROOM AMBIENT Ta= 33.4 ℃	HIGH AMBIENT Ta=51.6 ℃	1	LF3	77.4℃	91.1℃	2	BD2	91.3℃	108.6℃	3	Q52	79.4℃	94.0℃	4	Q65	81.5℃	95.5℃	5	L2	86.3℃	102.7℃	6	L3	80.2℃	101.2℃	7	C8	76.1℃	92.0℃	8	C967	78.1℃	93.8℃	9	T2	90.7℃	104.7℃	10	RY1	68.5℃	84.9℃	11	T1	83.2℃	100.4℃	12	R601	100.0℃	112.7℃	13	C652	84.6℃	97.8℃	14	U761	99.6℃	109.3℃	15	D15	82.1℃	100.5℃	16	Q901	79.1℃	99.4℃	17	Q904	81.6℃	106.8℃	18	C53	81.1℃	95.4℃	19	R62	88.3℃	103.0℃	20	D204	75.6℃	99.8℃	21	D205	72.4℃	98.2℃	22	C114	66.9℃	81.6℃	23	C123	69.9℃	83.6℃	24	RTH5	75.3℃	91.6℃	25	TC	61.8℃	78.5℃
NO	Position	ROOM AMBIENT Ta= 33.4 ℃	HIGH AMBIENT Ta=51.6 ℃																																																																																																									
1	LF3	77.4℃	91.1℃																																																																																																									
2	BD2	91.3℃	108.6℃																																																																																																									
3	Q52	79.4℃	94.0℃																																																																																																									
4	Q65	81.5℃	95.5℃																																																																																																									
5	L2	86.3℃	102.7℃																																																																																																									
6	L3	80.2℃	101.2℃																																																																																																									
7	C8	76.1℃	92.0℃																																																																																																									
8	C967	78.1℃	93.8℃																																																																																																									
9	T2	90.7℃	104.7℃																																																																																																									
10	RY1	68.5℃	84.9℃																																																																																																									
11	T1	83.2℃	100.4℃																																																																																																									
12	R601	100.0℃	112.7℃																																																																																																									
13	C652	84.6℃	97.8℃																																																																																																									
14	U761	99.6℃	109.3℃																																																																																																									
15	D15	82.1℃	100.5℃																																																																																																									
16	Q901	79.1℃	99.4℃																																																																																																									
17	Q904	81.6℃	106.8℃																																																																																																									
18	C53	81.1℃	95.4℃																																																																																																									
19	R62	88.3℃	103.0℃																																																																																																									
20	D204	75.6℃	99.8℃																																																																																																									
21	D205	72.4℃	98.2℃																																																																																																									
22	C114	66.9℃	81.6℃																																																																																																									
23	C123	69.9℃	83.6℃																																																																																																									
24	RTH5	75.3℃	91.6℃																																																																																																									
25	TC	61.8℃	78.5℃																																																																																																									
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 107.3% LOAD Ta : 25℃	TEST : OK																																																																																																								
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 264VAC/90 VAC O/P : FULL LOAD/60% LOAD Ta= - 35 ℃	TEST : OK																																																																																																								
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 45 ℃ NO DAMAGE	I/P : 272C VAC O/P : FULL LOAD Ta= 45 ℃ HUMIDITY= 95 %R.H	TEST : OK																																																																																																								
5	TEMPERATURE COEFFICIENT	±0.03%/℃ (0~50℃)	I/P : 230 VAC O/P : FULL LOAD	±0.0038%/℃ (0~50℃)																																																																																																								

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 : 10CYCLE 5. Input/Output condition : STATIC TEST : OK	
7	THERMAL SHOCK TEST	-30~+45°C	1. Thermal shock Temperature : -35°C+50°C 2. Temperature change rate : 25°C / MIN 3. Dwell time low and high temperature : 30 MIN/EACH 4. Total test cycle : 16CYCLE 5. Input/Output condition : 15cycle:230VAC/ FULL LOAD AC on 3 sec/AC off 1 sec TEST 1cycle:230VAC/ FULL LOAD Burn In Test TEST : OK	
8	VIBRATION TEST	10~ 500Hz, 5G 12min./1cycle, period for 72min. 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°C TEST : OK	
9	CAPACITOR LIFE CYCLE	SUPPOSE C123 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta=25 °C LIFE TIME (2) I/P : 230VAC O/P : FULL LOAD Ta=45 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta=45 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta=45 °C LIFE TIME		(1) 205740 HRS (2) 75829 HRS (3) 135964 HRS (4) 186871 HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 181.47 K hrs min. Telcordia SR-332 (Bellcore) 56.72 min. MIL-HDBK-217F (25°C)		
11	Ongoing Reliability Test	I/P : 230VAC O/P : FULL LOAD TA=50°C Demonstration Mean Time Between Failure : 50,000 hours		

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	WUWQ/HUANGMK	WENF	LINKX