Test Report: UHP-1500-48

1500W Conduction Cooling with PFC Switching Supply

■ DESIGN VERIFY TEST

Output Function Test
Input Function Test
Protection Function Test
Control Function Test
Component Stress Test

■ SAFETY & E.M.C. TEST

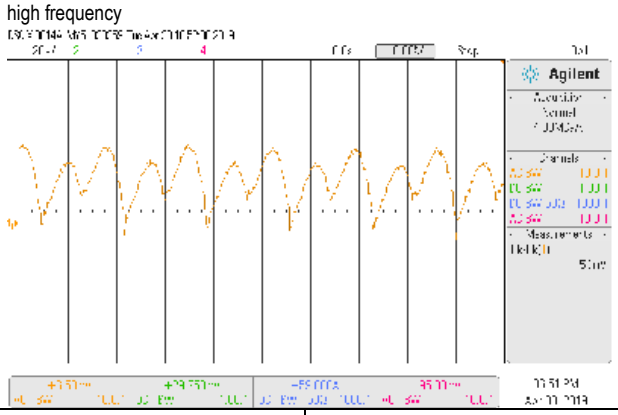
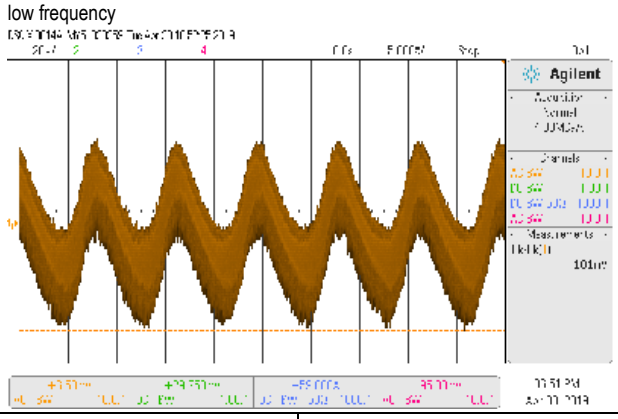
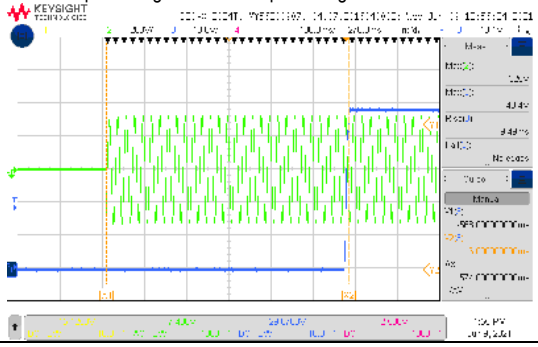
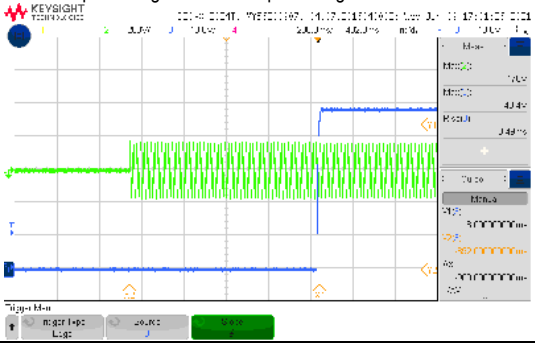
Safety Test
E.M.C. Test

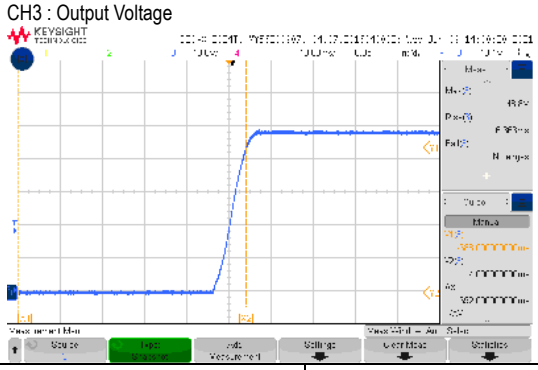
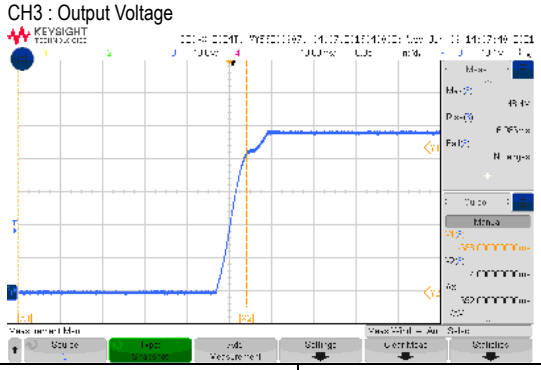
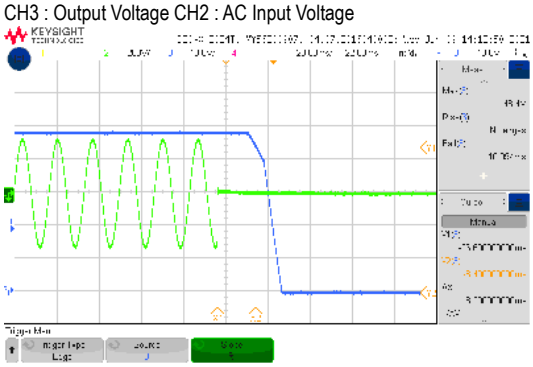
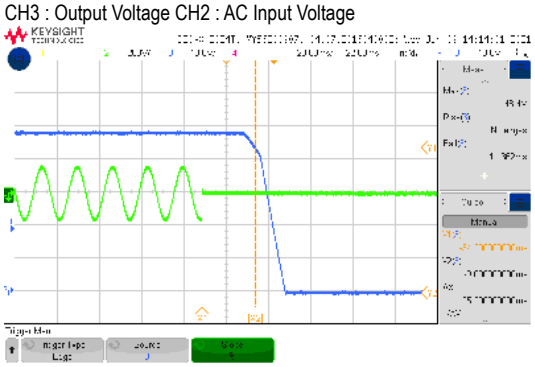
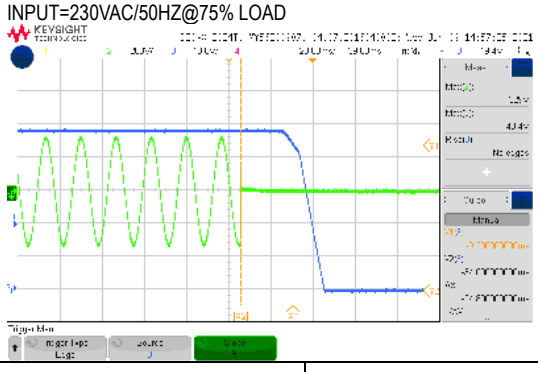
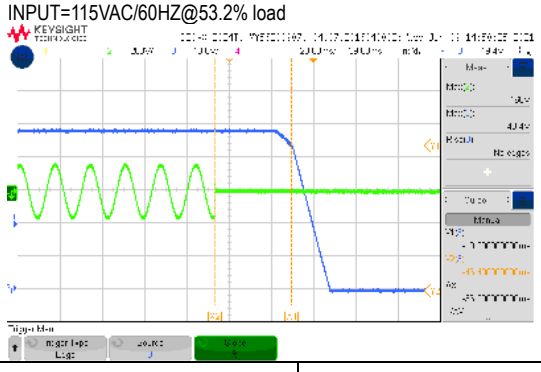
■ RELIABILITY TEST

ENVIRONMENT TEST

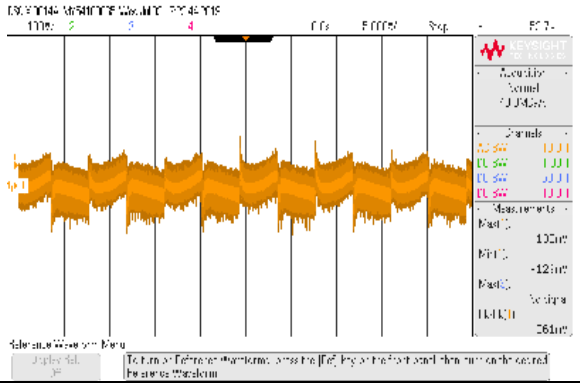
■ DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

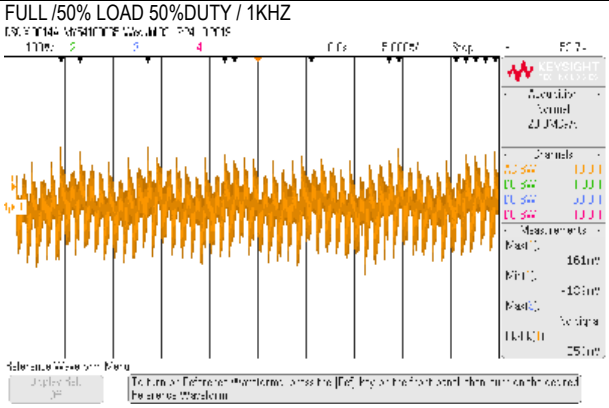
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 48 V~ 57.6 V	I/P 230 VAC I/P 115 VAC O/P MIN LOAD Ta 25 ~	46.69V~59.17 V/230VAC 46.69V~59.17 V /115VAC
2	OUTPUT VOLTAGE(Max) TOLERANCE	V1: 1%~ -1 %	I/P:180VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25 ~	V1: 0.13%~ - 0.13%
3	LINE REGULATION (Max)	V1: 0.5%~ -0.5 %	I/P: 180VAC~ 264VAC O/P:FULL LOAD Ta:25 ~	V1: 0.1 %~ -0.1 %
4	LOAD REGULATION(Max)	V1: 0.5%~ - 0.5%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25 ~	V1: 0.1%~ -0.1%
5	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD Ta:25 ~	< 5 %
6	RIPPLE & NOISE(Max)	V1: 350mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25 ~	V1: 101mVp-p
	high frequency 		low frequency 	
7	SET UP TIME(Max)	230VAC/1800ms 115VAC/1800ms Derating may be needed under low input voltages. Please check the derating curve and Static characteristics for more details	I/P 230 VAC O/P FULL LOAD I/P 115 VAC O/P 71% LOAD Ta 25 ~	230VAC/ 574ms 115VAC/ 900 ms
	INPUT=230VAC/50HZ @ FULL LOAD CH3 : Output Voltage CH2 : AC Input Voltage 		INPUT=115VAC/60HZ @ 71% LOAD CH3 : Output Voltage CH2 : AC Input Voltage 	

8	RISE TIME (Max)	230VAC/60ms 115VAC/60ms Derating may be needed under low input voltages. Please check the derating curve and Static characteristics for more details	I/P 230 VAC O/P FULL LOAD I/P 115 VAC O/P 71% LOAD Ta 25 ~	230VAC/ 6.36 ms 115VAC/ 6.98 ms
	INPUT=230VAC/50HZ @ FULL LOAD CH3 : Output Voltage 		INPUT=115VAC/50HZ @ 71% LOAD CH3 : Output Voltage 	
9	HOLD UP TIME (Typ.)	230、115VAC/10ms at full load 230、115VAC/16ms at 75% load Derating may be needed under low input voltages. Please check the derating curve and Static characteristics for more details	I/P 230 VAC O/P FULL LOAD/75% LOAD I/P 115 VAC O/P 71% LOAD/53.2% LOAD Ta 25 ~	230VAC/ 18.2 ms at full load 230VAC/ 24.8 ms at 75% load 115VAC/ 25.2 ms at 71% load 115VAC/ 36.2 ms at 53.2% load
	INPUT=230VAC/50HZ @ FULL LOAD CH3 : Output Voltage CH2 : AC Input Voltage 		INPUT=115VAC/60HZ @ 71% LOAD CH3 : Output Voltage CH2 : AC Input Voltage 	
	INPUT=230VAC/50HZ@75% LOAD 		INPUT=115VAC/60HZ@53.2% load 	
10	DYNAMIC LOAD	V1: 4800 mVp-p	I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25 ~	261mVp-p 350mVp-p

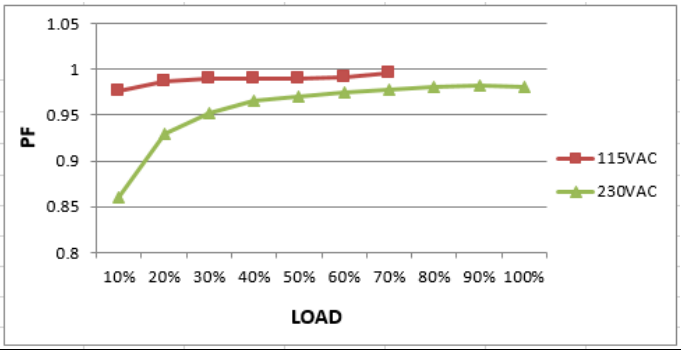
FULL /50% LOAD 50%DUTY / 120HZ

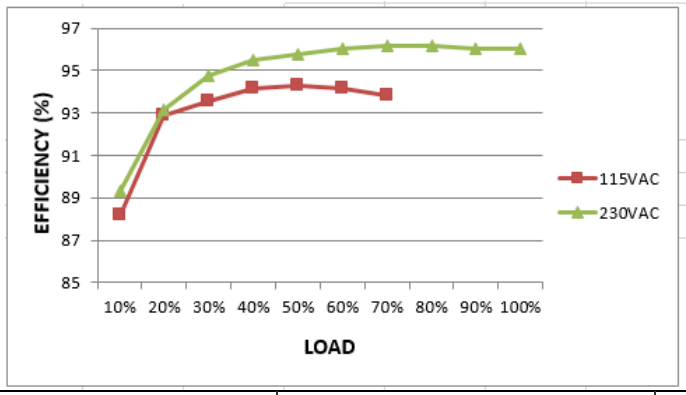
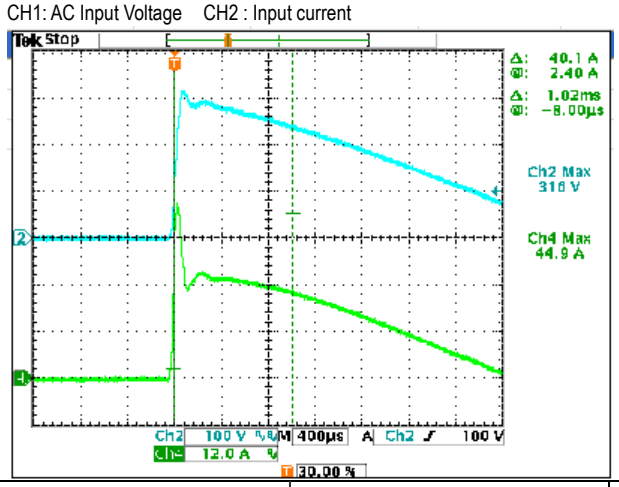
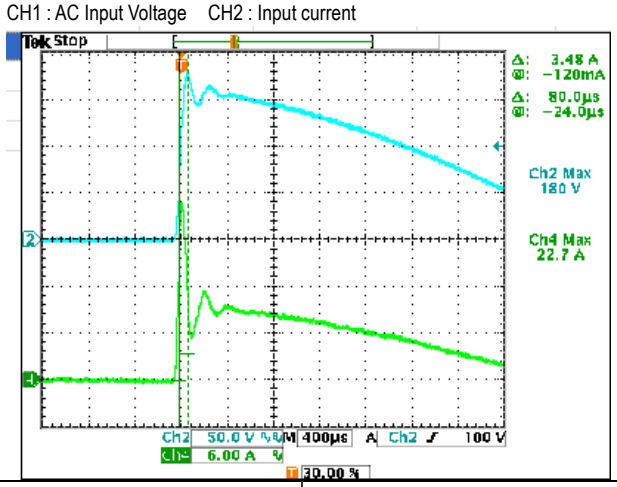


FULL /50% LOAD 50%DUTY / 1KHZ



INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P:FULL LOAD/ Derating Load Ta:25 ~	159V~264 V/ FULL LOAD 76V~264 V/ Derating Load
			I/P: LOW-LINE-3V=177 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/ 8A	I/P 230 VAC O/P FULL LOAD Ta 25 ~	I = 7.07A/ 230 VAC
4	LEAKAGE CURRENT	< 0.75mA / 240 VAC	I/P 240 VAC O/P Min LOAD Ta 25 ~	L-FG 0.56 mA N-FG 0.56 mA
5	POWER FACTOR (Typ.)	0.95/ 230VAC	I/P 230 VAC O/P FULL LOAD Ta 25 ~	PF= 0.982/230 VAC
	P.F vs LOAD 			
6	EFFICIENCY(Typ.)	96%	I/P:230 VAC O/P:FULL LOAD Ta:25 ~	96.08%

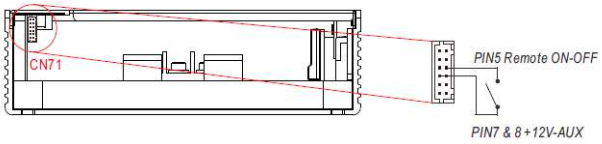
	EFFICIENCY vs LOAD 			
7	INRUSH CURRENT(Typ.)	230V/60A COLD START	I/P 230 VAC O/P FULL LOAD Ta 25 ~	I =44.9A/ 230VAC T50= 1020 us I =22.7 A/ 115VAC
	INPUT=230VAC/50HZ @ FULL LOAD CH1: AC Input Voltage CH2 : Input current 			INPUT=115VAC/60HZ @ FULL LOAD CH1 : AC Input Voltage CH2 : Input current 
8	NO LOAD CONSUMPTION	---	I/P : 115VAC I/P : 230VAC O/P : NO LOAD Ta : 25℃	10.59 W/115VAC 7.16 W/230VAC

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105%~ 125 %(180VAC~264VAC) 60%~70%(90VAC) Protection type : Constant current limiting, unit will shutdown after 5 sec, re-power on to recover.	I/P: 264VAC I/P: 230VAC I/P: 180VAC I/P: 90VAC O/P:TESTING Ta:25 ~	110.4%/ 264VAC 110.4%/ 230VAC 108.8%/180VAC 64.7%/90VAC PROTECTION TYPE Constant current limiting, unit will shutdown after 5 sec, re-power on to recover.
2	OVER VOLTAGE PROTECTION	60V~67V Protection type : Shut down O/P voltage,re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 90VAC O/P:MIN LOAD Ta:25 ~	63.04V/ 264VAC 63.04V/ 230VAC 63.06V/ 90VAC PROTECTION TYPE Shut down O/P voltage,re-power on to recover

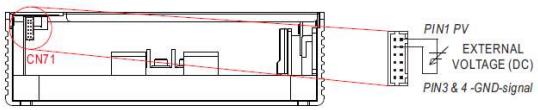
3	OVER TEMPERATURE PROTECTION	Protection type : Shut down O/P voltage, recovers automatically after temperature goes down	I/P: 264VAC I/P: 90VAC O/P:FULL LOAD	O.T.P. Active Protection type : Shut down O/P voltage, recovers automatically after temperature goes down
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE Protection type : Constant current limiting, unit will shutdown after 5 sec, re-power on to recover.	I/P: 264VAC I/P: 90VAC O/P: FULL LOAD Ta:25 ~	NO DAMAGE PROTECTION TYPE Constant current limiting, unit will shutdown after 5 sec, re-power on to recover.

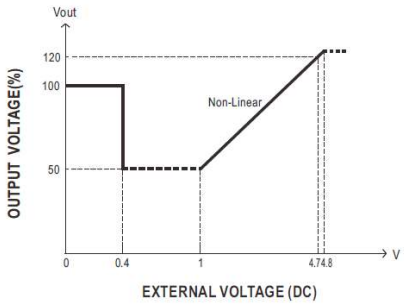
CONTROL FUNCTION TEST

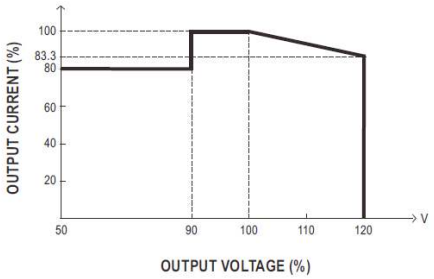
<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECIFICATION</th><th>TEST CONDITION</th><th>RESULT</th></tr>
<tr><td>1</td><td>AUXILIARY POWER (AUX)</td><td colspan="3">I/P: 230 VAC
O/P:FULL LOAD
Ta:25℃
Test Result
<table>
<tr><th>AUX</th><th>TOLERANCE</th><th>RIPPLE</th><th>TEST RESULT</th></tr>
<tr><td>12V / 0.4A</td><td>10.8~13.2 V</td><td>150mVp-p</td><td>11.31V/38mVp-p</td></tr>
</table></td></tr>
<tr><td>2</td><td>REMOTE ON/OFF CONTROL</td><td colspan="3">The power supply can be turned ON/OFF individually or along with other units in parallel by using the "Remote ON-OFF" function.
 

<table>
<tr><th>Remote ON-OFF</th><th>Power Supply Status</th></tr>
<tr><td>Short circuit</td><td>ON</td></tr>
<tr><td>Open circuit</td><td>OFF</td></tr>
</table>
I/P: 230 VAC
O/P:FULL LOAD
Ta:25℃
Test Result
<table>
<tr><th>Between ON/OFF and +5V-AUX</th><th>Power Supply Status</th></tr>
<tr><td>SW SHORT</td><td>ON</td></tr>
<tr><td>SW OPEN</td><td>OFF</td></tr>
</table></td></tr>
</table>

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 by applying EXTERNAL VOLTAGE.



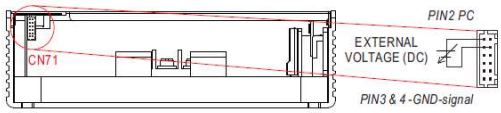


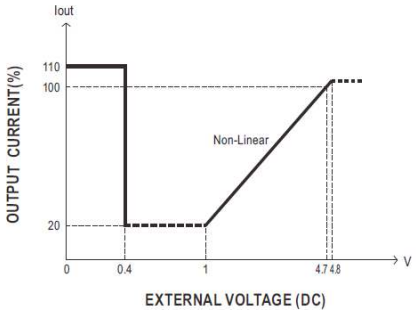


I/P: 230 VAC
O/P:FULL LOAD
Ta:25℃
TEST RESULT

PV / MODEL	ᶫ0.4V	1V	4.7V	5V
SPEC	48V±5%	24V±5%	57.6V±5%	60V±5%
Vout	48.07V	23.96V	57.53V	58.58V

4	OUTPUT CURRENT PROGRAMMABLE (PC)	**2.Output 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.

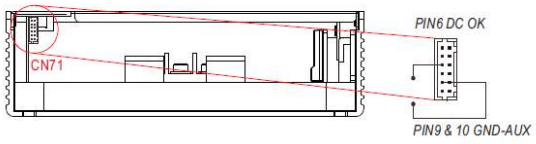




I/P: 230 VAC
O/P:TESTING
Ta:25℃

ADJ V	<0.4V	1V	4.7V	5V
SPEC	110%±5%	20%±5%	100%±5%	100%±5%
TEST	109.36%	20.09%	99.58%	102.25%

5	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.



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

I/P: 230 VAC
O/P:TESTING
Ta:25℃

DC-OK signal	Power Supply Status

			"High" >4.4~5.5V	5.18V
			"Low" <-0.5~0.5V	-0.045V

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/ 650V	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. 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. Ta:25	 VDS: (1) 466V (2) 466V (3)462V (4) 466V (5) 466V (6) 470V (7) 442V VDS: (1) 465V (2) 469V (3) 469V (4) 465V (5)456V (6) 460V (7)448V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q 52 Rated 31A/ 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. 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/	 VDS: (1) 400V (2) 416V (3)396V (4) 424V (5) 404V (6) 404V (7) 404V VDS: (1) 412V (2)436V (3)408V (4)412V (5) 408V (6) 404V (7)408V

			Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0% 400% Load. Ta:25 ~		
3	P.F.C DIODE	D 10 Rated 6 A/ 650V	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/5KHz (4)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz 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/5KHz (4)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz Ta:25 ~	(1) 364V (2) 376V (3) 356V (4) 376V (1) 368V (2) 388V (3) 368V (4) 376V	
4	Diode Peak Voltage	Q101 Rated 150V/87A Q105 Rated 150V/87A Q109 Rated 150V/87A Q113 Rated 150V/87A	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 Ta:25 ~	Q101: VDS: (1) 108.2V (2) 115.4V (3) 113.8V (4) 113.8V (5)116.2V (6) 113V (7) 105V (8) 104.2V (9) 106.6V Q105: VDS: (1) 118.6V (2) 118.6V (3) 117V (4) 117.8V (5)19.49V (6) 117V (7)111.4V (8) 107.4V (9) 112.2V	Q109: VDS: (1) 114.6V (2) 117V (3) 116.2V (4)115.4V (5) 116.2V (6) 114.6V (7) 108.2V (8) 106.6V (9) 109V Q113: VDS: (1) 118.6V (2) 120.3V (3) 117V (4)117.8V (5)119.4V (6) 117V (7)111.4V (8) 107.4V (9) 111.4V
5	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 ~	(1)392 V (2) 384V (3) 408V (4) 392V	
6	Control IC Voltage Test	PWM IC U800 Rated 8.85 V~ 16V PFC IC U401 Rated 10.6V~ 21 V	AC ON/OFF I/P:High-Line +3V =267 V O/P(1)FULL LOAD (2) Output Short (3)O.L.P	U800: (1) 12.91V (2) 12.35V (3) 12.51V (4) 12.83V (5) 12.51V	U151: (1) 12.19V (2) 11.86V (3) 11.86V (4) 11.86V (5) 11.86V

		O/P IC U151 Rated 8V~ 24V MCU IC U701 Rated -0.3V~ 4V	(4)O.V.P. (5)NO LOAD VRmin(LOW LINE) Ta:25 ~	U401: (1) 13.15V (2) 12.75V (3) 12.75V (4) 12.75V (5) 12.75-V	U701: (1) 3.28V (2) 3.16V (3) 3.16V (4) 3.16V (5) 3.16V
8	TOP SWITCHING STAND BY POWER	U601 Rated 11.5A/ 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 =177 V O/P: (1)Full Load (2)Remote On/Off Ta:25 ~	U601 (1) 501V (2) 529V (1) 509V (2) 521V	
9	Capacitor Voltage	C652 Rated 25V C682 Rated 25V	AC ON/OFF 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 ~	C652: (1) 14.37V (2) 14.21V (3) 13.72V (4) 13.64V C682 (1) 15.41V (2) 14.85V (3) 14.93V (4) 15.01V	

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 3.75KVAC/min I/P-FG :2KVAC/min O/P-FG:1..25KVAC/min	I/P-O/P: 4.12KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:1.5KVAC/min Ta:25 ~	I/P-O/P: 9.12mA I/P-FG: 7.97mA O/P-FG: 8.27m 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 ~	I/P-O/P: 12.5GΩ I/P-FG: 12.4GΩ O/P-FG: 1.41GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25 ~	13mΩ

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℃	PASS
2	CONDUCTION	EN55032 CLASS B	I/P 230 VAC (50HZ) O/P FULL/50% LOAD Ta 25℃	PASS Test by certified Lab
3	RADIATION	EN55032 CLASS A	I/P 230 VAC (50HZ) O/P FULL LOAD Ta 25℃	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 ~	CRITERIA A

5	E.F.T	EN61000-4-4 INDUSTRY INPUT 2KV	I/P 230 VAC/50HZ O/P FULL LOAD Ta 25 ~	CRITERIA A
6	SURGE	IEC61000-6-2 INDUSTRY L-N 2KV L,N-PE 4KV	I/P 230 VAC/50HZ O/P FULL LOAD Ta 25 ~	CRITERIA A
7	Test by certified Lab Test Report Prepare			

■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	TEMPERATURE RISE TEST	MODEL UHP-1500-48 (AMBIENT TEMPERATURE WITH CONDUCTION COOLING) 1. ROOM AMBIENT BURN-IN 2 HRS I/P 230VAC O/P FULL LOAD Ta=25 ~ 2. HIGH AMBIENT BURN-IN 2 HRS I/P 230VAC O/P FULL LOAD Ta= 45 ~		

NO	Position	ROOM AMBIENT Ta= 25 ~	HIGH AMBIENT Ta= 45 ~
1	BD2	70.3 ~	89.6 ~
2	ZNR2	53.3 ~	74.4 ~
3	LF2	57.8 ~	79.4 ~
4	LF3	64.1 ~	85.3 ~
5	T51	66.5 ~	88.7 ~
6	T52	63.5 ~	85.7 ~
7	L1	66.4 ~	88.7 ~
8	L2	67.5 ~	91.0 ~
9	L3	65.3 ~	90.3 ~
10	C960	63.4 ~	88.0 ~
11	Q51	67.0 ~	87.9 ~
12	Q65	63.5 ~	84.2 ~
13	C417	55.9 ~	77.5 ~
14	C6	54.3 ~	75.6 ~
15	C967	60.1 ~	82.9 ~
16	T1-1 COIL	63.4 ~	86.9 ~
17	T2-1 COIL	65.4 ~	90.1 ~
18	C114	52.6 ~	73.4 ~
19	C123	53.6 ~	74.3 ~
20	RTH4	57.3 ~	78.7 ~
21	RTH5	59.2 ~	80.7 ~
22	RTH21	58.4 ~	80.9 ~
23	Q102	55.6 ~	77.1 ~
24	Q106	57.8 ~	80.0 ~
25	Q111	55.4 ~	77.5 ~
26	Q113	54.6 ~	76.1 ~
27	Q901	71.8 ~	98.7 ~
28	Q904	65.7 ~	90.8 ~
29	D14	69.6 ~	92.5 ~
30	T601	67.1 ~	89.8 ~
31	C652	65.0 ~	87.2 ~
32	RG61	61.3 ~	83.0 ~
33	RG50	64.9 ~	87.3 ~
34	U800	56.8 ~	77.8 ~

2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P 230 VAC O/P 106 LOAD Ta 25 ~	TEST OK
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P 264VAC/180VAC O/P 100 LOAD Ta= -35 ~/-30 ~	TEST OK
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 ~/95 %R.H NO DAMAGE	I/P 272 VAC O/P FULL LOAD Ta= 50 ~ HUMIDITY= 95 %R.H	TEST OK
5	TEMPERATURE COEFFICIENT	± 0.03 %/ ~(0~45 ~)	I/P 230 VAC O/P FULL LOAD	± 0.011 %/ ~(0~45 ~)

6	STORAGE TEMPERATURE TEST	-40~85℃	1. Thermal shock Temperature： -45℃~ +90℃ 2. Temperature change rate ：25℃ / 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	-30~45℃	1. Thermal shock Temperature： -35℃~ +50℃ 2. Temperature change rate ：25℃ / 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 12min/sweep cycle (4) Acceleration 6G (5) Test Time 180min in each axis (X.Y.Z) (6) Ta 25℃	
9	CAPACITOR LIFE CYCLE	SUPPOSE C123 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= 45 ~ LIFE TIME (3) I/P 230VAC O/P 75% LOAD Ta= 45 ~ LIFE TIME (4) I/P 230VAC O/P 50% LOAD Ta= 45 ~ LIFE TIME		(1) 495610HRS (2) 118034HRS (3) 167543HRS (4) 256578HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 181.47K hrs min. Telcordia SR-332 (Bellcore) ; 56.72K 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	DANIEL GAO	SANFORD SU	VINCENT TSENG

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