Test Report: UHP-2500-48

2500W 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

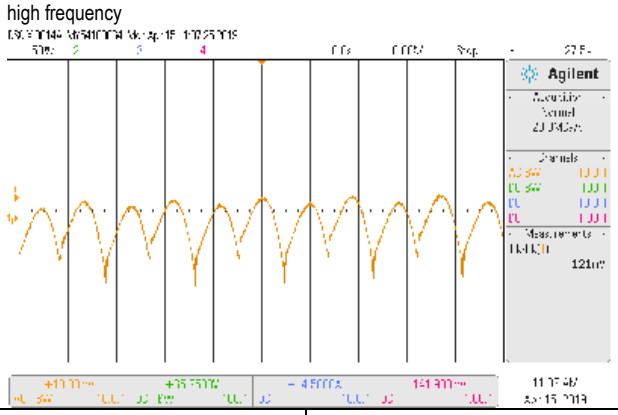
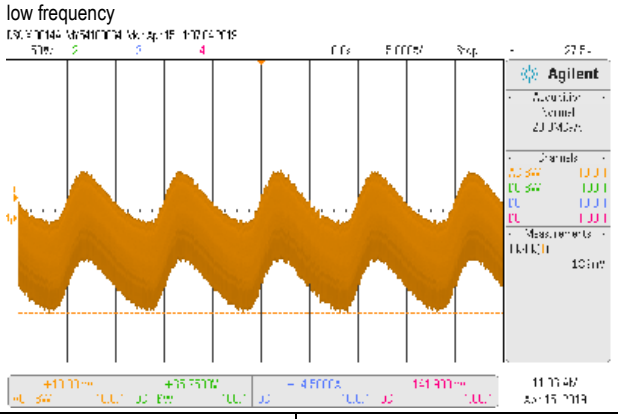
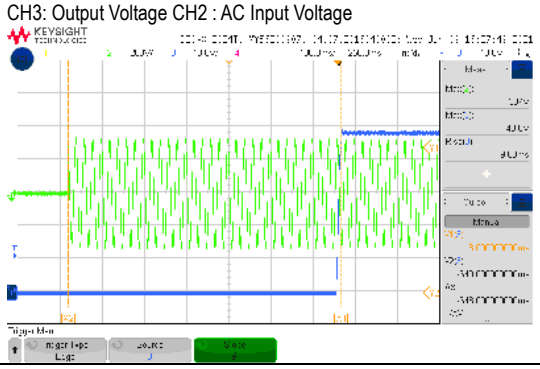
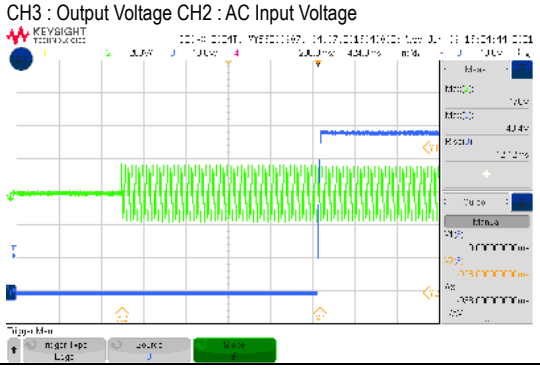
Safety Test
E.M.C. Test

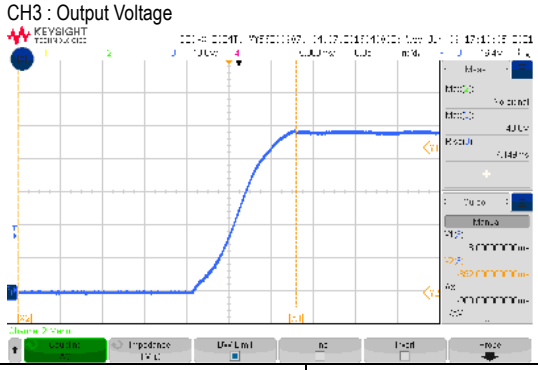
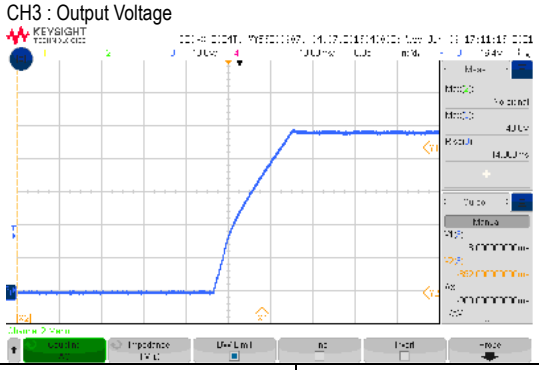
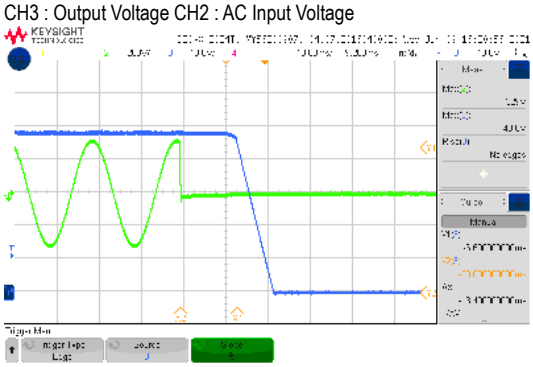
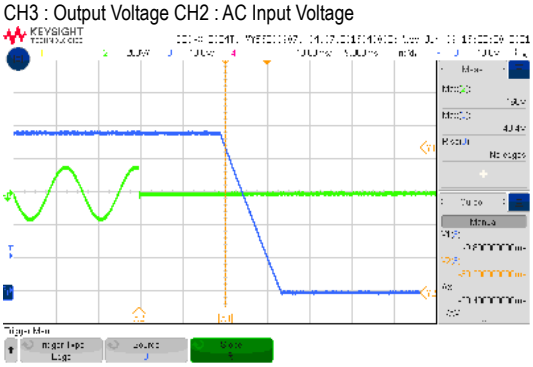
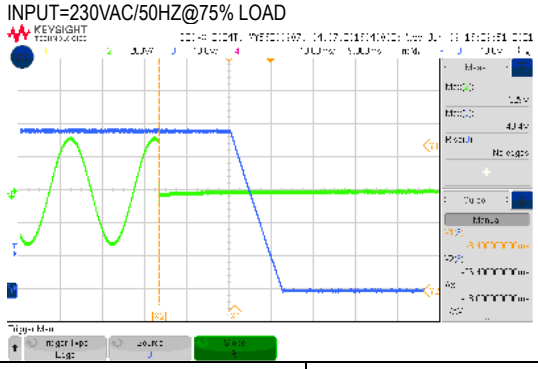
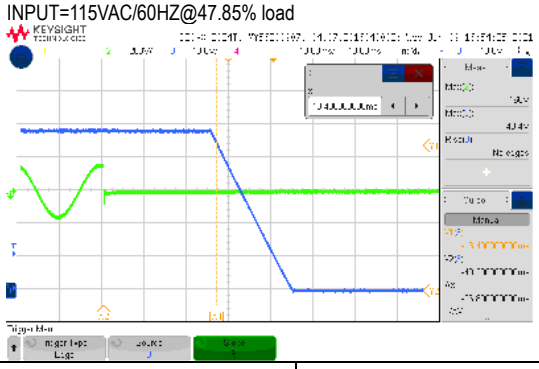
■ RELIABILITY TEST

ENVIRONMENT TEST

■ DESIGN VERIFY TEST

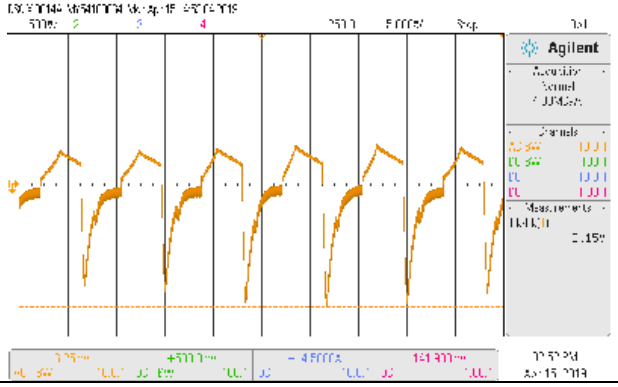
OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 48V~ 57.6 V	I/P 230 VAC I/P 115 VAC O/P MIN LOAD Ta 25 ~	46.76V~59.27V/230VAC 46.76V~59.27V/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: 0.09 %~ -0.09 %
4	LOAD REGULATION(Max)	V1: 0.5%~ - 0.5%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25 ~	V1: 0.07 %~ -0.07 %
5	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD/5% load Ta:25 ~	<5%
6	RIPPLE & NOISE(Max)	V1: 480mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25 ~	V1: 189mVp-p
	high frequency 		low frequency 	
7	SET UP TIME(Max)	230VAC/1500ms 115VAC/1500ms 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 63.8% LOAD Ta 25 ~	230VAC/ 648ms 115VAC/ 938 ms
	INPUT=230VAC/50HZ @ FULL LOAD CH3: Output Voltage CH2 : AC Input Voltage 		INPUT=115VAC/60HZ @ 63.8% LOAD CH3 : Output Voltage CH2 : AC Input Voltage 	

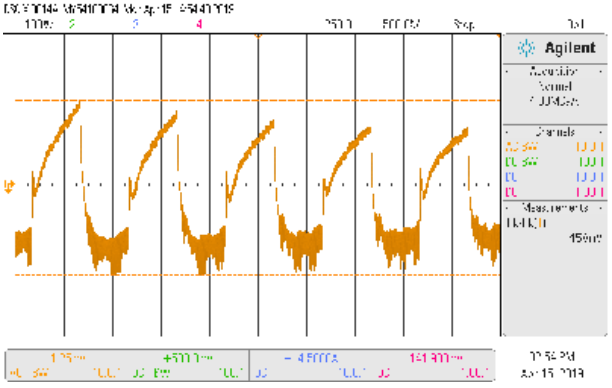
<table>
<tr><td>8</td><td>RISE TIME (Max)</td><td>230VAC/50ms
115VAC/60ms
Derating may be needed under low input voltages. Please check the derating curve and Static characteristics for more details</td><td>I/P 230 VAC
O/P FULL LOAD
I/P 115 VAC
O/P 63.8% LOAD
Ta 25 ~</td><td>230VAC/ 7.14 ms
115VAC/ 14.3 ms</td></tr>
<tr><td colspan="5">INPUT=230VAC/50HZ @ FULL LOAD
CH3 : Output Voltage
 
INPUT=115VAC/60HZ @ 63.8% LOAD
CH3 : Output Voltage
  </td></tr>
<tr><td>9</td><td>HOLD UP TIME (Typ.)</td><td>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</td><td>I/P 230 VAC
O/P FULL LOAD/75% LOAD
I/P 115 VAC
O/P 63.8% LOAD/47.85% LOAD
Ta 25 ~</td><td>230VAC/ 13.4 ms at full load
230VAC/ 18 ms at 75% load
115VAC/ 20.4 ms at 63.8% load
115VAC/ 26.8 ms at 47.85% load</td></tr>
<tr><td colspan="5">INPUT=230VAC/50HZ @ FULL LOAD
CH3 : Output Voltage CH2 : AC Input Voltage
 
INPUT=115VAC/60HZ @ 63.8% LOAD
CH3 : Output Voltage CH2 : AC Input Voltage
 
INPUT=230VAC/50HZ@75% LOAD
 
INPUT=115VAC/60HZ@47.85% load
  </td></tr>
<tr><td>10</td><td>DYNAMIC LOAD</td><td>V1: 4800 mVp-p</td><td>I/P: 230VAC
O/P:
(1)FULL /50% LOAD 50%DUTY / 120HZ
(2)FULL /50% LOAD 50%DUTY / 1KHZ
Ta:25 ~</td><td>

2150mVp-p
458mVp-p</td></tr>
</table>

FULL /50% LOAD 50%DUTY / 120HZ



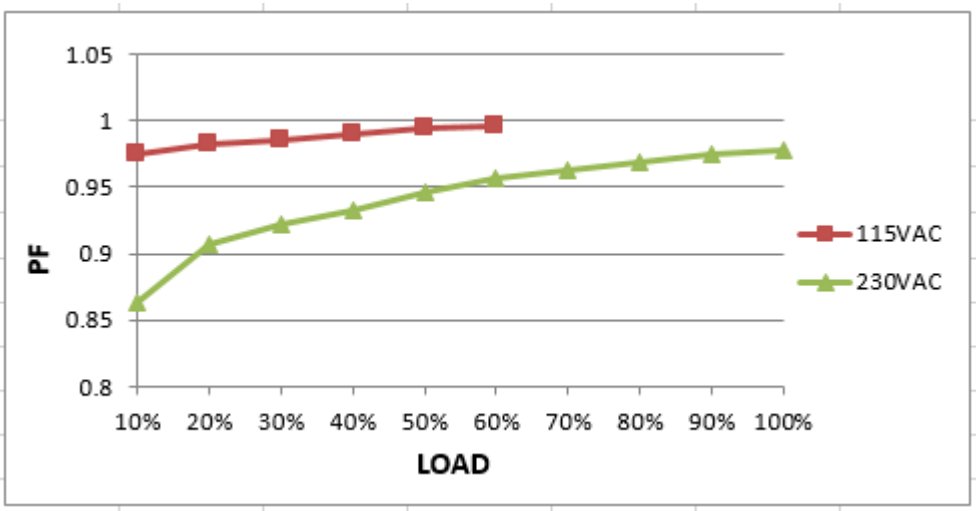
FULL /50% LOAD 50%DUTY / 1KHZ

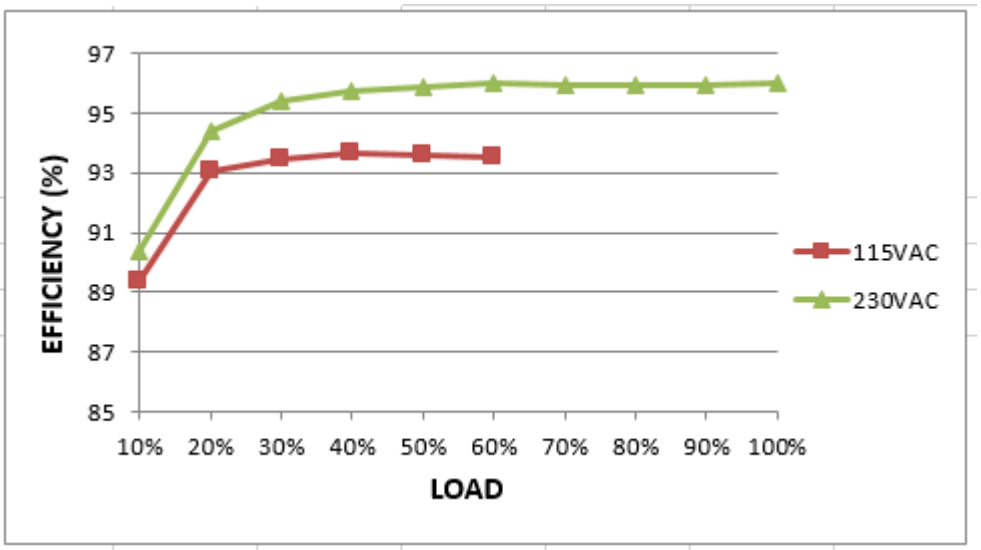
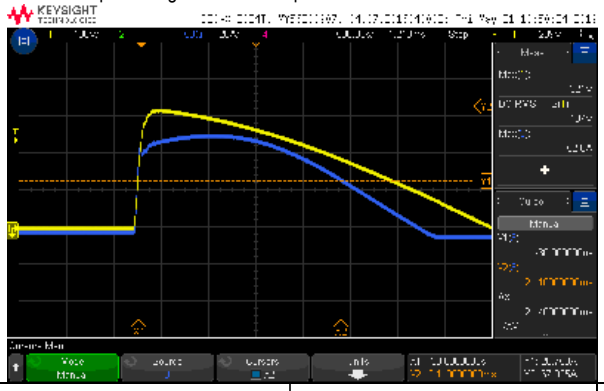
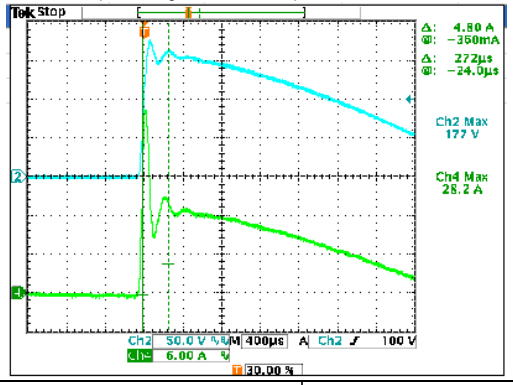


INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P:FULL LOAD// Derating Load Ta:25 ~	166V~264V(100%) 84V~264V(50%)
			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/ 14.3 A	I/P 230 VAC O/P FULL LOAD Ta 25 ~	I =11.8A/ 230VAC
4	LEAKAGE CURRENT	< 0.75mA / 240 VAC	I/P 240 VAC O/P Min LOAD Ta 25 ~	L-FG 0.55 mA N-FG 0.55 mA
5	POWER FACTOR (Typ.)	0.95/ 230VAC	I/P 230 VAC O/P FULL LOAD Ta 25 ~	PF=0.977/230VAC

P.F vs LOAD



6	EFFICIENCY(Typ.)	96%	I/P:230 VAC O/P:FULL LOAD Ta:25 ~	96.01%
	EFFICIENCY vs LOAD  			
7	INRUSH CURRENT(Typ.)	230V/60A 115V/30A COLD START	I/P 230 VAC I/P 115 VAC O/P FULL LOAD Ta 25 ~	I =52.6A / 230VAC T50= 2140us us I =28.2A / 115VAC
	INPUT=230VAC/50HZ @ FULL LOAD CH1 : AC Input Voltage CH3 : Input current 		INPUT=115VAC/60HZ @ FULL LOAD CH1 : AC Input Voltage CH3 : Input current  	
8	NO LOAD CONSUMPTION	---	I/P : 115VAC I/P : 230VAC O/P : NO LOAD Ta : 25℃	10.83 W/115VAC 7.79 W/230VAC

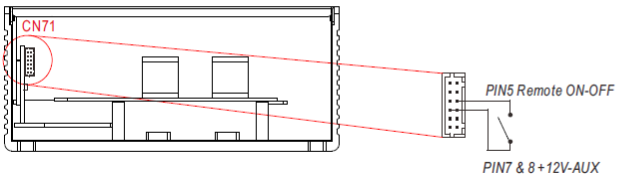
PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105%~ 115 %(180VAC~264VAC) 52.5%~57.5%(90VAC) Protection type : Constant current limiting, shut down O/P voltage 5 sec. after O/P voltage is down low, re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 180VAC I/P: 90VAC O/P:TESTING Ta:25 ~	110.3%/ 264VAC 110.3%/ 230VAC 110.36%/180VAC 55.2%/90VAC PROTECTION TYPE Constant current limiting, shut down O/P voltage 5 sec. after O/P voltage is down low, re-power on to recover

2	OVER VOLTAGE PROTECTION	59V~66V 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 ~	63.8V/264VAC 63.8V/230VAC 63.8V/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, shut down O/P voltage 5 sec. after O/P voltage is down low, re-power on to recover	I/P: 264VAC I/P: 90VAC O/P: FULL LOAD Ta:25 ~	NO DAMAGE PROTECTION TYPE Constant current limiting, shut down O/P voltage 5 sec. after O/P voltage is down low, 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℃

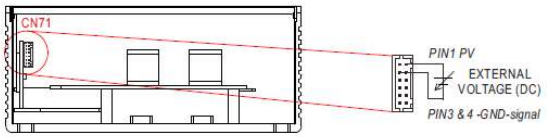
Test Result
<table>
<tr><th>AUX</th><th>TOLERANCE</th><th>RIPPLE</th><th>TEST RESULT</th></tr>
<tr><td>12V / 0.4A</td><td>10.8~13.2 V</td><td>150mVp-p</td><td>11.615V/ 60mv</td></tr>
</table></td></tr>
<tr><td>2</td><td>REMOTE ON/OFF CONTROL</td><td colspan="3">The power supply can be turned ON/OFF individually or along with other units in parallel by using the "Remote ON-OFF" function.
 

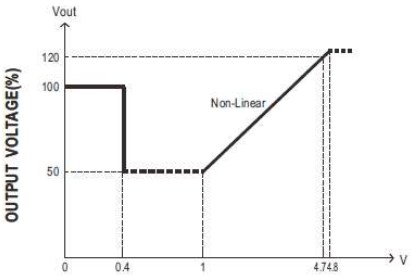
<table>
<tr><th>Remote ON-OFF</th><th>Power Supply Status</th></tr>
<tr><td>Short circuit</td><td>ON</td></tr>
<tr><td>Open circuit</td><td>OFF</td></tr>
</table>
I/P: 230 VAC
O/P:FULL LOAD
Ta:25℃
Test Result
<table>
<tr><th>Between ON/OFF and +5V-AUX</th><th>Power Supply Status</th></tr>
<tr><td>SW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

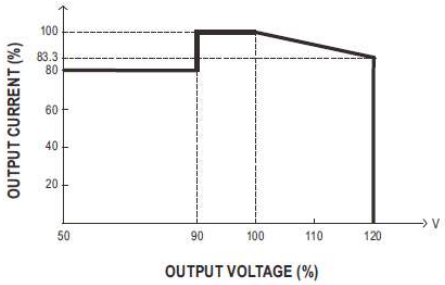
3 OUTPUT VOLTAGE PROGRAMMABLE(PV)

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.







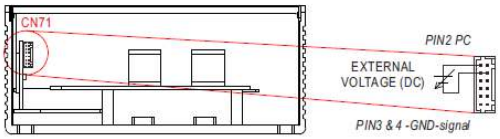
◎ The rated current should change with the Output Voltage Programming accordingly.

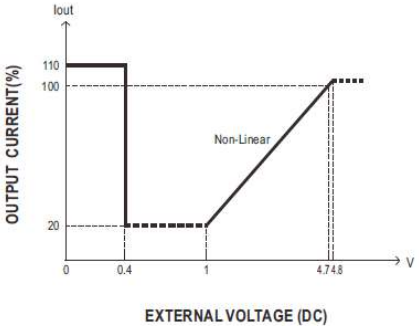
I/P: 230 VAC
O/P:FULL LOAD
Ta:25℃
TEST RESULT

PV / MODEL	0.4V	1V	4.7V	5V
SPEC	48V±5%	24V±5%	57.6V±5%	58.512V±5%
Vout	48.12v	24.16v	57.8v	58.95v

4 OUTPUT CURRENT PROGRAMMABLE (PC)

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



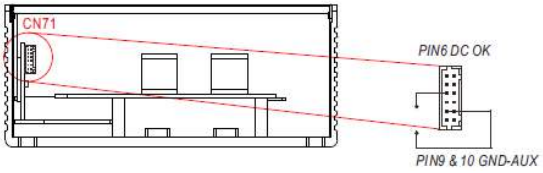


I/P: 230 VAC
O/P:TESTING
Ta:25℃

ADJ V	<0.4V	1V	4.7V	5V
SPEC	110%±10%	20%±10%	100%±10%	100%±10%
iout	57.47A/ 110.3%	57.47A/110.3%	52.06A/99.92%	53.4A 102.5%

5 DC OK CONTACT RATINGS

DC-OK signal is a TTL level signal. The maximum sourcing current is 10mA.



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

I/P: 230 VAC

		O/P:TESTING Ta:25℃ DC-OK signal: Power Supply Status "High" >4.5~5.5V: ON "Low" <-0.5~0.5V: 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 48 A/ 600 V VGS : ∣20 V	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) 527v (2) 487v (3) 519v (4) 527v (5) 527v (6) 527v (7) 491v VDS: (1) 483v (2) 487v (3) 483 (4) 483v (5) 483v (6) 487v (7) 491v
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q 52 Rated 33A/ 600 V VGS : ∣20 V	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	VDS: (1) 463v (2) 415v (3) 471v (4) 467v (5) 471v (6) 467v (7) 475v 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. Ta:25 ~	(1) 479v (2) 403v (3) 475v (4) 467v (5) 467v (6) 459v (7) 435v
3	P.F.C DIODE	D 14 Rated 10 A/650 V	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) 415v (2) 395v (3) 415v (4) 415v (1) 435 (2) 395v (3) 431v (4) 415v
4	Diode Peak Voltage	Q109 Rated 87A/ 150 V Q113 Rated 87A/ 150 V	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 ~	Q109: VDS: (1) 135v (2) 35v (3) 132v (4) 130v (5) 132v (6) 130v (7) 121v (8) 121v (9) 121v Q113 (1) 136v (2) 19v (3) 138v (4) 136v (5) 136v (6) 136v (7) 123v (8) 117v (9) 127v
5	Input Capacitor Voltage	C5 Rated: 180μ/450 V Surge Voltage 495V	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) 419v (2) 399v (3) 431v (4) 384v

6	Control IC Voltage Test	PWM IC U800 Rated 8.85 V~ 16V PFC IC U401 Rated 10.6V~ 21 V O/P IC U154Rated 8V~ 24V MCU IC U701 Rated -0.3V~ 4V	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) Ta:25 ~	U800: (1) 13.2V (2) 14.2V (3) 13V (4) 14.6V (5) 14V U401: (1) 15.2V (2) 14V (3) 14.5V (4) 13.4V (5) 13V	U154: (1) 11.9V (2) 10.7V (3) 11.9v (4) 11.1V (5) 11.6V U701: (1) 3.7V (2) 3.64V (3) 3.7V (4) 3.6V (5) 3.6V
8	TOP SWITCHING STAND BY POWER	U601 Rated 3.5A/ 800 V	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 ~	U601 (1) 584V (2) 554V (1) 545V (2) 550V	

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: 4.125 KVAC/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: 8.66mA O/P-FG:5.9m 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: 23.9GΩ I/P-FG: 19.8GΩ O/P-FG: 22.4GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25 ~	23 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℃	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 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-2500-48 (AMBIENT TEMPERATURE WITH FORCED AIR 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= 50 ~		

NO	Position	ROOM AMBIENT Ta= 25 ~	HIGH AMBIENT Ta= 50 ~
1	BD1	68.4 ~	92.1 ~
2	BD2	61.4 ~	84.7 ~
3	ZNR3	55.1 ~	78.6 ~
4	C14	57.7 ~	80.9 ~
5	L1	60.6 ~	85.8 ~
6	L3	59.9 ~	85.4 ~
7	D10	66.8 ~	91.9 ~
8	Q52	69.0 ~	93.4 ~
9	Q66	73.0 ~	98.5 ~
10	Q901	68.1 ~	94.9 ~
11	Q902	66.0 ~	92.7 ~
12	T1 WIRE	67.0 ~	93.9 ~
13	T2 WIRE	66.0 ~	92.8 ~
14	C10	59.5 ~	81.7 ~
15	T51	61.8 ~	83.8 ~

			16	C968	58.9 ~ 85.1 ~
			17	C962	55.7 ~ 81.5 ~
			18	D14	83.6 ~ 108.8 ~
			19	Q907	59.8 ~ 86.5 ~
			20	Q912	54.1 ~ 80.6 ~
			21	D980	50.2 ~ 77.5 ~
			22	Q105	54.1 ~ 80.1 ~
			23	Q113	57.0 ~ 82.8 ~
			24	U151	51.5 ~ 78.4 ~
			25	U401	65.4 ~ 87.8 ~
			26	T601	64.8 ~ 91.8 ~
			27	RG61	55.2 ~ 80.9 ~
			28	C652	57.7 ~ 83.3 ~
			29	U701	43.6 ~ 69.2 ~
			30	C116	44.1 ~ 70.6 ~
			31	C117	33.8 ~ 59.9 ~
			32	RY1	53.6 ~ 74.9 ~
			33	RTH4	59.1 ~ 85.1 ~
			34	RTH5	58.4 ~ 84.4 ~
			35	RT21	71.7 ~ 96.2 ~
			36	LF1	56.4 ~ 80.6 ~
			37	LF3	60.7 ~ 84.2 ~

2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P 230 VAC O/P 109 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 %/ ~(0~50 ~)	I/P 230 VAC O/P FULL LOAD	± 0.004 %/ ~(0~50 ~)
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	-30~50℃	1. Thermal shock Temperature： -35℃~ +55℃ 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, 2G 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 3G (5) Test Time 180min in each axis (X.Y.Z) (6) Ta 25℃	
9	CAPACITOR LIFE CYCLE	SUPPOSE C116 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) 856307HRS (2) 136427HRS (3) 245721HRS (4) 348568HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 166.12K hrs min. Telcordia SR-332 (Bellcore) ; 48.91K 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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