



Test Report: RCP-1600-12

1600W Rack Mountable Front End Rectifier

■ 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

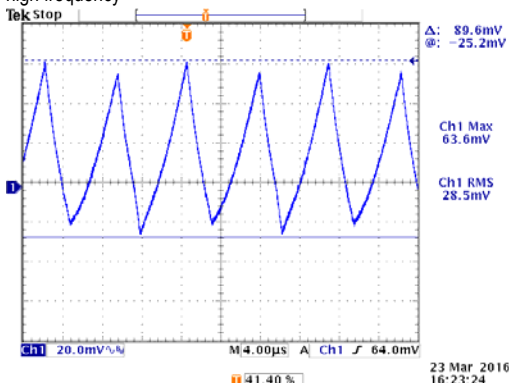
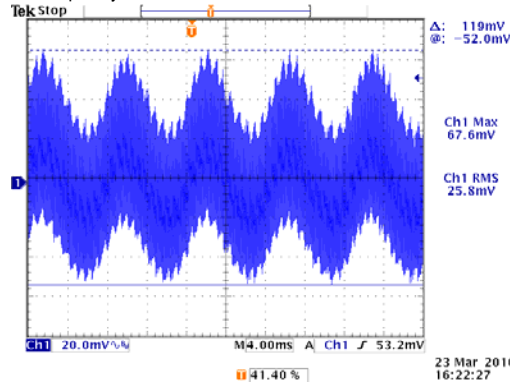
E.M.C. Test

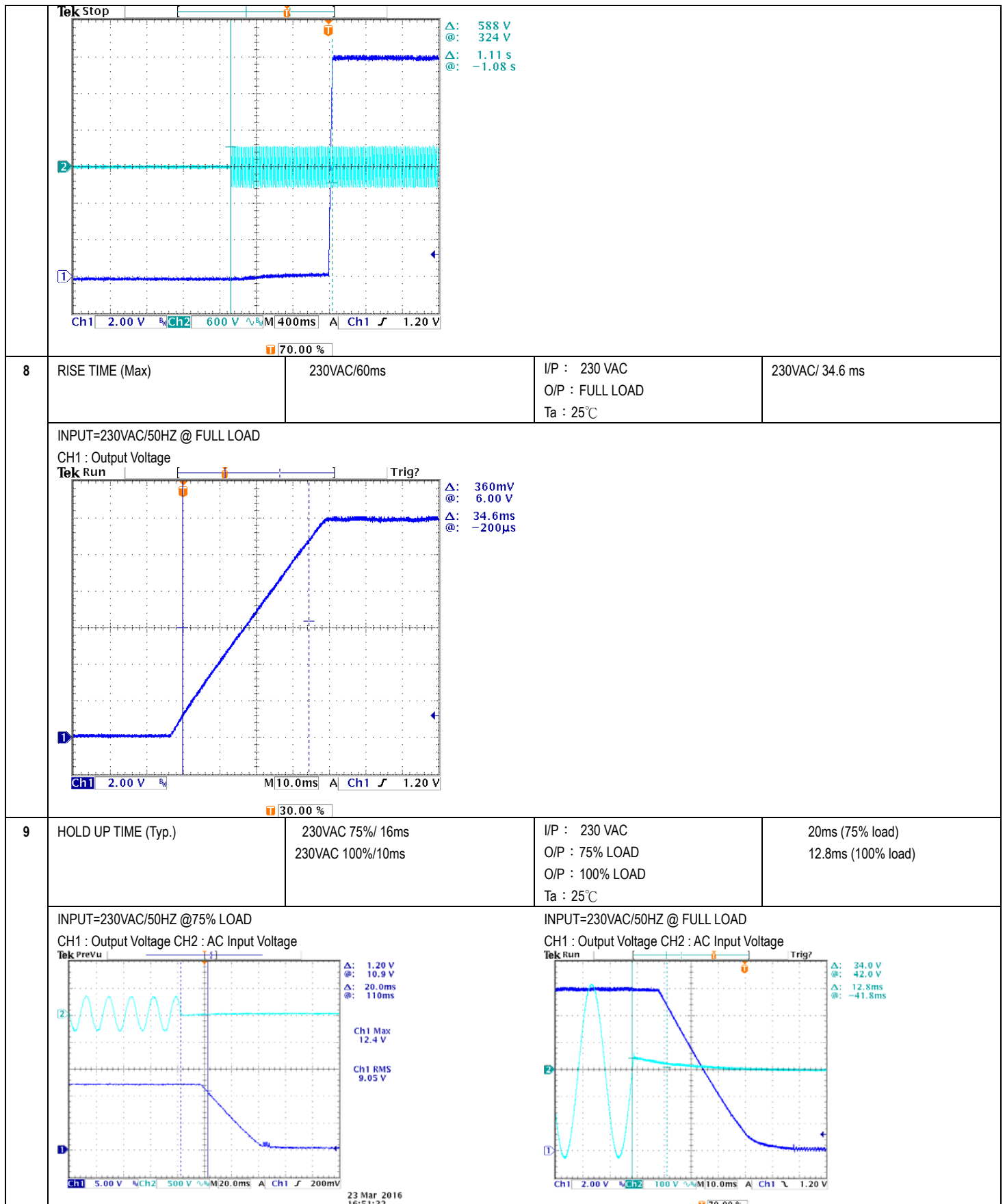
■ RELIABILITY TEST

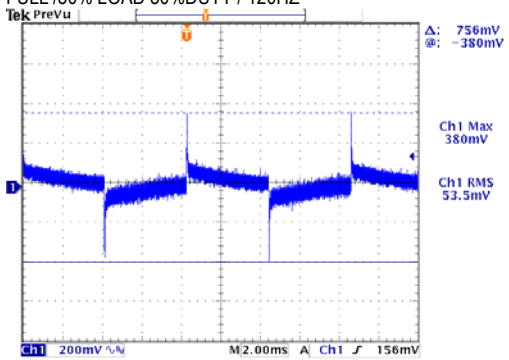
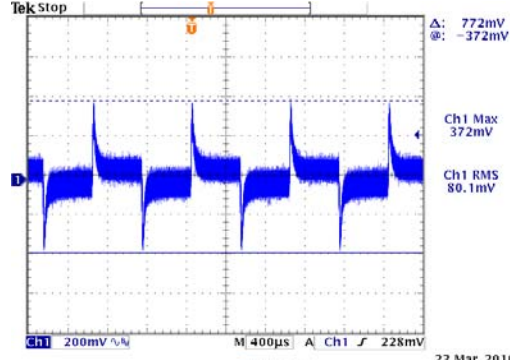
ENVIRONMENT TEST

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

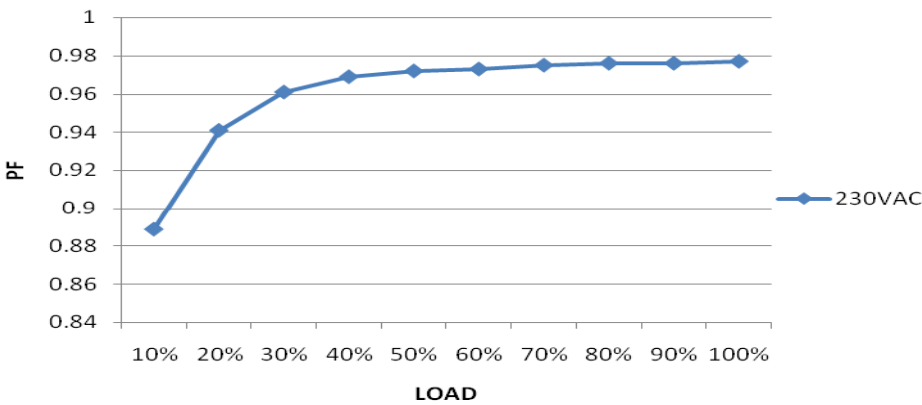
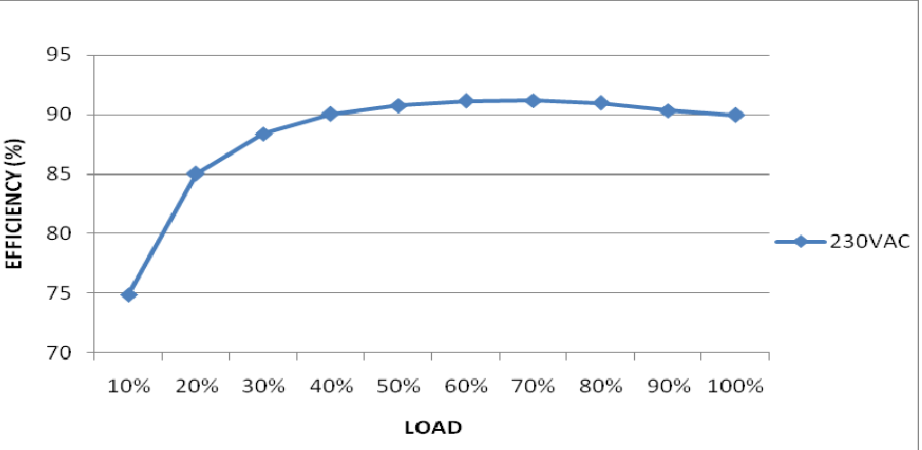
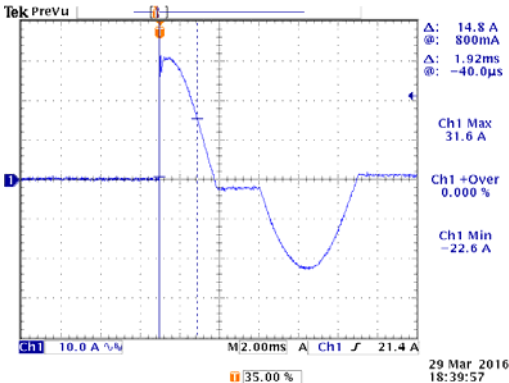
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 11.5 V~ 15V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	11.03V~15.26V/230VAC 11.03V~15.26V/115VAC
2	OUTPUT VOLTAGE(Max) TOLERANCE	V1: 1 %~ -1 %	I/P: 180VAC /264VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1: 0.25%~-0.25 %
3	LINE REGULATION (Max)	V1: 0.5 %~ -0.5 %	I/P: 180VAC~ 264VAC O/P:FULL LOAD Ta:25°C	V1: 0 %~ 0 %
4	LOAD REGULATION(Max)	V1: 0.5 %~ -0.5 %	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: 0.25%~-0.25 %
5	OVER/UNDERSHOOT TEST	< ±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	<5 %
6	RIPPLE & NOISE(Max)	V1: 150 mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	V1: 119 mVp-p
high frequency :  23 Mar 2016 16:23:24 low frequency :  23 Mar 2016 16:22:27				
7	SET UP TIME(Max)	230VAC/1500ms	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 1100 ms
INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : 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	756mVp-p 772mVp-p
FULL /50% LOAD 50%DUTY / 120HZ  Δ: 756mV Φ: -380mV Ch1 Max 380mV Ch1 RMS 53.5mV Ch1 200mV/div M 2.00ms A Ch1 156mV 23 Mar 2016 16:25:07 FULL /50% LOAD 50%DUTY / 1KHZ  Δ: 772mV Φ: -372mV Ch1 Max 372mV Ch1 RMS 80.1mV Ch1 200mV/div M 400μs A Ch1 228mV 23 Mar 2016 16:26:19				

INPUT FUNCTION TEST

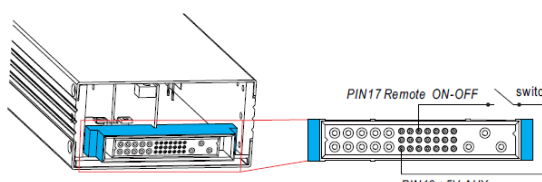
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	90VAC~264VAC	I/P:TESTING O/P: FULL LOAD O/P:60% LOAD Ta:25°C	150 V~ 264 V 87V~264V
			I/P: (1)LOW-LINE-3V=87 V HIGH-LINE+15%=300 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (2)230Vac ON: 0.5 Sec OFF: 0.5 Sec 20MIN (3)230Vac ON:3Sec OFF:3Sec 12HOURS (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°C	TEST: OK
3	INPUT CURRENT (Typ.)	230V/ 8 A 115V/ 14 A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD (PLEASE CHECK DERATING CURVE) Ta : 25°C	I =7.49A/ 230VAC I =12.41A/ 115VAC
4	LEAKAGE CURRENT	<1.5 mA / 230 VAC	I/P : 230 VAC O/P : Min LOAD Ta : 25°C	L-FG : 0.84 mA N-FG : 0.84 mA
5	POWER FACTOR (Typ.)	0.97 / 230VAC	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	PF=0.977/230VAC
	P.F vs LOAD			

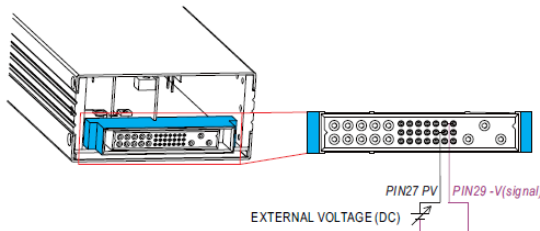
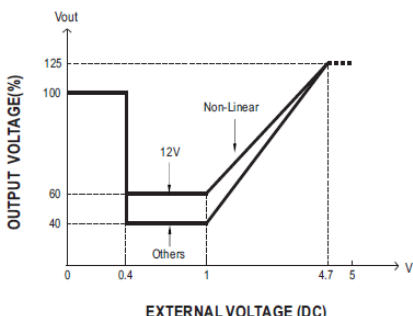
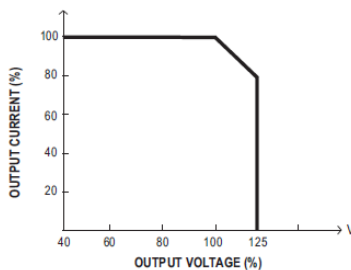
				
6	EFFICIENCY(Typ.)	88.5%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	88.75 %
	EFFICIENCY vs LOAD 			
7	INRUSH CURRENT(Typ.)	230V/35 A COLD START	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	I=31.6A/ 230VAC T50= 1920 us/230V
	INPUT=230VAC/50HZ @ FULL LOAD CH1 : Input current 			

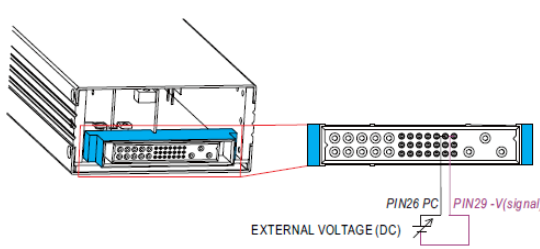
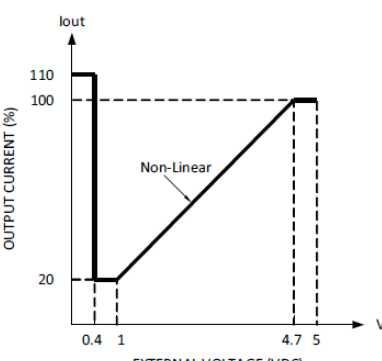
PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105 %~ 115 % PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover	I/P: 264VAC I/P: 230VAC I/P: 180VAC O/P: TESTING Ta:25°C	109.2%/ 264VAC 109.2%/ 230VAC 109.2%/180VAC PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover
2	OVER VOLTAGE PROTECTION	15.75 V~ 18.75 V 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°C	17.5V/ 264VAC 17.5V/ 230VAC 17.7V/ 90VAC PROTECTION TYPE : Shut down o/p voltage, re-power on to recover
3	OVER TEMPERATURE PROTECTION	NO DAMAGE 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 shut down o/p voltage after 5 sec. re-power on to recover	I/P: 264VAC I/P: 90VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE PROTECTION TYPE : Constant current limiting, unit will shut down o/p voltage after 5 sec. re-power on to recover

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT												
1	AUXILIARY POWER (AUX)	1. 5V±10% @0.3A ripple:150mVp-p 2. 12V±10% @0.8A ripple:250mVp-p	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	4.74 V 0.3 A ; ripple: 24mVp-p 11.28V 0.8 A ; ripple: 195 mVp-p												
2	REMOTE ON/OFF CONTROL	The power supply can be turned ON/OFF individually or along with other units by using the "Remote ON-OFF" function. <table border="1" data-bbox="1070 1547 1489 1637"><thead><tr><th>Between Remote ON-OFF and +5V-AUX</th><th>Power Supply Status</th></tr></thead><tbody><tr><td>Switch Short</td><td>ON</td></tr><tr><td>Switch Open</td><td>OFF</td></tr></tbody></table> I/P: 230 VAC O/P:FULL LOAD Ta:25℃ Test Result : <table border="1" data-bbox="472 1818 1114 1951"><thead><tr><th>Between Remote ON-OFF and +5V-AUX</th><th>OUTPUT</th></tr></thead><tbody><tr><td>SW SHORT</td><td>ON</td></tr><tr><td>SW OPEN</td><td>OFF</td></tr></tbody></table>			Between Remote ON-OFF and +5V-AUX	Power Supply Status	Switch Short	ON	Switch Open	OFF	Between Remote ON-OFF and +5V-AUX	OUTPUT	SW SHORT	ON	SW OPEN	OFF
Between Remote ON-OFF and +5V-AUX	Power Supply Status															
Switch Short	ON															
Switch Open	OFF															
Between Remote ON-OFF and +5V-AUX	OUTPUT															
SW SHORT	ON															
SW OPEN	OFF															
3	REMOTE SENSE	S+ / S- >0.5V Compensate voltage drop on	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	> 0.5 V												

		the load wiring up to 0.5V.																																									
4	ALARM SIGNAL	1. DC OK SIGNAL High (4.5 ~ 5.5V) : When the $V_{out} \leq 80\% \pm 5\%$. Low (-0.1 ~ 0.5V) : When $V_{out} \geq 80\% \pm 5\%$. The maximum sourcing current is 10mA and only for output. I/P: 230 VAC O/P:FULL LOAD Ta:25℃ Test Result : <table><tr><th>Vout</th><th>DC OK SIGNAL</th></tr><tr><td>$V_{out} \leq 75\%$</td><td>5V</td></tr><tr><td>$V_{out} \geq 85\%$</td><td>-0.09V</td></tr></table> 2. T-ALARM <table><tr><th>P.S.U STATUS</th><th>Vo</th><th>T-ALARM</th></tr><tr><td>NORMAL</td><td>100%±2%</td><td>-0.1 ~0.5V</td></tr><tr><td>OTP OR FAN LOCK</td><td>0V</td><td>4.5~5.5V</td></tr></table> I/P: 230 VAC O/P:FULL LOAD Ta:25℃ Test Result : <table><tr><th>P.S.U STATUS</th><th>T-ALARM</th></tr><tr><td>NORMAL</td><td>-0.09V</td></tr><tr><td>OTP OR FAN LOCK</td><td>4.937V</td></tr></table> 3. AC- OK <table><tr><th>AC IN</th><th>Vo</th><th>AC OK</th></tr><tr><td>$AC\ I/P \geq 87V_{rms}$</td><td>100%±2%</td><td>4.5~5.5V</td></tr><tr><td>$AC\ I/P \leq 75V_{rms}$</td><td>0V</td><td>0~0.5V</td></tr></table> I/P: TEST O/P:60%LOAD Test Result : <table><tr><th>AC IN</th><th>Vo</th><th>AC OK</th></tr><tr><td>$AC\ I/P \geq 87V$</td><td>100.69%</td><td>5.36V</td></tr><tr><td>$AC\ I/P \leq 75V$</td><td>0.00V</td><td>0.00V</td></tr></table>			Vout	DC OK SIGNAL	$V_{out} \leq 75\%$	5V	$V_{out} \geq 85\%$	-0.09V	P.S.U STATUS	Vo	T-ALARM	NORMAL	100%±2%	-0.1 ~0.5V	OTP OR FAN LOCK	0V	4.5~5.5V	P.S.U STATUS	T-ALARM	NORMAL	-0.09V	OTP OR FAN LOCK	4.937V	AC IN	Vo	AC OK	$AC\ I/P \geq 87V_{rms}$	100%±2%	4.5~5.5V	$AC\ I/P \leq 75V_{rms}$	0V	0~0.5V	AC IN	Vo	AC OK	$AC\ I/P \geq 87V$	100.69%	5.36V	$AC\ I/P \leq 75V$	0.00V	0.00V
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5	OUTPUT VOLTAGE PROGRAMMABLE(PV)	※ In addition to the adjustment via the built-in potentiometer, the output voltage can be trimmed to 40~125% of the nominal voltage by applying EXTERNAL VOLTAGE.  EXTERNAL VOLTAGE (DC) $\rightarrow$ PIN27 PV / PIN29 -V(signal) ◎ For Remote Sense / Local Sense, please refer to "Voltage Drop Compensation" section.  OUTPUT VOLTAGE (%) EXTERNAL VOLTAGE (DC)  OUTPUT CURRENT (%) OUTPUT VOLTAGE (%) * The rated current should change with the Output Voltage Programming accordingly. I/P: 230 VAC O/P:FULL LOAD Ta:25℃ TEST RESULT :																																									

		<table><tr><td>PV MODEL</td><td><0.4V</td><td>1V</td><td>4.7V</td><td>5V</td></tr><tr><td>SPEC</td><td>12V±5%</td><td>7.2V±5%</td><td>15V±5%</td><td>15V±5%</td></tr><tr><td>Vout</td><td>12V</td><td>7.27V</td><td>15.01V</td><td>15.19V</td></tr></table>	PV MODEL	<0.4V	1V	4.7V	5V	SPEC	12V±5%	7.2V±5%	15V±5%	15V±5%	Vout	12V	7.27V	15.01V	15.19V
PV MODEL	<0.4V	1V	4.7V	5V													
SPEC	12V±5%	7.2V±5%	15V±5%	15V±5%													
Vout	12V	7.27V	15.01V	15.19V													
6	OUTPUT CURRENT PROGRAMMABLE (PC)	※ The constant current level can be trimmed to 20~100% of the rated current by applying EXTERNAL VOLTAGE.  PIN26 PC PIN29 -V(signal) EXTERNAL VOLTAGE (DC) ○ For Remote Sense / Local Sense, please refer to "Voltage Drop Compensation" section.  OUTPUT CURRENT (%) Non-Linear EXTERNAL VOLTAGE (VDC) I/P: 230 VAC O/P: TESTING Ta:25°C <table><tr><td>ADJ V</td><td><0.4V</td><td>1V</td><td>4.7V</td><td>5V</td></tr><tr><td>SPEC</td><td>110%±10%</td><td>20%±10%</td><td>100%±10%</td><td>100%±10%</td></tr><tr><td>Iout</td><td>108.2%</td><td>18.08%</td><td>100.6%</td><td>101.6%</td></tr></table>	ADJ V	<0.4V	1V	4.7V	5V	SPEC	110%±10%	20%±10%	100%±10%	100%±10%	Iout	108.2%	18.08%	100.6%	101.6%
ADJ V	<0.4V	1V	4.7V	5V													
SPEC	110%±10%	20%±10%	100%±10%	100%±10%													
Iout	108.2%	18.08%	100.6%	101.6%													

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q901 Rated 29A/600 V	I/P: High-Line +3V ≈267V AC ON/OFF 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°C	VDS: (1) 494V (2) 470V (3) 478V (4) 482V (5) 486V (6) 475V (7) 482V

2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q52 Rated 52 A/600 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. Ta:25°C	VDS: (1)439V (2)455V (3)455V (4)451V (5)459V (6)435V (7)419V
3	Diode Peak Voltage	Q101 Rated 210 A/75 V Q104 Rated 210 A/75 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. (8).NO LOAD Ta:25°C	Q101: VDS: (1)50.6V (2)51.4V (3)59.8V (4)52.2V (5)51.8V (6)61V (7)58.6V (8)60.9V Q104: VDS: (1)60.1V (2)54.5V (3)65.7V (4)53.7V (5)52.1V (6)66.5V (7)51.3V (8)64.1V
4	Input Capacitor Voltage	C5 Rated: 680μ/400V SURGE VOLTAGE:450V	I/P:High-Line +3V =267 V O/P: (1)Full Load Ta:25°C	(1)398V
5	Control IC Voltage Test	PWM IC U901 Rated 6.5 V~24 V PFC IC U51 Rated 4.5V~15V O/P IC U142 Rated 4.5V~ 15V	I/P:High-Line +3V =267 V AC ON/OFF O/P(1)FULL LOAD (2) Output Short (3)O.L.P (4)O.V.P. Ta:25°C	U901 U51 U142 (1) 13.4 V 12.93V 12.5 V (2) 13.25 V 12.93V 12.5 V (3) 13.25 V 12.9 V 12.5 V (4) 13.2 V 12.9V 12.5 V
6	Transistor	Q154 Rated : 100A/40V	I/P:High-Line +3V =267 V (HOT SWAP TEST) O/P: (1)Full Load (2)NO LOAD (3)Dynamic Load Full Load/ Min. Load 50%Duty/120Hz	(1)400mV (2)600mV (3)600mV
7	Transistor	Q163 Rated : 2.4A/100V	I/P:High-Line +3V =267 V (HOT SWAP TEST) O/P: (1)Full Load (2)NO LOAD (3)Dynamic Load Full Load/ Min. Load 50%Duty/120Hz	(1)600mV (2)9.3V (3)600mV

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℃	I/P-O/P:6.23mA I/P-FG:5.77mA O/P-FG:6.08mA 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: 7.28GΩ I/P-FG: 5.7GΩ O/P-FG: 9.2GΩ NO DAMAGE

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:100% LOAD Ta:25℃	PASS
2	CONDUCTION	EN55022 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25℃	PASS Test by certified Lab
3	RADIATION	EN55022 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	IEC61000-4-5 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 : RCP-1600-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 37.5 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P : 230VAC O/P : FULL LOAD Ta= 51.7 °C <table><thead><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 28.3 °C</th><th>HIGH AMBIENT Ta= 52.5 °C</th></tr></thead><tbody><tr><td>1</td><td>Q901</td><td>81.1°C</td><td>96.7°C</td></tr><tr><td>2</td><td>Q904</td><td>78.0°C</td><td>92.1°C</td></tr><tr><td>3</td><td>Q52</td><td>73.9°C</td><td>85.7°C</td></tr><tr><td>4</td><td>D50</td><td>72.7°C</td><td>84.9°C</td></tr><tr><td>5</td><td>BD1</td><td>61.5°C</td><td>72.6°C</td></tr><tr><td>6</td><td>L900</td><td>60.7°C</td><td>70.7°C</td></tr><tr><td>7</td><td>T3</td><td>47.6°C</td><td>58.8°C</td></tr><tr><td>8</td><td>RG301</td><td>51.2°C</td><td>62.3°C</td></tr><tr><td>9</td><td>RG302</td><td>45.8°C</td><td>57.8°C</td></tr><tr><td>10</td><td>T1</td><td>62.0°C</td><td>73.6°C</td></tr><tr><td>11</td><td>Q101</td><td>62.6°C</td><td>76.0°C</td></tr><tr><td>12</td><td>Q104</td><td>71.6°C</td><td>85.9°C</td></tr><tr><td>13</td><td>U921</td><td>54.2°C</td><td>65.4°C</td></tr><tr><td>14</td><td>C5</td><td>54.9°C</td><td>67.1°C</td></tr><tr><td>15</td><td>L100</td><td>98.3°C</td><td>110.8°C</td></tr><tr><td>16</td><td>ZNR1</td><td>62.1°C</td><td>73.5°C</td></tr><tr><td>17</td><td>L2</td><td>65.1°C</td><td>75.6°C</td></tr><tr><td>18</td><td>RY1</td><td>58.7°C</td><td>69.7°C</td></tr><tr><td>19</td><td>C101</td><td>62.8°C</td><td>75.2°C</td></tr><tr><td>20</td><td>T52</td><td>56.7°C</td><td>68.0°C</td></tr><tr><td>21</td><td>RTH21</td><td>61.6°C</td><td>73.4°C</td></tr><tr><td>22</td><td>RTH9</td><td>64.1°C</td><td>76.8°C</td></tr><tr><td>23</td><td>U671</td><td>59.8°C</td><td>71.4°C</td></tr><tr><td>24</td><td>U82</td><td>47.3°C</td><td>63.0°C</td></tr><tr><td>25</td><td>Q151</td><td>67.2°C</td><td>79.2°C</td></tr></tbody></table>			NO	Position	ROOM AMBIENT Ta= 28.3 °C	HIGH AMBIENT Ta= 52.5 °C	1	Q901	81.1°C	96.7°C	2	Q904	78.0°C	92.1°C	3	Q52	73.9°C	85.7°C	4	D50	72.7°C	84.9°C	5	BD1	61.5°C	72.6°C	6	L900	60.7°C	70.7°C	7	T3	47.6°C	58.8°C	8	RG301	51.2°C	62.3°C	9	RG302	45.8°C	57.8°C	10	T1	62.0°C	73.6°C	11	Q101	62.6°C	76.0°C	12	Q104	71.6°C	85.9°C	13	U921	54.2°C	65.4°C	14	C5	54.9°C	67.1°C	15	L100	98.3°C	110.8°C	16	ZNR1	62.1°C	73.5°C	17	L2	65.1°C	75.6°C	18	RY1	58.7°C	69.7°C	19	C101	62.8°C	75.2°C	20	T52	56.7°C	68.0°C	21	RTH21	61.6°C	73.4°C	22	RTH9	64.1°C	76.8°C	23	U671	59.8°C	71.4°C	24	U82	47.3°C	63.0°C	25	Q151	67.2°C	79.2°C
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 107% LOAD Ta : 25°C	TEST : OK																																																																																																								
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 230VAC/180VAC O/P : 100 % LOAD Ta= -35°C / -30°C	TEST : OK																																																																																																								
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C 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	± 0.002 %/°C (0~50°C)																																																																																																								

6	STORAGE TEMPERATURE TEST	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 : 5 CYCLE 5. Input/Output condition : STATIC	OK
7	THERMAL SHOCK TEST	1. Thermal shock Temperature : -35°C ~ +55°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 : 15cycle:230V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST(13500 TIMES) 1cycle:230V/ FULL LOAD Burn In Test	OK
8	VIBRATION TEST	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 2G (5) Test Time : 60min in each axis (X.Y.Z) (6) Ta : 25°C	TEST : OK
9	CAPACITOR LIFE CYCLE	SUPPOSE C101 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= 50°C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 50°C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 50°C LIFE TIME	(1) 522532HRS (2) 104695HRS (3) 131576HRS (4) 209272HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 162.2K hrs min. Telcordia SR-332 (Bellcore) ; 39.3K hrs min. MIL-HDBK-217F (25°C)	
11	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure (Expected Life): Above 50,000 hours @ TA 50°C	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	DANIEL GAO	SANFORD SU	VINCENT TSENG

12.10.30 A50-F031