



# Test Report: XDR-480-48

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480W AC/DC High-End Ultra Slim Industrial DIN Rail  
Power

## ■ 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

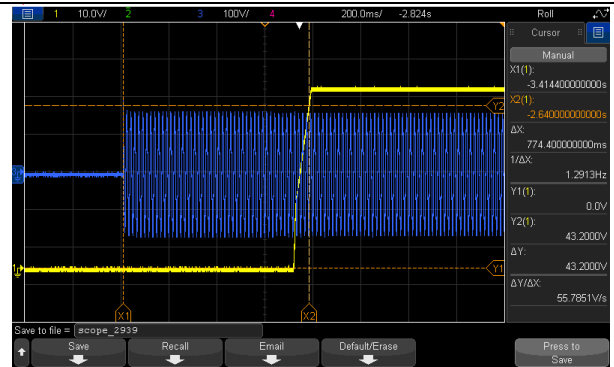
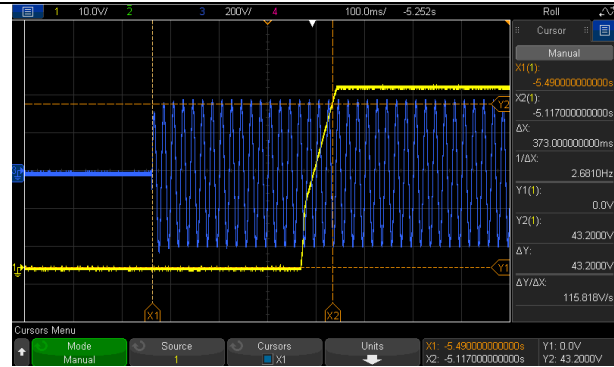
## ■ RELIABILITY TEST

ENVIRONMENT TEST

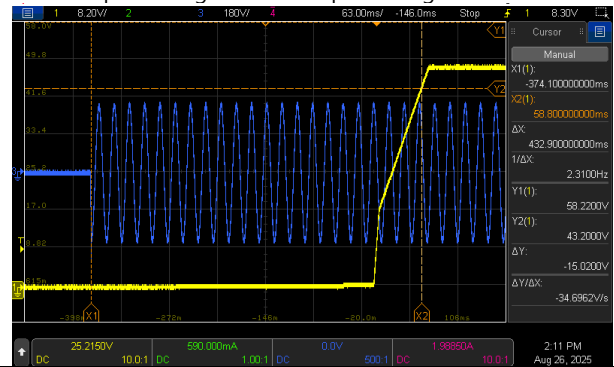
■ DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 48V~55V	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	46.484V~57.46V/277VAC 46.485V~57.46V/230VAC 46.486V~57.46V/115VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1% ~ +1%	I/P: 85VAC~305VAC O/P:FULL~MIN. LOAD Ta:25°C	V1: -0.025% ~ 0.025%
3	LINE REGULATION	V1: -0.5% ~ +0.5%	I/P: 85VAC~ 305VAC O/P:FULL LOAD Ta:25°C	V1: -0.025% ~ 0.025%
4	LOAD REGULATION	V1: -1% ~ +1%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.007% ~ 0%
5	OVER/UNDERSHOOT TEST	<±5%	I/P: 230VAC O/P:FULL LOAD / NO LOAD/ PEAK LOAD Ta:25°C	0.4%
6	RIPPLE & NOISE (Max )	V1: 120mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	42mVp-p / high frequency 51mVp-p / low frequency
		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>high frequency :</p> </div> <div style="text-align: center;"> <p>low frequency :</p> </div> </div>		
7	SET UP TIME(Max)	230VAC/1500ms 115VAC/3000ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/ 373 ms 230VAC/ 432.9ms 115VAC/ 774.4ms
		<p>INPUT=277VAC/50HZ @ FULL LOAD      INPUT=115VAC/60HZ @ FULL LOAD</p> <p>CH1: Output Voltage CH3: AC Input Voltage      CH1: Output Voltage CH3: AC Input Voltage</p>		

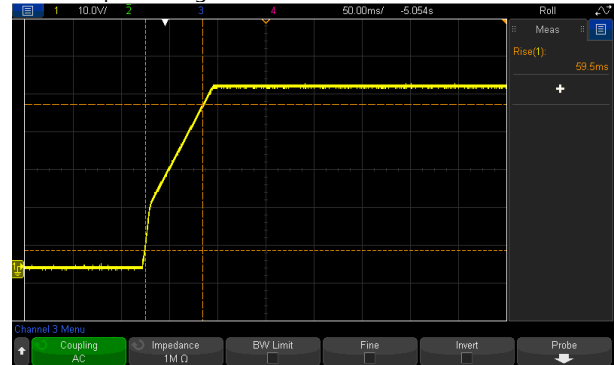


INPUT=230VAC/50HZ @ FULL LOAD  
CH1: Output Voltage CH3: AC Input Voltage

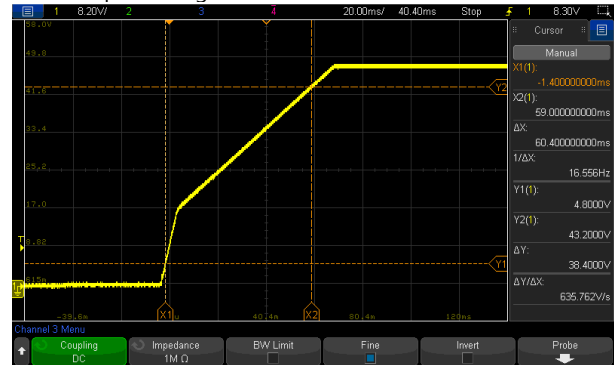


8	RISE TIME (Max)	230VAC/150ms 115VAC/150ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/ 59.5ms 230VAC/ 60.2ms 115VAC/ 60.4ms
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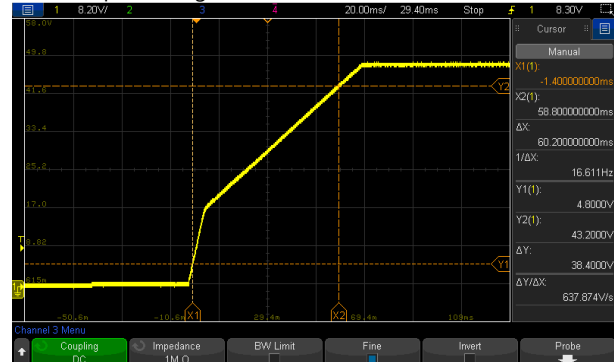
INPUT=277VAC/50HZ @ FULL LOAD  
CH1: Output Voltage

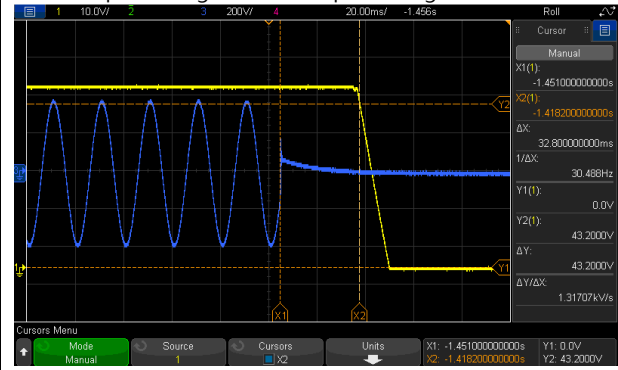
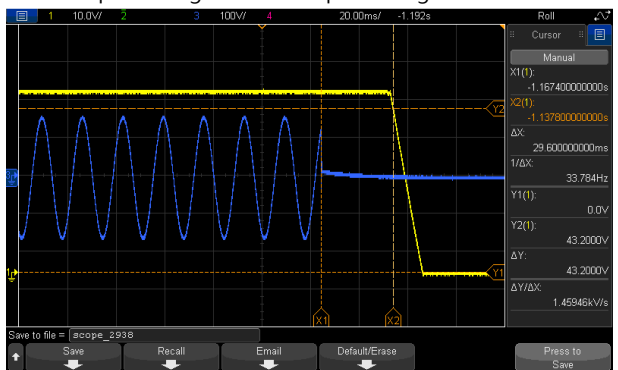
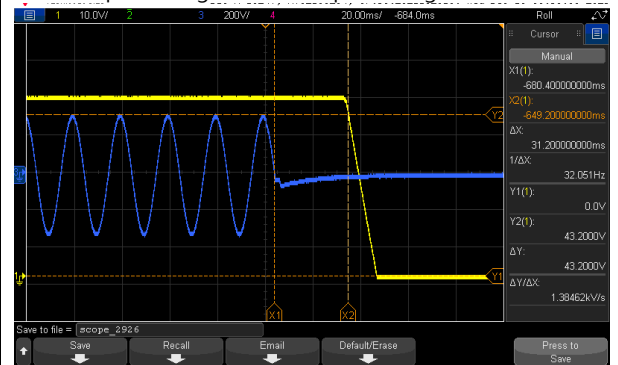
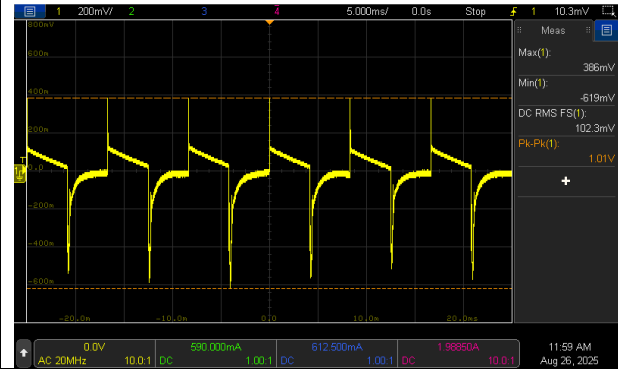
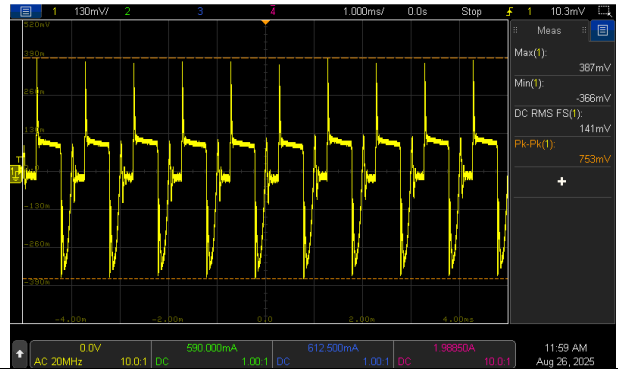


INPUT=115VAC/60HZ @ FULL LOAD  
CH1: Output Voltage

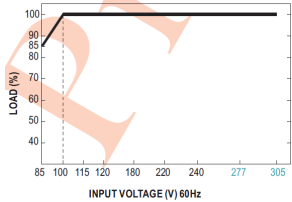


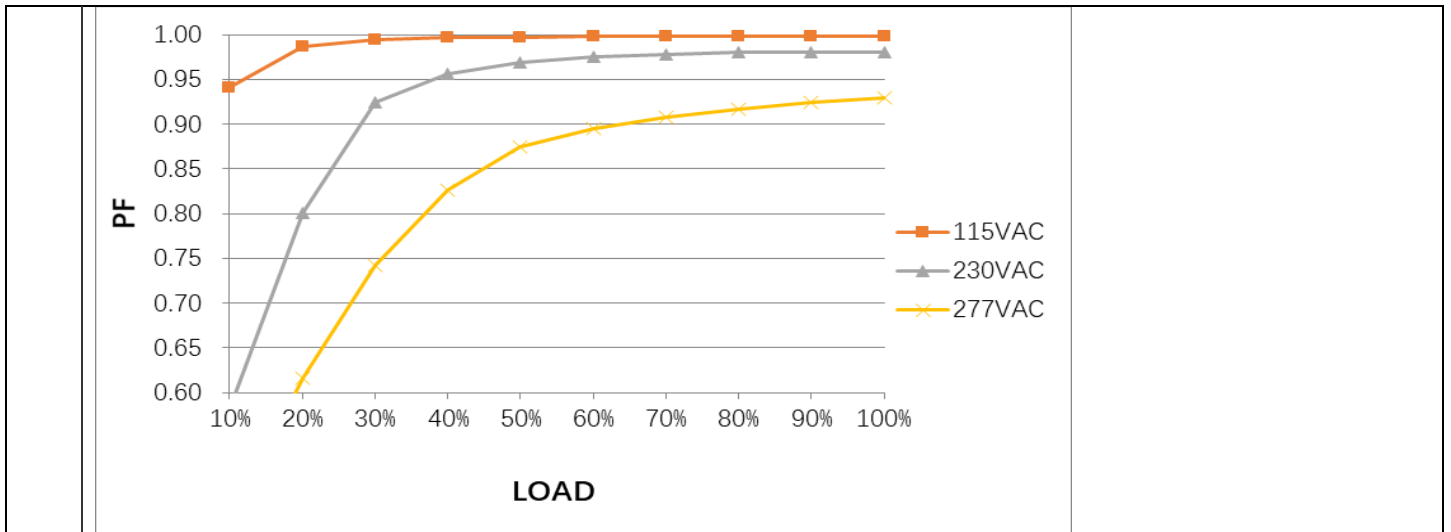
INPUT=230VAC/50HZ @ FULL LOAD  
CH1: Output Voltage



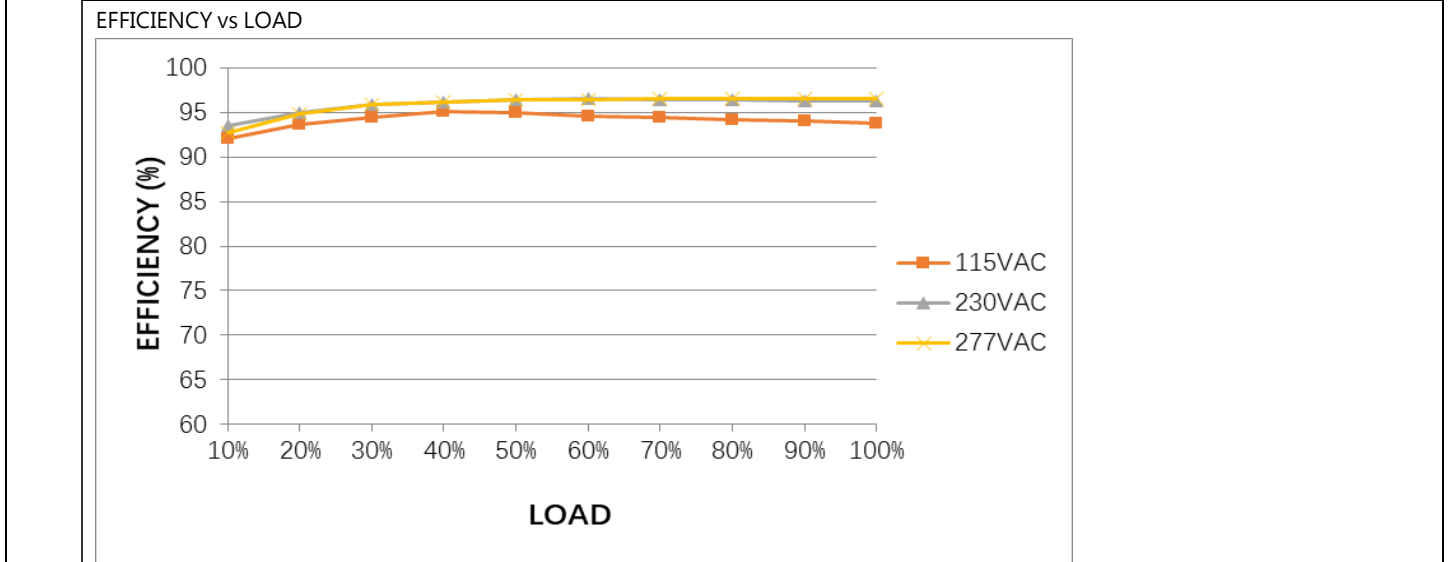
9	HOLD UP TIME (Typ.)	230VAC/ 15ms 115VAC/ 15ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/ 32.8ms 230VAC/ 31.2ms 115VAC/ 29.6ms
<p>INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage</p> 		<p>INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage</p> 		
<p>INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage</p> 				
10	DYNAMIC LOAD	V1: 4800mVp-p	I/P: 230VAC O/P: (1) FULL/ MIN LOAD 50%DUTY / 120HZ (2) FULL/ MIN LOAD 50%DUTY / 1KHZ Ta:25°C	1010mVp-p 753mVp-p
<p>FULL / MIN LOAD 50%DUTY / 120HZ</p> 		<p>FULL / MIN LOAD 50%DUTY / 1KHZ</p> 		
11	TRANSIENT RECOVERY TIME	V1: 4800mVp-p <500us	I/P: 230VAC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	383mVp-p

### INPUT FUNCTION TEST

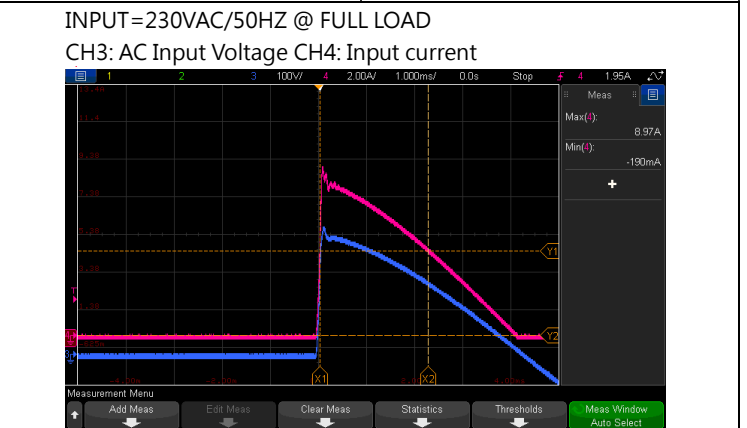
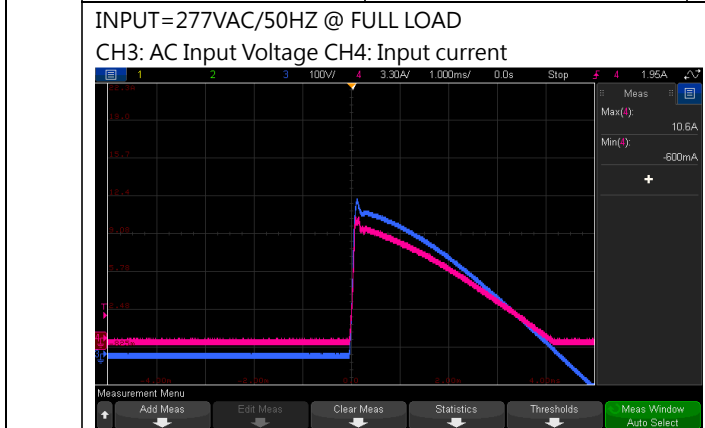
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT												
1	INPUT VOLTAGE RANGE	85VAC~305VAC 80VDC~ 431VDC	(1) I/P: TESTING O/P: FULL / 85% LOAD (2) I/P: DC TESTING (L: + N: -) O/P: FULL / 85% LOAD (3) I/P: DC TESTING (L: - N: +) O/P: FULL / 85% LOAD Ta:25°C	(1) 78.2V~305V/ FULL LOAD 78.0V~305V/ 85% LOAD (2) 75.2Vdc~431Vdc/FULL LOAD 75.0Vdc~431Vdc/85% LOAD (3) 74.8Vdc~431Vdc/FULL LOAD 74.6Vdc~431Vdc/85% LOAD												
			I/P: HIGH-LINE+10V=315V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN ( POWER ON/OFF NO DAMAGE )	TEST : OK												
		Derating 50% Load @80VDC	I/P: 80VDC O/P: 50% Load	TEST : OK												
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P: 85VAC~ 305VAC O/P:FULL~MIN LOAD Ta:25°C	TEST : OK												
3	INPUT CURRENT (Typ.)	277V/ 2.5A 230V/ 3A 115V/ 6A	I/P : 230 VAC I/P : 115 VAC I/P : 277VAC O/P : FULL LOAD Ta : 25°C	I =1.9489A/ 277VAC I =2.2211A/ 230VAC I =4.5136A/ 115VAC												
4	LEAKAGE CURRENT	< 1mA@240Vac < 1.5mA@277Vac	I/P : 240VAC/60HZ I/P : 277VAC/60HZ O/P : Min LOAD Ta : 25°C	0.459mA@240Vac 0.529mA@277Vac												
5	NO LOAD CONSUMPTION	Remote Power OFF: 1W@115Vac & 230Vac & 277Vac Remote Power ON: 3W@115Vac & 230Vac & 277Vac	I/P : 115VAC I/P : 230VAC I/P : 277VAC O/P : NO LOAD Ta : 25°C	TEST: <table border="1" data-bbox="1145 1435 1501 1659"> <thead> <tr> <th></th> <th>Remote Power OFF</th> <th>Remote Power ON</th> </tr> </thead> <tbody> <tr> <td>115VAC</td> <td>0.622W</td> <td>2.402W</td> </tr> <tr> <td>230VAC</td> <td>0.731W</td> <td>2.409W</td> </tr> <tr> <td>277VAC</td> <td>0.808W</td> <td>2.405W</td> </tr> </tbody> </table>		Remote Power OFF	Remote Power ON	115VAC	0.622W	2.402W	230VAC	0.731W	2.409W	277VAC	0.808W	2.405W
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230VAC	0.731W	2.409W														
277VAC	0.808W	2.405W														
6	POWER FACTOR (Typ.)	0.90/ 277VAC 0.95/ 230VAC 0.98/115VAC	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF=0.9253/277VAC PF=0.9797/230VAC PF=0.9978/115VAC												
	P.F vs LOAD															

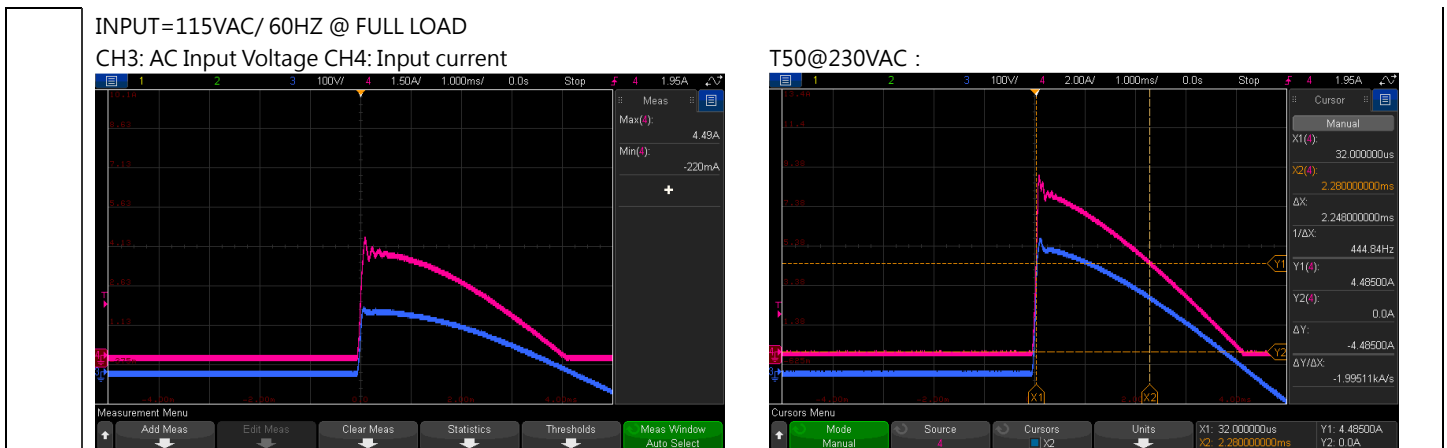


7	EFFICIENCY(Typ.)	96%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	96.02%
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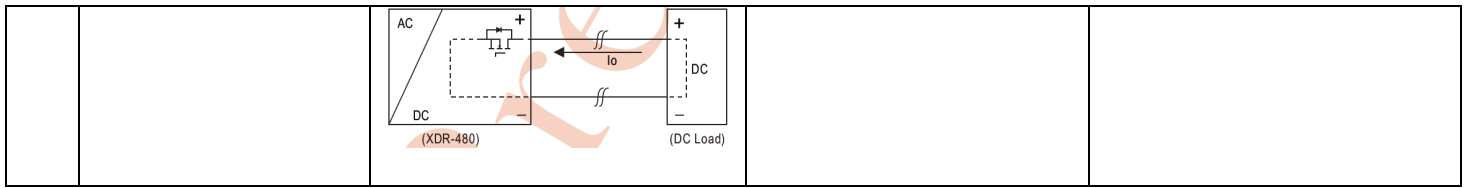
8	INRUSH CURRENT(Typ.)	277V/15A 230V/10A 115V/6A COLD START	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =10.6/ 277VAC I =8.97A/ 230VAC I =4.49A/ 115VAC T50=2248us/230V
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### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	Protection type: 105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when $V_o=30\% \sim 100\%$ ;  Hiccup mode when $V_o < 30\%$ rated voltage	I/P: 305VAC I/P: 230VAC I/P: 100VAC O/P: TESTING Ta: 25°C	125.8%/305VAC 125.8%/230VAC 126.0%/100VAC Protection type: 105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when $V_o=30\% \sim 100\%$ ; Hiccup mode when $V_o < 30\%$ rated voltage
2	OVER VOLTAGE PROTECTION	57V~66V Protection type: Shut down o/p voltage, re-power on to recover	I/P: 305VAC I/P: 85VAC O/P: MIN LOAD Ta: 25°C	60.8V/305VAC 60.8V/ 85VAC 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: 305VAC I/P: 85VAC 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: Hiccup mode when $V_o < 30\%$ rated voltage , recovers automatically after fault condition is removed	I/P: 305VAC I/P: 85VAC O/P: FULL LOAD	NO DAMAGE PROTECTION TYPE : Hiccup mode when $V_o < 30\%$ rated voltage , recovers automatically after fault condition is removed
5	Protection against Inverse Voltages from the Load	Prevent PSU damage from Back Electro magnetic Force during deceleration of motor or inductive load	I/P: 230VAC O/P: TESTING Ta: 25°C	TEST : <u>OK</u>



### CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT																																								
1	DC OK CONTACT RATINGS	30VDC/1A , 30VAC/0.5A RESISTIVE LOAD	I/P:230VAC O/P:FULL LOAD Ta:25°C	TEST: <u>OK</u>																																								
2	REMOTE CONTROL	Power ON: Pin9 and Pin10 Short or keep 4~5Vdc Power OFF: Pin9 and Pin10 Open or keep < 0.5Vdc	I/P:230VAC O/P:FULL LOAD Ta:25°C	TEST: <u>OK</u>																																								
3	PULSE CURRENT CAPABILITY	<table border="1"> <thead> <tr> <th>Load</th> <th>100-132Vac Vo (%)</th> <th>180-305Vac Vo (%)</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>3xIo</td> <td>50</td> <td>66</td> <td>100ms</td> </tr> <tr> <td>4xIo</td> <td>37</td> <td>50</td> <td>70ms</td> </tr> <tr> <td>5xIo</td> <td>30</td> <td>40</td> <td>40ms</td> </tr> <tr> <td>6xIo</td> <td>25</td> <td>25</td> <td>15ms</td> </tr> </tbody> </table>	Load	100-132Vac Vo (%)	180-305Vac Vo (%)	Time	3xIo	50	66	100ms	4xIo	37	50	70ms	5xIo	30	40	40ms	6xIo	25	25	15ms	I/P: 180VAC I/P: 100VAC O/P: TESTING Ta:25°C	<b>180VAC :</b> <table border="1"> <thead> <tr> <th>Load</th> <th>lout_Time(ms)</th> </tr> </thead> <tbody> <tr> <td>3xIo</td> <td>113.2</td> </tr> <tr> <td>4xIo</td> <td>112.8</td> </tr> <tr> <td>5xIo</td> <td>56.4</td> </tr> <tr> <td>6xIo</td> <td>26.5</td> </tr> </tbody> </table> <b>100VAC :</b> <table border="1"> <thead> <tr> <th>Load</th> <th>lout_Time(ms)</th> </tr> </thead> <tbody> <tr> <td>3xIo</td> <td>112</td> </tr> <tr> <td>4xIo</td> <td>85.6</td> </tr> <tr> <td>5xIo</td> <td>59.4</td> </tr> <tr> <td>6xIo</td> <td>26.9</td> </tr> </tbody> </table>	Load	lout_Time(ms)	3xIo	113.2	4xIo	112.8	5xIo	56.4	6xIo	26.5	Load	lout_Time(ms)	3xIo	112	4xIo	85.6	5xIo	59.4	6xIo	26.9
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4	PULSE CURRENT CAPABILITY		I/P:230VAC O/P: TESTING Ta:25°C	TEST : <u>OK</u>																																								
5	LED Status Indictors	<b>LED :</b> <table border="1"> <thead> <tr> <th>Description</th> <th>Output of alarm</th> </tr> </thead> <tbody> <tr> <td>Restore Factory Settings</td> <td>Green : 3 Blink/Pause </td> </tr> <tr> <td>DC OK</td> <td>Green </td> </tr> <tr> <td>DC Fail</td> <td>Red </td> </tr> <tr> <td>Overload (110%ac: ~150% rated current) (220%ac: ~200% rated current)</td> <td>Red : 1 Blink/Pause </td> </tr> <tr> <td>Over voltage</td> <td>Red : 2 Blink/Pause </td> </tr> <tr> <td>Over temperature</td> <td>Red : 3 Blink/Pause </td> </tr> <tr> <td>Against Inverse Voltages From The Load</td> <td>Red : 4 Blink/Pause </td> </tr> <tr> <td>High Ambient Temperature Warning</td> <td>Red : Blink </td> </tr> <tr> <td>Others (Note)</td> <td>Red : 5 Blink/Pause </td> </tr> </tbody> </table> <p><small>Note: Others include protection status AC OVP, Internal Communication error and EEPROM error.</small></p>	Description	Output of alarm	Restore Factory Settings	Green : 3 Blink/Pause	DC OK	Green	DC Fail	Red	Overload (110%ac: ~150% rated current) (220%ac: ~200% rated current)	Red : 1 Blink/Pause	Over voltage	Red : 2 Blink/Pause	Over temperature	Red : 3 Blink/Pause	Against Inverse Voltages From The Load	Red : 4 Blink/Pause	High Ambient Temperature Warning	Red : Blink	Others (Note)	Red : 5 Blink/Pause	I/P:230VA0C O/P: TESTING Ta:25°C	TEST : <u>OK</u>																				
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6	PARALLEL	Up to 1920W(3+1), please refer to Function Manual for more details	I/P: TESTING O/P: TESTING LOAD Ta:25°C	TEST : <u>OK</u>
7	PEAK Power	I/P: 100/200VAC O/P: 		TEST : <u>OK</u>

### COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q5/Q6 : Rated: 45A/ 600V	AC ON/OFF I/P: High-Line +3V =308V 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 Ta:25°C	Q5 Q6 VDS: (1) 525V (2) 545V (3) 529V (4) 537V (5) 525V (6) 525V (7) 529V (8) 521V VDS: (1) 495V (2) 511V (3) 495V (4) 495V (5) 499V (6) 495V (7) 495V (8) 487V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1/Q2 : Rated: 31A/ 600V	AC ON/OFF I/P: High-Line +3V =308V 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 Ta:25°C	Q1/Q2 VDS: (1) 475V (2) 491V (3) 487V (4) 467V (5) 471V (6) 499V (7) 491V (8) 471V

3	P.F.C DIODE	D1 : Rated: 10A/650V	I/P: High-Line +3V =308 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 (5) Peak Load Ta:25°C	(1) 456V (2) 452V (3) 448V (4) 456V (5) 460V
4	Diode Peak Voltage	Q100/Q103: Rated: 150V/60A	AC ON/OFF I/P: High-Line +3V =308 V <u>VO=Vomax</u> 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  <u>VO=Vonormal</u> O/P: (1) Full Load Ta:25°C	Q100: <u>VO=Vomax</u> Q103: <u>VO=Vomax</u> VDS: VDS: (1) 127V (1) 126V (2) 125V (2) 126V (3) 128V (3) 130V (4) 131V (4) 130V (5) 129V (5) 129V (6) 128V (6) 129V (7) 123V (7) 127V (8) 126V (8) 124V (9) 128V (9) 132V  <u>VO=Vonormal</u> <u>VO=Vonormal</u> (1) 113.8V (1) 115V
5	Input Capacitor Voltage	C5 : Rated: 150μ /450V	I/P: High-Line +3V =308V 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 (6) Peak Load continue Ta:25°C	(1) 438V (2) 434V (3) 438V (4) 438V (5) 438V (6) 443V
6	Control IC Voltage Test	PFC/PWM IC U1 : Rated : 12.5V~ 27.9V  O/P IC U101: Rated: 4.75V~38V  IC U404 : Rated : 3V~36V  AUX IC U2 : Rated : 5.65V~6.8V	AC ON/OFF I/P: High-Line +3V =308V O/P: (1) Full Load (2) Output Short (3) O.L.P (4) O.V.P. (5) No Load VR min (Low Line) Ta:25°C	U1 U2 (1) 13.8V (1) 6.46V (2) 13.9V (2) 6.48V (3) 13.7V (3) 6.48V (4) 13.6V (4) 6.54 V (5) 13.6V (5) 6.40V  U101 U9 (1) 15.4V (1) 3.307V (2) 15.9V (2) 3.307V (3) 15.5V (3) 3.307V



		MCU IC U9 : Rated : 2V~3.6V Level: 3.2835~3.3165V		(4) 14.4V (5) 15.3V	(4) 3.307V (5) 3.307V
		MCU IC U306: Rated : 2.4V~ 3.6V Level: 3.2835~3.3165V		U404 (1) 5.97V (2) 5.61V (3) 5.61V (4) 5.53V (5) 5.61V	U306 (1) 3.303V (2) 3.303V (3) 3.303V (4) 3.303V (5) 3.303V

## ■ SAFETY& E.M.C. TEST

### SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 4 KVAC/min I/P-FG: 2 KVAC/min O/P-FG:1.5 KVAC/min O/P-DC OK: 0.5 KVAC/min	I/P-O/P: 4.4 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG: 1.8 KVAC/min O/P-DC OK: 0.6 KVAC/min Ta:25°C	I/P-O/P: 2.99 mA I/P-FG: 2.37mA O/P-FG: 3.22mA O/P-DC OK: 0.007mA 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: 50GΩ I/P-FG: 50GΩ O/P-FG: 50GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100mΩ	40A /2min Ta:25°C	14 mΩ

### E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	BS EN/EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	BS EN/EN55032 (CISPR32) BS EN/EN61204-3 CNS15936 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	BS EN/EN55032 (CISPR32) BS EN/EN61204-3 CNS15936 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	BS EN/EN 61000-4-2 AIR : 15KV / Contact : 8KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A





		NO		ROOM AMBIENT Ta=23.3°C	HIGH AMBIENT Ta=60.1°C
		Position			
		23	LF100	48.9°C	89.4°C
		24	C108	49.8°C	89.1°C
		25	C105	49.8°C	88.3°C
		26	C107	50.7°C	89.0°C
		27	RG6	53.1°C	92.6°C
		28	C109	47.2°C	87.6°C
		29	J100	52.4°C	90.1°C
		30	U4	49.9°C	87.5°C
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P : 230 VAC O/P : 123%LOAD Ta : 25°C	TEST : OK	
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 305VAC/100VAC O/P : 80%/100 %LOAD Ta= -45°C/-35°C	TEST : OK	
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60°C/95 %R.H NO DAMAGE	I/P : 315VAC O/P : FULL LOAD Ta= 60°C HUMIDITY= 95 %R.H	TEST : OK	
5	TEMPERATURE COEFFICIENT	± 0.03 %/°C(0~60°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.006%/°C(0~60°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	-30~60°C	1. Thermal shock Temperature : -35°C~ +65°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, 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°C		
9	CAPACITOR LIFE CYCLE	SUPPOSE C109 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= 60°C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 60°C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 60°C LIFE TIME	(1) 1636230 HRS (2) 112685 HRS (3) 178025 HRS (4) 237845 HRS		
10	MTBF	Conducted by Parts Stress Analysis Prediction 1139.7K hrs min. Telcordia SR-332 (Bellcore) ; 154.5K hrs 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
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TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	Hanxr	Liutt	Wangzd

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