



Test Report: XDR-240-24

240W 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

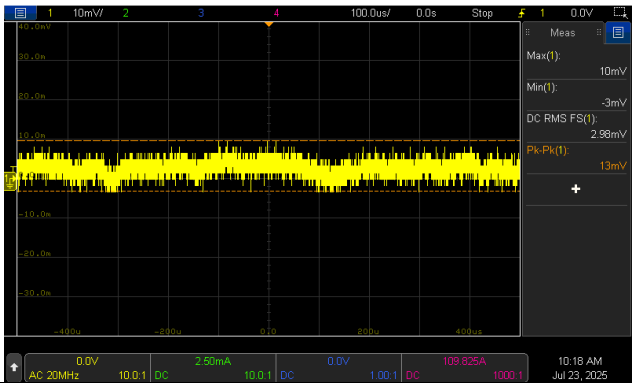
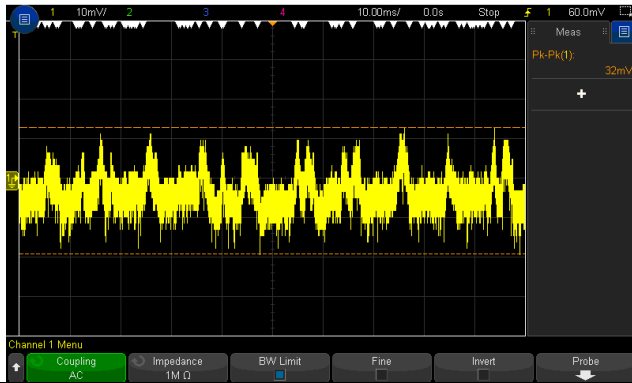
E.M.C. Test

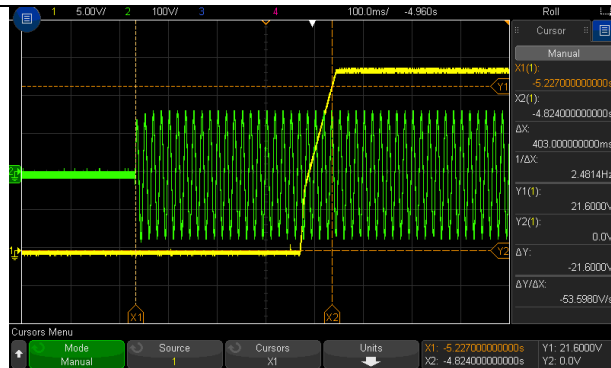
■ RELIABILITY TEST

ENVIRONMENT TEST

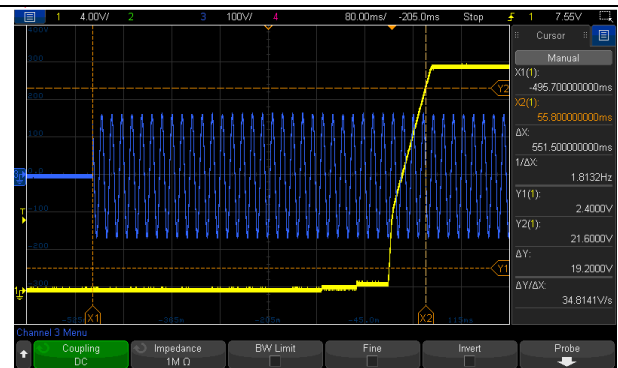
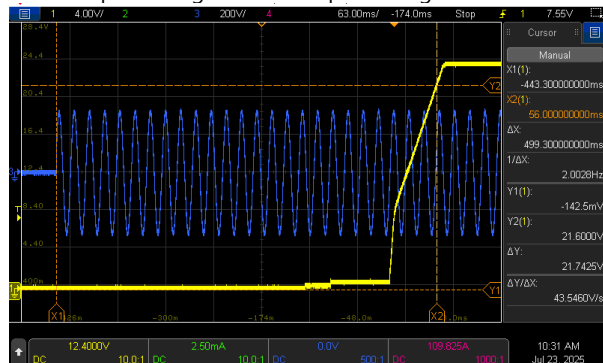
DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 24V~29V	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	23.286V~29.846V/277VAC 23.286V~29.848V/230VAC 23.286V~29.846V/115VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1% ~ +1%	I/P: 85VAC~305VAC O/P:FULL~MIN. LOAD Ta:25°C	V1: -0.079% ~ 0.084%
3	LINE REGULATION	V1: -0.5% ~ +0.5%	I/P: 85VAC~ 305VAC O/P:FULL LOAD Ta:25°C	V1: -0.017% ~ 0.025%
4	LOAD REGULATION	V1: -1% ~ +1%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.079% ~ 0.084%
5	OVER/UNDERSHOOT TEST	<±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	1.3%
6	RIPPLE & NOISE (Max)	V1: 100mVp-p 150mVp-p/PEAK LOAD	I/P:230VAC O/P:FULL LOAD Ta:25°C	13mVp-p / high frequency 32mVp-p / low frequency
high frequency :  low frequency : 				
7	SET UP TIME(Max)	277VAC/1500ms 230VAC/1500ms 115VAC/3000ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/ 403ms 230VAC/ 499.3ms 115VAC/ 551.5ms
INPUT=2770VAC/50HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage			INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage	



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



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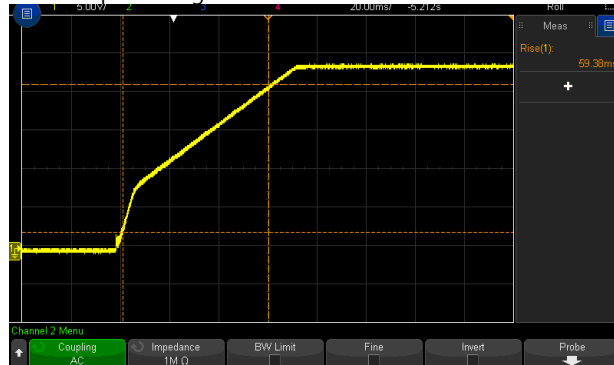
RISE TIME (Max)

277VAC/150ms
230VAC/150ms
115VAC/150ms

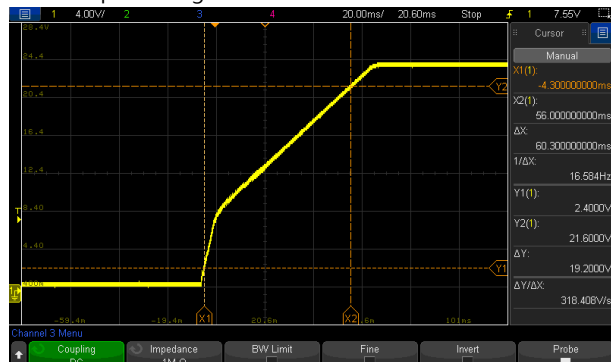
I/P : 230 VAC
I/P : 115 VAC
O/P : FULL LOAD
Ta : 25°C

277VAC/ 59.38ms
230VAC/ 60.3ms
115VAC/ 60ms

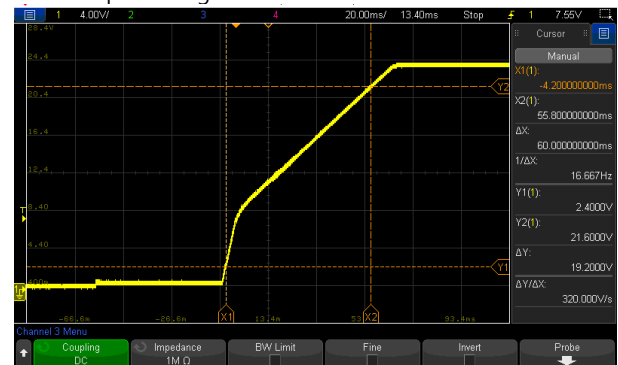
INPUT=277VAC/50HZ @ FULL LOAD
CH1: Output Voltage



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

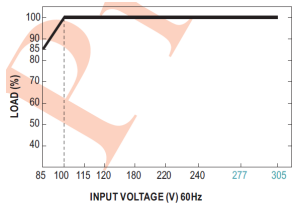


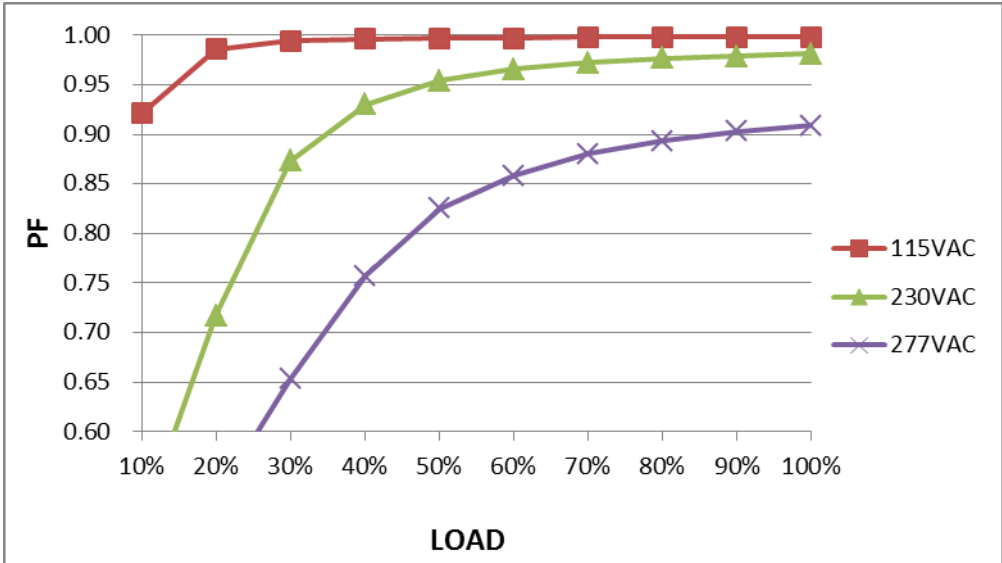
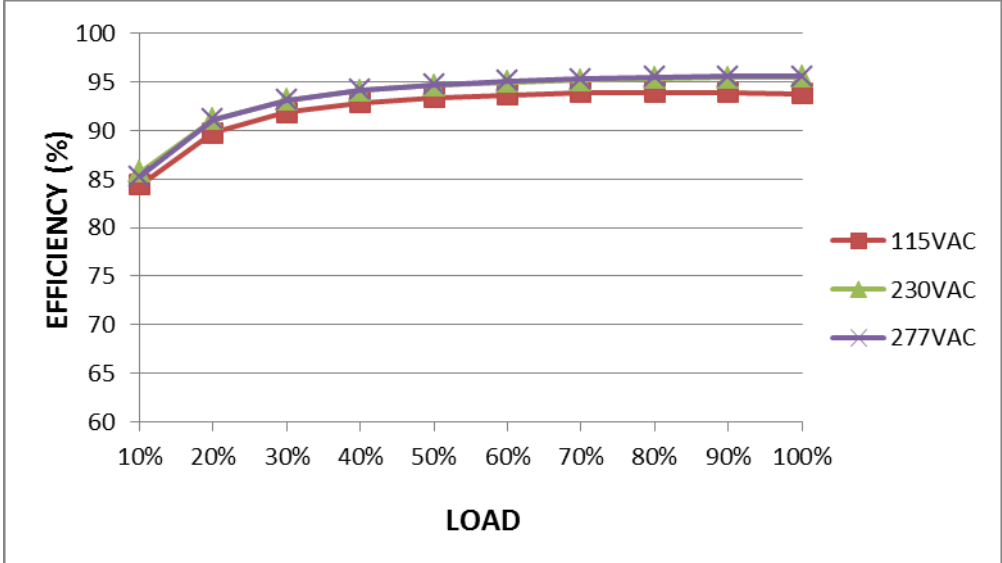
INPUT=115VAC/60HZ @ FULL LOAD
CH1: Output Voltage

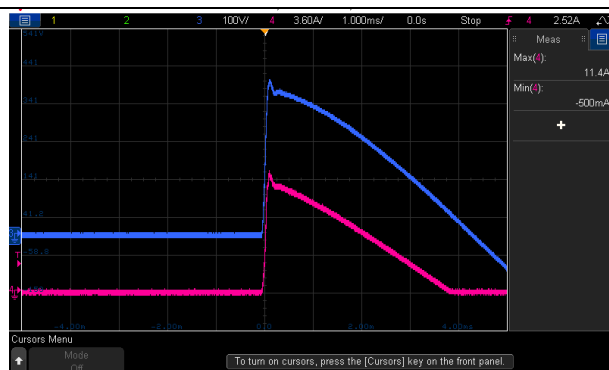


9	HOLD UP TIME (Typ.)	277VAC/20ms 230VAC/ 20ms 115VAC/ 20ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/ 29.8ms 230VAC/ 31.24ms 115VAC/ 30.74ms
INPUT=277VAC/50HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage				
INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage				
10	DYNAMIC LOAD	V1: 2400mVp-p	I/P: 230VAC O/P: (1) FULL/ MIN LOAD 50%DUTY / 120HZ (2) FULL/ MIN LOAD 50%DUTY / 1KHZ Ta:25°C	507mVp-p 466mVp-p
FULL / MIN LOAD 50%DUTY / 120HZ FULL / MIN LOAD 50%DUTY / 1KHZ				
11	TRANSIENT RECOVERY TIME	V1: 2400mVp-p <500us	I/P: 230VAC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us	233mVp-p 0us

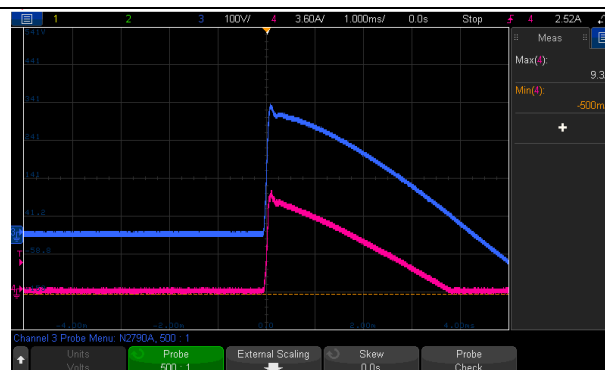
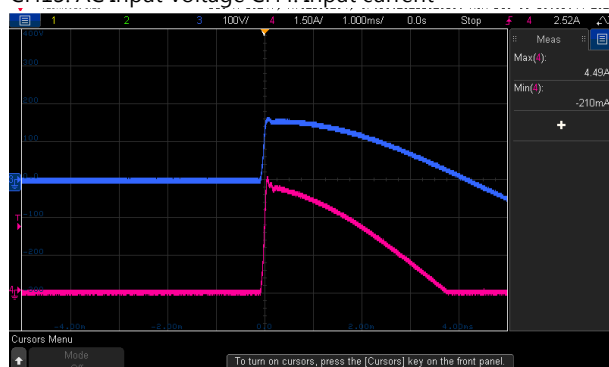
INPUT FUNCTION TEST

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) 79.2V~305V/ FULL LOAD 78.6V~305V/ 85% LOAD (2) 76.7Vdc~431Vdc/FULL LOAD 76.65Vdc~431Vdc/85% LOAD (3) 77Vdc~431Vdc/FULL LOAD 76.8Vdc~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/ 1.1A 230V/ 1.3A 115V/ 2.6A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =0.991A/ 277VAC I =1.1226A/ 230VAC I =2.252A/ 115VAC												
4	LEAKAGE CURRENT	< 1mA@240Vac < 1.3mA@277Vac	I/P : 240VAC/60HZ I/P : 277VAC/60HZ O/P : Min LOAD Ta : 25°C	0.6865mA@240Vac 0.8145mA@277Vac												
5	NO LOAD CONSUMPTION	Remote Power OFF: 1W@115Vac & 230Vac Remote Power ON: 2.5W@115Vac & 230Vac	I/P : 115VAC I/P : 230VAC I/P : 277VAC O/P : NO LOAD Ta : 25°C	TEST: <table><tr><td></td><td>Remote Power OFF</td><td>Remote Power ON</td></tr><tr><td>115VAC</td><td>0.576W</td><td>1.703W</td></tr><tr><td>230VAC</td><td>0.696W</td><td>1.662W</td></tr><tr><td>277VAC</td><td>0.755W</td><td>1.739W</td></tr></table>		Remote Power OFF	Remote Power ON	115VAC	0.576W	1.703W	230VAC	0.696W	1.662W	277VAC	0.755W	1.739W
	Remote Power OFF	Remote Power ON														
115VAC	0.576W	1.703W														
230VAC	0.696W	1.662W														
277VAC	0.755W	1.739W														
6	POWER FACTOR (Typ.)	0.9/277VAC 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=0.9165/277VAC PF=0.9762/230VAC PF=0.9973/115VAC												

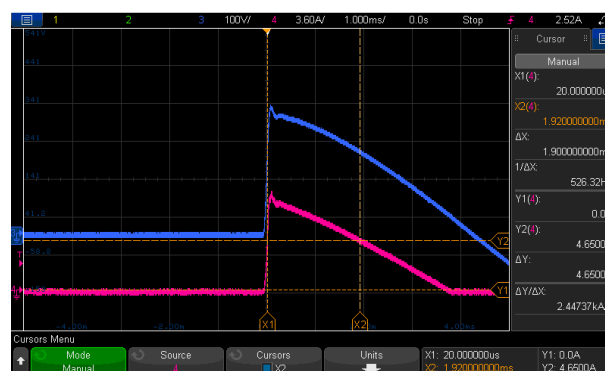
	P.F vs LOAD 			
7	EFFICIENCY(Typ.)	95%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	95.25%
8	EFFICIENCY vs LOAD 			
	INRUSH CURRENT(Typ.)	277V/15A 230V/10A 115V/6A COLD START	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =11.4A/ 277VAC I =9.3A/ 230VAC I =4.49A/ 115VAC T50=1900us/230V
	INPUT=277VAC/50HZ @ FULL LOAD CH3: AC Input Voltage CH4: Input current			
	INPUT=230VAC/50HZ @ FULL LOAD CH3: AC Input Voltage CH4: Input current			



INPUT=115VAC/ 60HZ @ FULL LOAD
CH13: AC Input Voltage CH4: Input current

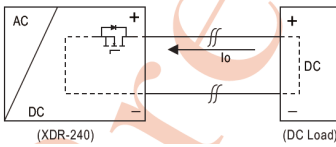


T50@230VAC :

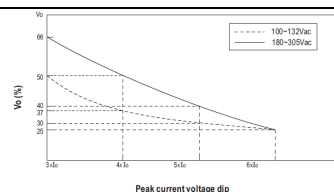


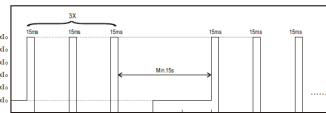
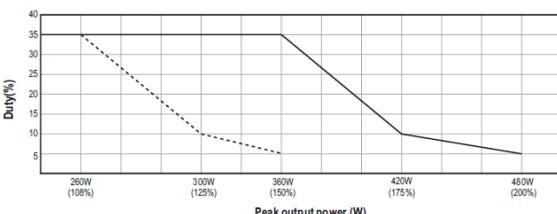
PROTECTION FUNCTION TEST

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 Vo=30%~100% ; Hiccup mode when Vo<30% rated voltage	I/P: 305VAC I/P: 230VAC I/P: 100VAC O/P: TESTING Ta:25°C	TEST : 125.2%/305VAC 125.2%/230VAC 123.8%/100VAC Protection type: 105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when Vo=30%~100% ; Hiccup mode when Vo<30% rated voltage
2	OVER VOLTAGE PROTECTION	30V~34V 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	31.9V/ 305VAC 31.9V/ 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 OK 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	TEST : <u>OK</u> 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 CAPABILTY (	 <table><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	180V : <table><thead><tr><th>Load</th><th>Iout_Time(ms)</th></tr></thead><tbody><tr><td>3xIo</td><td>112.4</td></tr><tr><td>4xIo</td><td>85.2</td></tr><tr><td>5xIo</td><td>55.4</td></tr><tr><td>6xIo</td><td>35.6</td></tr></tbody></table> 100V : <table><thead><tr><th>Load</th><th>Iout_Time(ms)</th></tr></thead><tbody><tr><td>3xIo</td><td>116.8</td></tr><tr><td>4xIo</td><td>85</td></tr><tr><td>5xIo</td><td>54.7</td></tr><tr><td>6xIo</td><td>35.9</td></tr></tbody></table>	Load	Iout_Time(ms)	3xIo	112.4	4xIo	85.2	5xIo	55.4	6xIo	35.6	Load	Iout_Time(ms)	3xIo	116.8	4xIo	85	5xIo	54.7	6xIo	35.9
Load	100~132Vac Vo(%)	180~305Vac Vo(%)	Time																																									
3xIo	50	66	100ms																																									
4xIo	37	50	70ms																																									
5xIo	30	40	40ms																																									
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6xIo	35.9																																											

4	PULSE CURRENT CAPABILITY		I/P: 230VAC O/P: 6*I _o Ta: 25°C	TEST: <u>OK</u>
5	LED Status Indicators		I/P: 230VAC O/P: TESTING Ta: 25°C	TEST: <u>OK</u>
6	PARALLEL	Up to 960W (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:  -----100VAC ————200VAC		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: 600V/21A	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: VDS: (1) 575V (1) 523V (2) 535V (2) 523V (3) 572V (3) 523V (4) 572V (4) 527V (5) 572V (5) 527V (6) 572V (6) 523V (7) 535V (7) 515V (8) 568V (8) 519V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 : Rated: 600V/34A	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	VDS: (1) 459V (2) 447V (3) 459V (4) 455V (5) 459V (6) 451V

			(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	(7) 455V (8) 455V
3	P.F.C DIODE	D1 : Rated: 4A/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) 441V (2) 453V (3) 441V (4) 437V (5) 449V
4	Diode Peak Voltage	Q101/Q103: Rated: 100V/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	Q101: <u>VO=Vomax</u> VDS: (1) 70.3V (2) 70.3V (3) 70.3V (4) 70.3V (5) 69.1V (6) 68.5V (7) 68.7V (8) 67.9V (9) 74.1V <u>VO=Vonormal</u> (1) 63.2V Q103: <u>VO=Vomax</u> VDS: (1) 73.9V (2) 72.7V (3) 71.7V (4) 69.7V (5) 69.9V (6) 72.1V (7) 69.3V (8) 69.7V (9) 72.3V <u>VO=Vonormal</u> (1) 62.0V
5	Input Capacitor Voltage	C5 : Rated: 100μ /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) 437V (2) 433V (3) 437V (4) 437V (5) 437V (6) 437V
6	Control IC Voltage Test	PFC/PWM IC U1 : Rated : 12.5V~ 27.9V	AC ON/OFF	U1 (1) 13.5V U404 (1) 5.45V

		O/P IC U101: Rated: 4.75V~38V IC U404 : Rated : 3V~36V MCU IC U9 : Rated : 2V~3.6V Level: 3.2835~3.3165V MCU IC U306: Rated : 2.4V~ 3.6V Level: 3.2835~3.3165V	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) MCU : (1) Full Load (2) Output Short (3) O.L.P (4) O.V.P. (5) No Load VR min (LOW LINE) Ta:25°C	(2) 13.5V (3) 13.4V (4) 13.5V (5) 13.5V U101 (1) 14.8V (2) 14.8V (3) 13.8V (4) 13.8V (5) 14.8V	(2) 5.45V (3) 5.45V (4) 5.45V (5) 5.45V U9 (1) 3.306V (2) 3.306V (3) 3.306V (4) 3.306V (5) 3.306V U306 (1) 3.298V (2) 3.298V (3) 3.298V (4) 3.298V (5) 3.298V
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■ 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: 3.94mA I/P-FG: 3.81mA O/P-FG: 4.12mA O/P-DC OK: 0.008mA 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	12mΩ

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
5	E.F.T	BS EN/EN 61000-4-4 INPUT : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	BS E/EN 61000-4-5 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 : XDR-240-24 1. ROOM AMBIENT BURN-IN : 2HRS I/P : 230VAC O/P : FULL LOAD Ta= 25.8°C 2. HIGH AMBIENT BURN-IN : 2HRS I/P : 230VAC O/P : FULL LOAD Ta= 59.9°C																																																																		
		<table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=25.8°C</th><th>HIGH AMBIENT Ta=59.9°C</th></tr><tr><td>1</td><td>ZNR1</td><td>42.9°C</td><td>76.8°C</td></tr><tr><td>2</td><td>LF1</td><td>45.5°C</td><td>79.2°C</td></tr><tr><td>3</td><td>C1</td><td>45.8°C</td><td>79.2°C</td></tr><tr><td>4</td><td>LF2</td><td>49.8°C</td><td>82.8°C</td></tr><tr><td>5</td><td>U9</td><td>47.1°C</td><td>80.3°C</td></tr><tr><td>6</td><td>LF100</td><td>52.9°C</td><td>85.7°C</td></tr><tr><td>7</td><td>RY100</td><td>54.0°C</td><td>85.7°C</td></tr><tr><td>8</td><td>C109</td><td>48.6°C</td><td>81.3°C</td></tr><tr><td>9</td><td>TB2</td><td>45.4°C</td><td>77.9°C</td></tr><tr><td>10</td><td>RY1</td><td>47.9°C</td><td>82.0°C</td></tr><tr><td>11</td><td>C9</td><td>48.0°C</td><td>81.4°C</td></tr><tr><td>12</td><td>RTH1</td><td>45.6°C</td><td>79.8°C</td></tr><tr><td>13</td><td>L2</td><td>47.4°C</td><td>81.1°C</td></tr><tr><td>14</td><td>C10</td><td>47.2°C</td><td>80.9°C</td></tr><tr><td>15</td><td>L1</td><td>52.4°C</td><td>85.8°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta=25.8°C	HIGH AMBIENT Ta=59.9°C	1	ZNR1	42.9°C	76.8°C	2	LF1	45.5°C	79.2°C	3	C1	45.8°C	79.2°C	4	LF2	49.8°C	82.8°C	5	U9	47.1°C	80.3°C	6	LF100	52.9°C	85.7°C	7	RY100	54.0°C	85.7°C	8	C109	48.6°C	81.3°C	9	TB2	45.4°C	77.9°C	10	RY1	47.9°C	82.0°C	11	C9	48.0°C	81.4°C	12	RTH1	45.6°C	79.8°C	13	L2	47.4°C	81.1°C	14	C10	47.2°C	80.9°C	15	L1	52.4°C	85.8°C
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		2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 126%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 : 315 VAC O/P : FULL LOAD Ta= 60°C HUMIDITY= 95 %R.H	TEST : OK																																																																																																																																										

5	TEMPERATURE COEFFICIENT	$\pm 0.03\%/^{\circ}\text{C}(0\sim 60^{\circ}\text{C})$	I/P : 230 VAC O/P : FULL LOAD	$\pm 0.003\%/^{\circ}\text{C}(0\sim 60^{\circ}\text{C})$
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 C108 IS THE MOST CRITICAL COMPONENT (1) I/P : 230VAC O/P : FULL LOAD Ta=60°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) 924419HRS (2) 88181HRS (3) 120990HRS (4) 164832HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 1066.2K hrs min. Telcordia SR-332 (Bellcore) ; 129.1K 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		

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	Hanxr	Liutt	Wangdz

2020.10.1 TAG-QA-009