



Test Report: XDR-75-24

75W 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

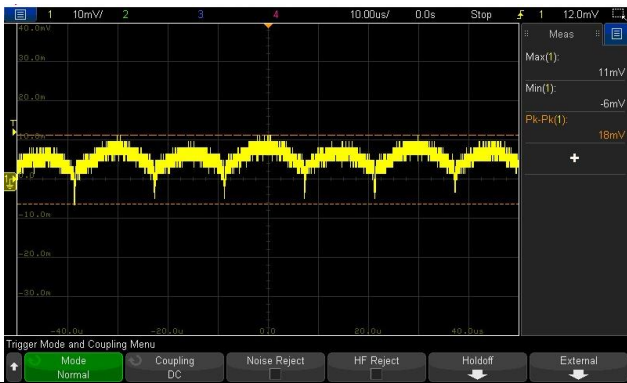
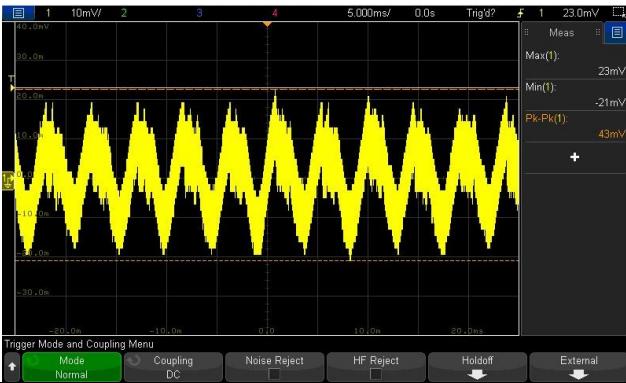
E.M.C. Test

■ RELIABILITY TEST

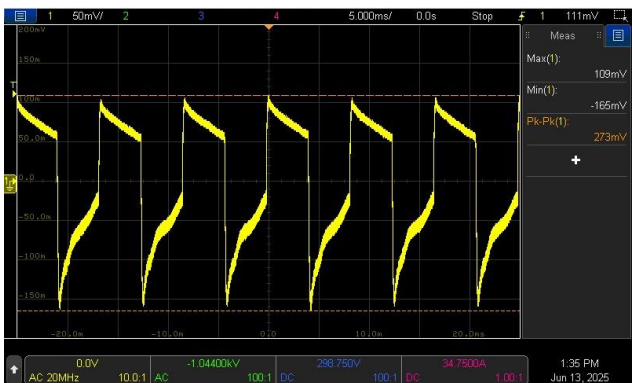
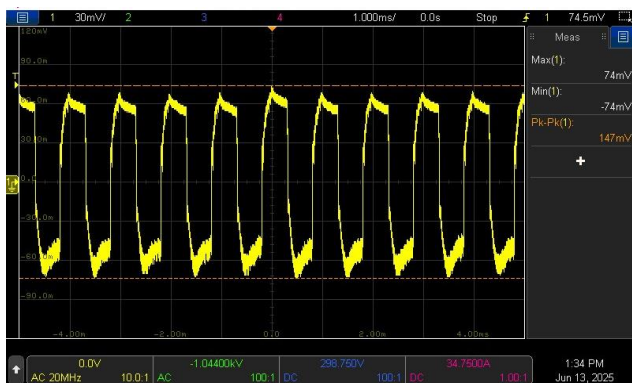
ENVIRONMENT TEST

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

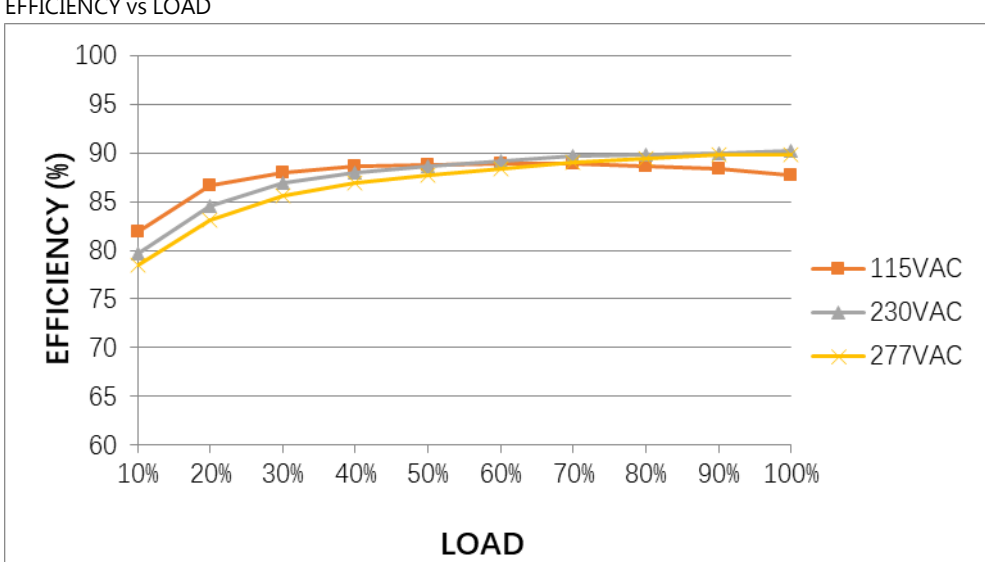
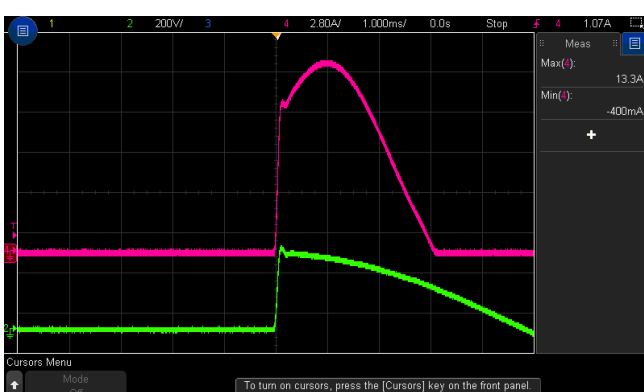
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 24V~29V	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	23.034V~30.363V/277VAC 23.033V~30.363V/230VAC 23.043V~30.365V/115VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1% ~ +1%	I/P: 85VAC~305VAC O/P:FULL~MIN. LOAD Ta:25°C	V1: -0.067% ~0.071 %
3	LINE REGULATION	V1: -0.5% ~ +0.5%	I/P: 85VAC~ 305VAC O/P:FULL LOAD Ta:25°C	V1: 0% ~ 0.025%
4	LOAD REGULATION	V1: -1% ~ +1%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.067% ~0.071 %
5	OVER/UNDERSHOOT TEST	<±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	2.9% →FULL LOAD
6	RIPPLE & NOISE (Max)	V1: 100mVp-p	I/P:230VAC O/P:FULL LOAD Ta:25°C	18mVp-p / high frequency 43mVp-p / low frequency
high frequency :  low frequency : 				
7	SET UP TIME(Max)	230VAC/1200ms 115VAC/2500ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 245.8ms 115VAC/ 253.8ms
INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage			INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage	

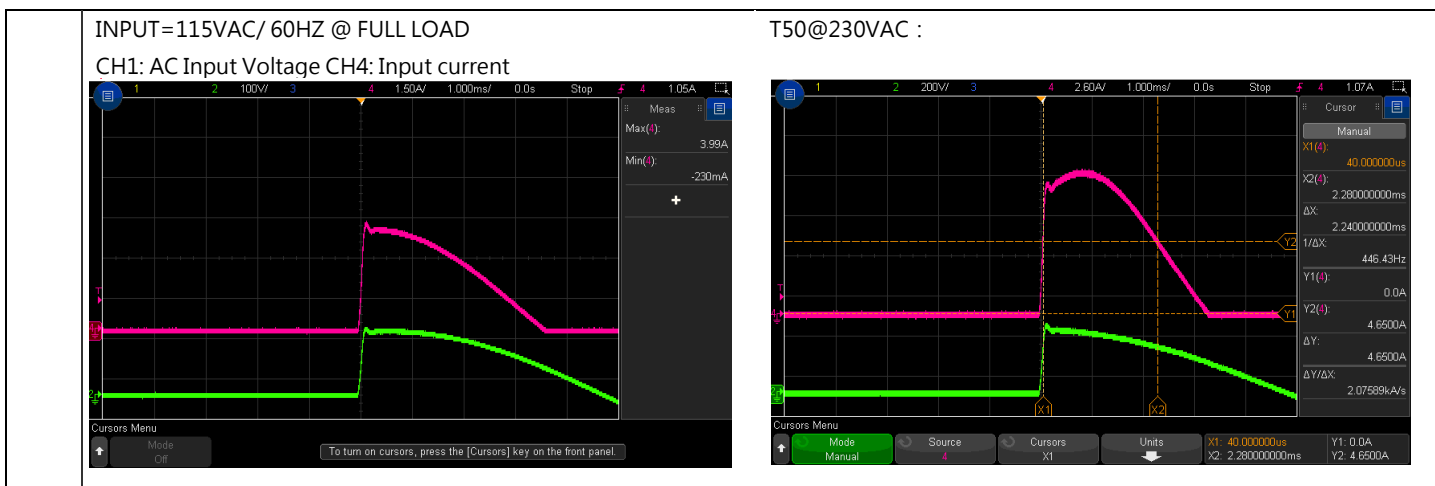
8	RISE TIME (Max) 230VAC/60ms 115VAC/60ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C 230VAC/ 10.23ms 115VAC/ 10.28ms
	INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage	INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage
9	HOLD UP TIME (Typ.) 230VAC/ 16ms 115VAC/ 10ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C 230VAC/ 33.4ms 115VAC/ 17.0ms
	INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage	INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH2: 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 273mVp-p 147mVp-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 127mVp-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) 75.2V~305V/ FULL LOAD 74.2V~305V/ 85% LOAD (2) 75.8Vdc~431Vdc/FULL LOAD 75.6Vdc~431Vdc/85% LOAD (3) 75.6Vdc~431Vdc/FULL LOAD 75.5Vdc~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/ 0.8A 230V/ 0.9A 115V/ 1.5A	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =0.693A/ 277VAC I =0.790A/ 230VAC I =1.325A/ 115VAC			
4	LEAKAGE CURRENT	<1mA@240Vac <1.5mA@277Vac	I/P : 240VAC/60HZ I/P : 277VAC/60HZ O/P : Min LOAD Ta : 25°C	0.7896mA@240Vac 0.8888mA@277Vac			
5	NO LOAD CONSUMPTION	Remote Power OFF: 1W@115Vac & 230Vac	I/P : 115VAC I/P : 230VAC	TEST: <table><tr><td></td><td>Remote</td><td>Remote</td></tr></table>		Remote	Remote
	Remote	Remote					

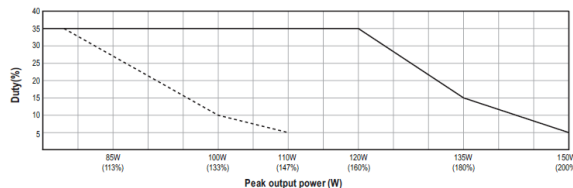
		Remote Power ON: 1.5W@115Vac & 230Vac	O/P : NO LOAD Ta : 25°C	<table><tr><td></td><td>Power OFF</td><td>Power ON</td></tr><tr><td>115VAC</td><td>0.257W</td><td>0.813W</td></tr><tr><td>230VAC</td><td>0.449W</td><td>1.056W</td></tr></table>		Power OFF	Power ON	115VAC	0.257W	0.813W	230VAC	0.449W	1.056W																																			
	Power OFF	Power ON																																														
115VAC	0.257W	0.813W																																														
230VAC	0.449W	1.056W																																														
6	EFFICIENCY(Typ.)	90%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	90.16%																																												
EFFICIENCY vs LOAD <table><caption>Approximate Efficiency vs Load Data</caption><thead><tr><th>Load (%)</th><th>115VAC (%)</th><th>230VAC (%)</th><th>277VAC (%)</th></tr></thead><tbody><tr><td>10</td><td>82</td><td>79</td><td>78</td></tr><tr><td>20</td><td>87</td><td>84</td><td>83</td></tr><tr><td>30</td><td>88</td><td>87</td><td>86</td></tr><tr><td>40</td><td>89</td><td>88</td><td>87</td></tr><tr><td>50</td><td>89</td><td>89</td><td>88</td></tr><tr><td>60</td><td>89</td><td>89</td><td>88</td></tr><tr><td>70</td><td>89</td><td>89</td><td>88</td></tr><tr><td>80</td><td>89</td><td>89</td><td>88</td></tr><tr><td>90</td><td>88</td><td>89</td><td>89</td></tr><tr><td>100</td><td>88</td><td>90</td><td>90</td></tr></tbody></table>					Load (%)	115VAC (%)	230VAC (%)	277VAC (%)	10	82	79	78	20	87	84	83	30	88	87	86	40	89	88	87	50	89	89	88	60	89	89	88	70	89	89	88	80	89	89	88	90	88	89	89	100	88	90	90
Load (%)	115VAC (%)	230VAC (%)	277VAC (%)																																													
10	82	79	78																																													
20	87	84	83																																													
30	88	87	86																																													
40	89	88	87																																													
50	89	89	88																																													
60	89	89	88																																													
70	89	89	88																																													
80	89	89	88																																													
90	88	89	89																																													
100	88	90	90																																													
7	INRUSH CURRENT(Typ.)	277V/15A 230V/10A 115V/6A COLD START	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =13.3A/ 277VAC I =9.3A/ 230VAC I =3.99A/ 115VAC T50=2240us/230V																																												
INPUT=277VAC/50HZ @ FULL LOAD CH1: AC Input Voltage CH4: Input current  INPUT=230VAC/50HZ @ FULL LOAD CH1: AC Input Voltage CH4: Input current 																																																



PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	Protection type: 105%~200% rated output power Protection type: 105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shutdown when $V_o=10\%\sim 100\%$; Constant current limiting mode or Latch mode when $V_o < 10\%$ rated voltage.	I/P: 305VAC I/P: 230VAC I/P: 100VAC O/P: TESTING $T_a: 25^\circ\text{C}$	127.24%/ 305VAC 127.24%/ 230VAC 126.92%/ 100VAC Protection type: 105%~200% rated output power for more than 5 sec then constant current limiting at rate current without shut down when $V_o=10\%\sim 100\%$; Constant current limiting mode or Latch mode when $V_o < 10\%$ 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 $T_a: 25^\circ\text{C}$	31.9V/ 305VAC 31.7V/ 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: Constant current limiting mode or Latch mode when $V_o < 10\%$ rated voltage.	I/P: 305VAC I/P: 85VAC O/P: FULL LOAD	NO DAMAGE OK PROTECTION TYPE : Constant current limiting mode or Latch mode when $V_o < 10\%$ rated voltage.

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT																														
1	DC OK CONTACT RATINGS	Relay Contact Ratings(max.): 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: RC + ~ RC- keep <0.5Vdc Power OFF: RC + ~ RC- keep 4~5Vdc	I/P:230VAC O/P:FULL LOAD Ta:25°C	TSET: <u>OK</u> Power ON: <u>≤ 1.93 V</u> ; Power OFF: <u>≥ 3.41V</u> .																														
3	PULSE CURRENT CAPABILTY	<table><tr><th>Load</th><th>Vo(%)</th><th>12V Time</th><th>24V/36V/48V Time</th></tr><tr><td>3xIo</td><td>75</td><td>6ms</td><td>8ms</td></tr><tr><td>4xIo</td><td>60</td><td>3ms</td><td>6ms</td></tr><tr><td>5xIo</td><td>40</td><td>2ms</td><td>5ms</td></tr><tr><td>6xIo</td><td>25</td><td>--</td><td>4ms</td></tr></table> Note: The time indicated in the table refers to Power on AC for more than 3 seconds before applying load.	Load	Vo(%)	12V Time	24V/36V/48V Time	3xIo	75	6ms	8ms	4xIo	60	3ms	6ms	5xIo	40	2ms	5ms	6xIo	25	--	4ms	I/P:230VAC O/P:FULL LOAD Ta:25°C	TEST: <u>OK</u> <table><tr><th>Load</th><th>Time(ms)</th></tr><tr><td>3xIo</td><td>26.2</td></tr><tr><td>4xIo</td><td>11.9</td></tr><tr><td>5xIo</td><td>8.62</td></tr><tr><td>6xIo</td><td>6.92</td></tr></table>	Load	Time(ms)	3xIo	26.2	4xIo	11.9	5xIo	8.62	6xIo	6.92
Load	Vo(%)	12V Time	24V/36V/48V Time																															
3xIo	75	6ms	8ms																															
4xIo	60	3ms	6ms																															
5xIo	40	2ms	5ms																															
6xIo	25	--	4ms																															
Load	Time(ms)																																	
3xIo	26.2																																	
4xIo	11.9																																	
5xIo	8.62																																	
6xIo	6.92																																	
4	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	Q1 Rated: 800V/12A	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.	VO=Vomax VDS: (1) 699V (2) 691V (3) 695V (4) 695V (5) 691V (6) 691V (7) 695V (8) 691V

			(8) Peak Load Ta:25°C	
2	Diode Peak Voltage	Q101 Rated: 150V/20A	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=Vnormal</u> O/P: (1) Full Load Ta:25°C	Q100 <u>VO=Vomax</u> VDS: (1) 119.6V (2) 117.2V (3) 117.2V (4) 118V (5) 118.8V (6) 117.2V (7) 116.4V (8) 125.2V (9) 117.2V <u>VO=Vnormal</u> (1) 112.4V
3	AUX Transistor (D to S) or (C to E) Peak Voltage	U5 Rated: 725V/645mA	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	VDS: (1) 532V (2) 504V (3) 532V (4) 516V (5) 524V (6) 508V (7) 508V (8) 500V
4	AUX Clamp Diode Peak Voltage	D19 Rated : 1A/1KV	AC ON/OFF I/P : High-Line +3V = 308V O/P : (1) Dynamic Load 90%Duty/1KHz (2) Full load continue Ta:25°C	(1) 487V (2) 487V
5	AUX Diode Peak Voltage	D200 Rated : 1A/200V D27 Rated :	AC ON/OFF I/P: High-Line +3V =308 V O/P: (1)Full Load (2)Output Short (3) Dynamic Load Full Load/ Min. Load 90%Duty/1KHz	D200: D27: VDS: VDS: (1) 125.5V (1) 193V (2) 123.9V (2) 195V (3) 127.1V (3) 191V (4) 125.5V (4) 189V

		1A/600V	(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 Ta:25°C	(5) 127.1V (6) 124.7V (7) 124.7V (8) 123.9V (9) 124.7V	(5) 193V (6) 193V (7) 191V (8) 201V (9) 191V
7	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) 443V (2) 431V (3) 431V (4) 431V (5) 435V (6) 435V	
8	Control IC Voltage Test	PWM IC U1 Rated : 8V~ 26.5V IC U107 Rated : 3V~32V AUX IC U5 Rated : 5.65~6.8V	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 (1) 17.8V (2) 17.8V (3) 17.8V (4) 18.0V (5) 18.2V	U5 (1) 6.53V (2) 6.53V (3) 6.53V (4) 6.45V (5) 6.49V
				U107 (1) 11.53V (2) 11.61V (3) 11.61V (4) 11.61V (5) 11.53V	
9	Clamp Diode Peak Voltage	D5 Rated : 1A/620V	AC ON/OFF I/P : High-Line +3V = 308V O/P : (1) Dynamic Load 90%Duty/1KHz (2) Full load continue Ta:25°C	(1) 564V (2) 552V	

■ 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: 4.17 mA I/P-FG: 2.94 mA O/P-FG: 4.56 mA O/P-DC OK: 0.008 mA 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: 50 GΩ I/P-FG: 50 GΩ O/P-FG: 50 GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100mΩ	40A /2min Ta:25°C	17 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/EN61000-4-2 INDUSTRY AIR : 15KV / Contact : 8KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	BS EN/EN61000-4-4 INDUSTRY INPUT : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	BS EN/EN61000-4-5 INDUSTRY 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-75-24 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 25 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 60 °C <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 25 °C</th><th>HIGH AMBIENT Ta= 60 °C</th></tr><tr><td>1</td><td>RTH3</td><td>60.8°C</td><td>92.9°C</td></tr><tr><td>2</td><td>U100</td><td>67.9°C</td><td>99.0°C</td></tr><tr><td>3</td><td>Q5</td><td>51.4°C</td><td>84.4°C</td></tr><tr><td>4</td><td>D27</td><td>54.4°C</td><td>87.7°C</td></tr><tr><td>5</td><td>LF2</td><td>41.9°C</td><td>77.0°C</td></tr><tr><td>6</td><td>C2</td><td>40°C</td><td>75.2°C</td></tr><tr><td>7</td><td>RY1</td><td>43.7°C</td><td>78°C</td></tr><tr><td>8</td><td>RTH1</td><td>43°C</td><td>77.8°C</td></tr><tr><td>9</td><td>R11</td><td>45.3°C</td><td>83.9°C</td></tr><tr><td>10</td><td>C48</td><td>53.3°C</td><td>86.7°C</td></tr><tr><td>11</td><td>D3</td><td>38.6°C</td><td>73.2°C</td></tr><tr><td>12</td><td>C5</td><td>46.4°C</td><td>79.2°C</td></tr><tr><td>13</td><td>SHR1</td><td>46.7°C</td><td>80.7°C</td></tr><tr><td>14</td><td>C49</td><td>46.5°C</td><td>80.8°C</td></tr><tr><td>15</td><td>C105</td><td>56.7°C</td><td>88.9°C</td></tr><tr><td>16</td><td>C108</td><td>49°C</td><td>82.4°C</td></tr><tr><td>17</td><td>C202</td><td>50.6°C</td><td>84.2°C</td></tr><tr><td>18</td><td>Q108</td><td>64.8°C</td><td>96.4°C</td></tr><tr><td>19</td><td>T2</td><td>51.2°C</td><td>86.6°C</td></tr><tr><td>20</td><td>C110</td><td>41.1°C</td><td>74.6°C</td></tr><tr><td>21</td><td>LF100</td><td>42.8°C</td><td>76.4°C</td></tr><tr><td>22</td><td>RY100</td><td>44.9°C</td><td>78.5°C</td></tr><tr><td>23</td><td>C1</td><td>37.9°C</td><td>72.2°C</td></tr><tr><td>24</td><td>ZNR1</td><td>37.2°C</td><td>71.5°C</td></tr><tr><td>25</td><td>BD1</td><td>44.9°C</td><td>78.5°C</td></tr><tr><td>26</td><td>Q101</td><td>63°C</td><td>94.8°C</td></tr><tr><td>27</td><td>U1</td><td>49.5°C</td><td>82.2°C</td></tr><tr><td>28</td><td>U5</td><td>70°C</td><td>102.9°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta= 25 °C	HIGH AMBIENT Ta= 60 °C	1	RTH3	60.8°C	92.9°C	2	U100	67.9°C	99.0°C	3	Q5	51.4°C	84.4°C	4	D27	54.4°C	87.7°C	5	LF2	41.9°C	77.0°C	6	C2	40°C	75.2°C	7	RY1	43.7°C	78°C	8	RTH1	43°C	77.8°C	9	R11	45.3°C	83.9°C	10	C48	53.3°C	86.7°C	11	D3	38.6°C	73.2°C	12	C5	46.4°C	79.2°C	13	SHR1	46.7°C	80.7°C	14	C49	46.5°C	80.8°C	15	C105	56.7°C	88.9°C	16	C108	49°C	82.4°C	17	C202	50.6°C	84.2°C	18	Q108	64.8°C	96.4°C	19	T2	51.2°C	86.6°C	20	C110	41.1°C	74.6°C	21	LF100	42.8°C	76.4°C	22	RY100	44.9°C	78.5°C	23	C1	37.9°C	72.2°C	24	ZNR1	37.2°C	71.5°C	25	BD1	44.9°C	78.5°C	26	Q101	63°C	94.8°C	27	U1	49.5°C	82.2°C	28	U5	70°C	102.9°C
NO	Position	ROOM AMBIENT Ta= 25 °C	HIGH AMBIENT Ta= 60 °C																																																																																																																					
1	RTH3	60.8°C	92.9°C																																																																																																																					
2	U100	67.9°C	99.0°C																																																																																																																					
3	Q5	51.4°C	84.4°C																																																																																																																					
4	D27	54.4°C	87.7°C																																																																																																																					
5	LF2	41.9°C	77.0°C																																																																																																																					
6	C2	40°C	75.2°C																																																																																																																					
7	RY1	43.7°C	78°C																																																																																																																					
8	RTH1	43°C	77.8°C																																																																																																																					
9	R11	45.3°C	83.9°C																																																																																																																					
10	C48	53.3°C	86.7°C																																																																																																																					
11	D3	38.6°C	73.2°C																																																																																																																					
12	C5	46.4°C	79.2°C																																																																																																																					
13	SHR1	46.7°C	80.7°C																																																																																																																					
14	C49	46.5°C	80.8°C																																																																																																																					
15	C105	56.7°C	88.9°C																																																																																																																					
16	C108	49°C	82.4°C																																																																																																																					
17	C202	50.6°C	84.2°C																																																																																																																					
18	Q108	64.8°C	96.4°C																																																																																																																					
19	T2	51.2°C	86.6°C																																																																																																																					
20	C110	41.1°C	74.6°C																																																																																																																					
21	LF100	42.8°C	76.4°C																																																																																																																					
22	RY100	44.9°C	78.5°C																																																																																																																					
23	C1	37.9°C	72.2°C																																																																																																																					
24	ZNR1	37.2°C	71.5°C																																																																																																																					
25	BD1	44.9°C	78.5°C																																																																																																																					
26	Q101	63°C	94.8°C																																																																																																																					
27	U1	49.5°C	82.2°C																																																																																																																					
28	U5	70°C	102.9°C																																																																																																																					

			NO	Position	ROOM AMBIENT Ta= 25 °C	HIGH AMBIENT Ta= 60 °C
			29	R50	57.5°C	89.7°C
			30	U2	43.8°C	77.6°C
			31	U107	47.7°C	81.3°C
			32	D5	70.6°C	102.9°C
			33	J110	58°C	90.2°C
			34	D201	47.9°C	81°C
			35	T1 Coil	62.4°C	93.4°C
			36	T1 Core	51.3°C	83.6°C
			37	Q1	51.2°C	84.4°C
			38	Q4	47.7°C	80.9°C
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)		I/P : 230 VAC O/P : 117% LOAD Ta : 25°C	TEST : OK	
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR		I/P : 305VAC/100VAC O/P : 50%/100% LOAD Ta= -40°C/-30°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	± 0.03 %/°C(0~60°C)		I/P : 230 VAC O/P : FULL LOAD	± 0.009 %/°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 C108 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) 647358.9 HRS (2) 63930 HRS (3) 88491.2 HRS (4) 119875.1 HRS	
10	MTBF	Conducted by Parts Stress Analysis Prediction				



		1907.3K hrs min. Telcordia SR-332 (Bellcore) ; 333.9K 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	YUWEI	LIUTT	WANGZD

2020.10.1 TAG-QA-009