



Test Report: XTR-240-36

240W AC/DC 3Ø Input 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

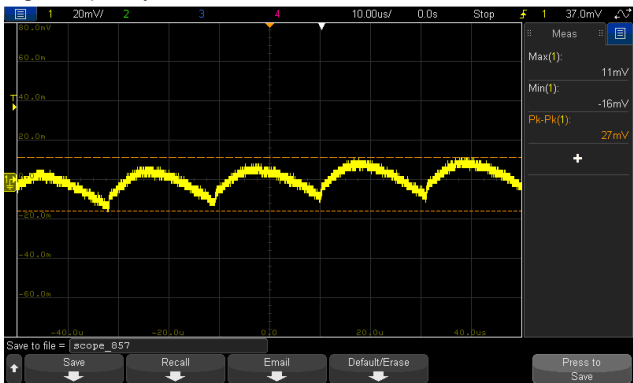
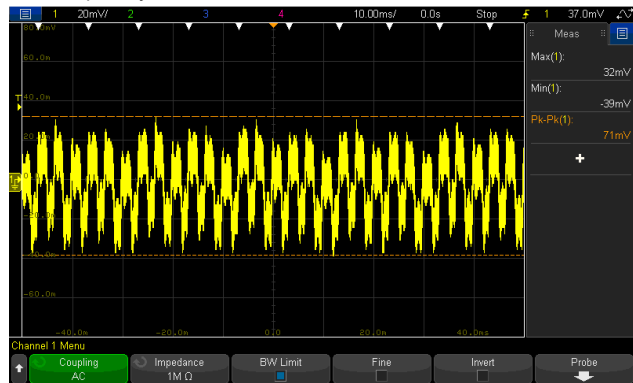
E.M.C. Test

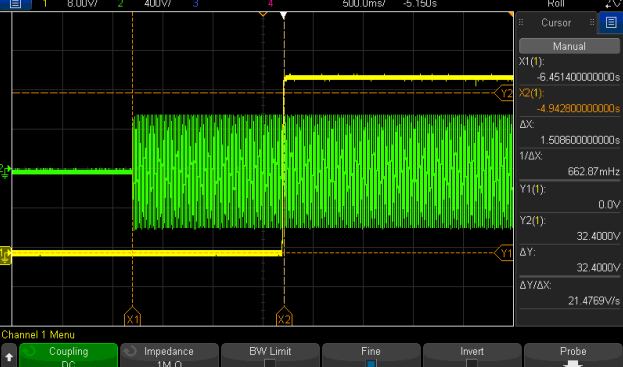
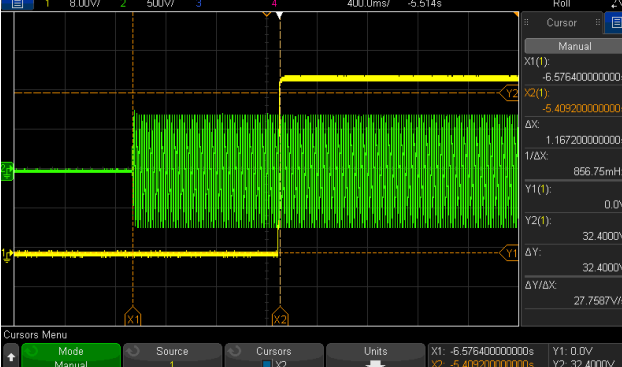
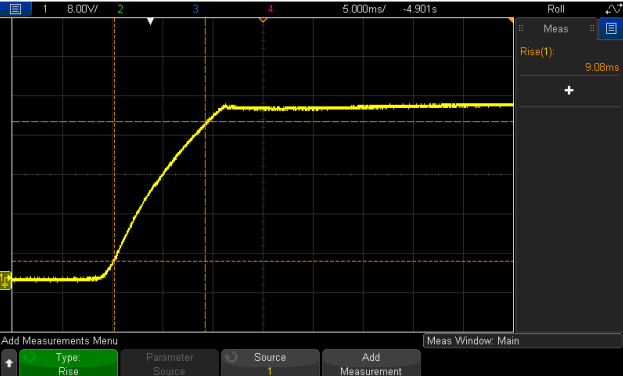
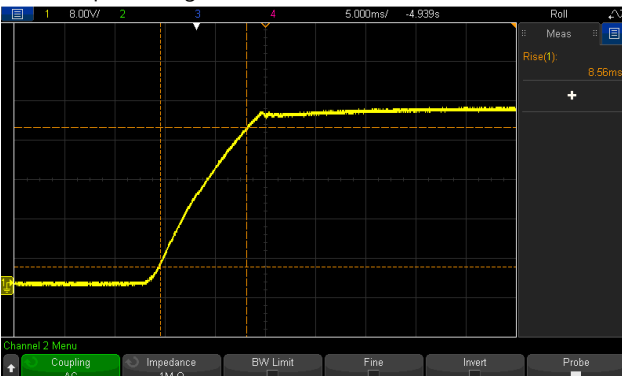
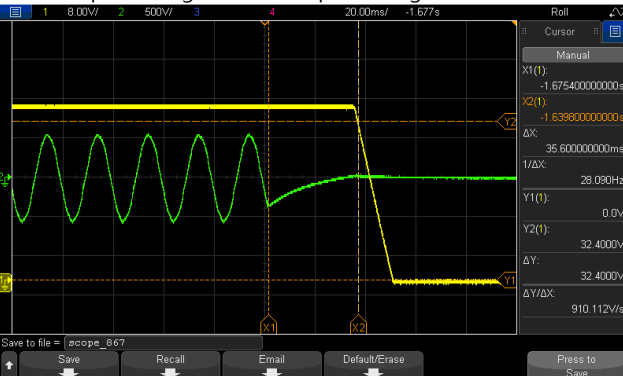
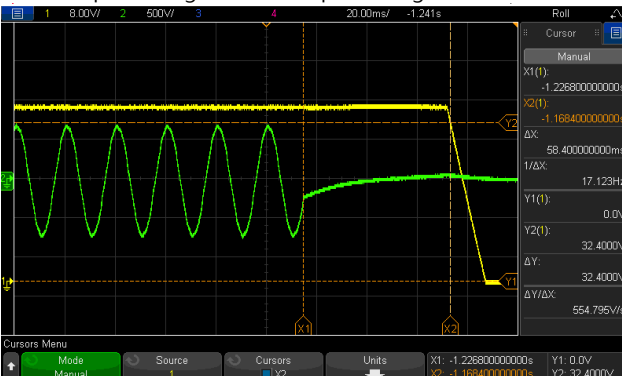
■ RELIABILITY TEST

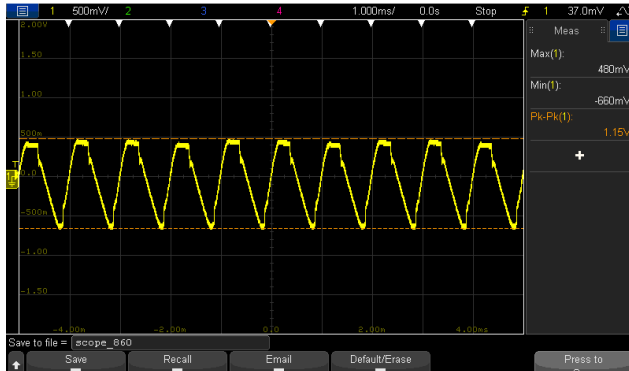
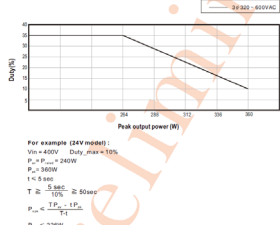
ENVIRONMENT TEST

DESIGN VERIFY TEST

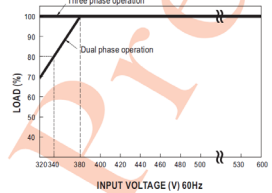
OUTPUT FUNCTION TEST

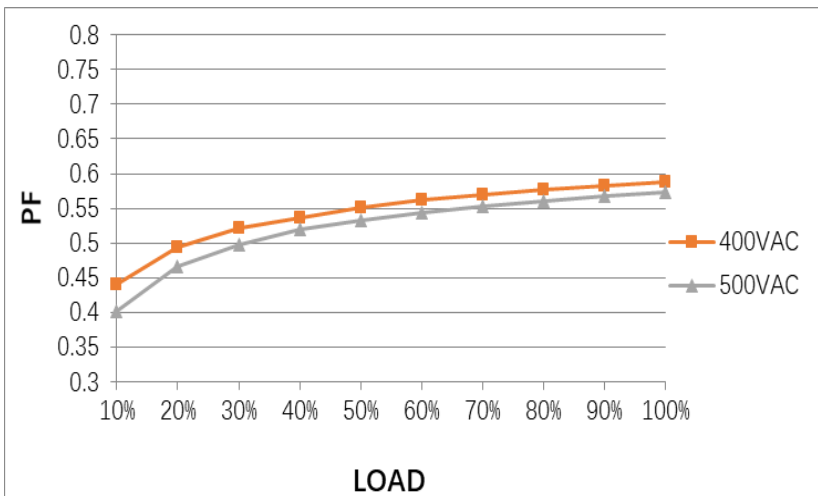
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 36V~42V	I/P : 400 VAC I/P : 500 VAC O/P : MIN LOAD Ta : 25°C	34.638V~44.328V/400VAC 34.633V~44.323V/500VAC
2	OUTPUT VOLTAGE TOLERANCE	-1.0% ~+1.0%	I/P: 320VAC ~ 600VAC O/P:FULL/ MIN. LOAD Ta:25°C	-0.1138%% ~0.039%
3	LINE REGULATION	-0.5% ~+0.5%	I/P: 320VAC~ 600VAC O/P:FULL LOAD Ta:25°C	0% ~0.039%
4	LOAD REGULATION	-1.0% ~+1.0%	I/P: 400VAC O/P:FULL ~MIN LOAD Ta:25°C	-0.1138% ~0.028%
5	OVER/UNDERSHOOT TEST	<±5%	I/P: 400VAC O/P:FULL LOAD/NO LOAD Ta:25°C	1.4% →FULL LOAD 1.4% →NO LOAD
6	RIPPLE & NOISE (Max)	V1: 120mVp-p	I/P: 400VAC O/P:FULL LOAD Ta:25°C	V1: 27mVp-p / high frequency 71mVp-p / low frequency
high frequency :  low frequency : 				
7	SET UP TIME(Max)	400VAC/2000ms 500VAC/1500ms	I/P : 400 VAC I/P : 500 VAC O/P : FULL LOAD Ta : 25°C	1508.6ms/400VAC 1167.2ms/500VAC
INPUT=400VAC/50HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage			INPUT=500VAC/60HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage	

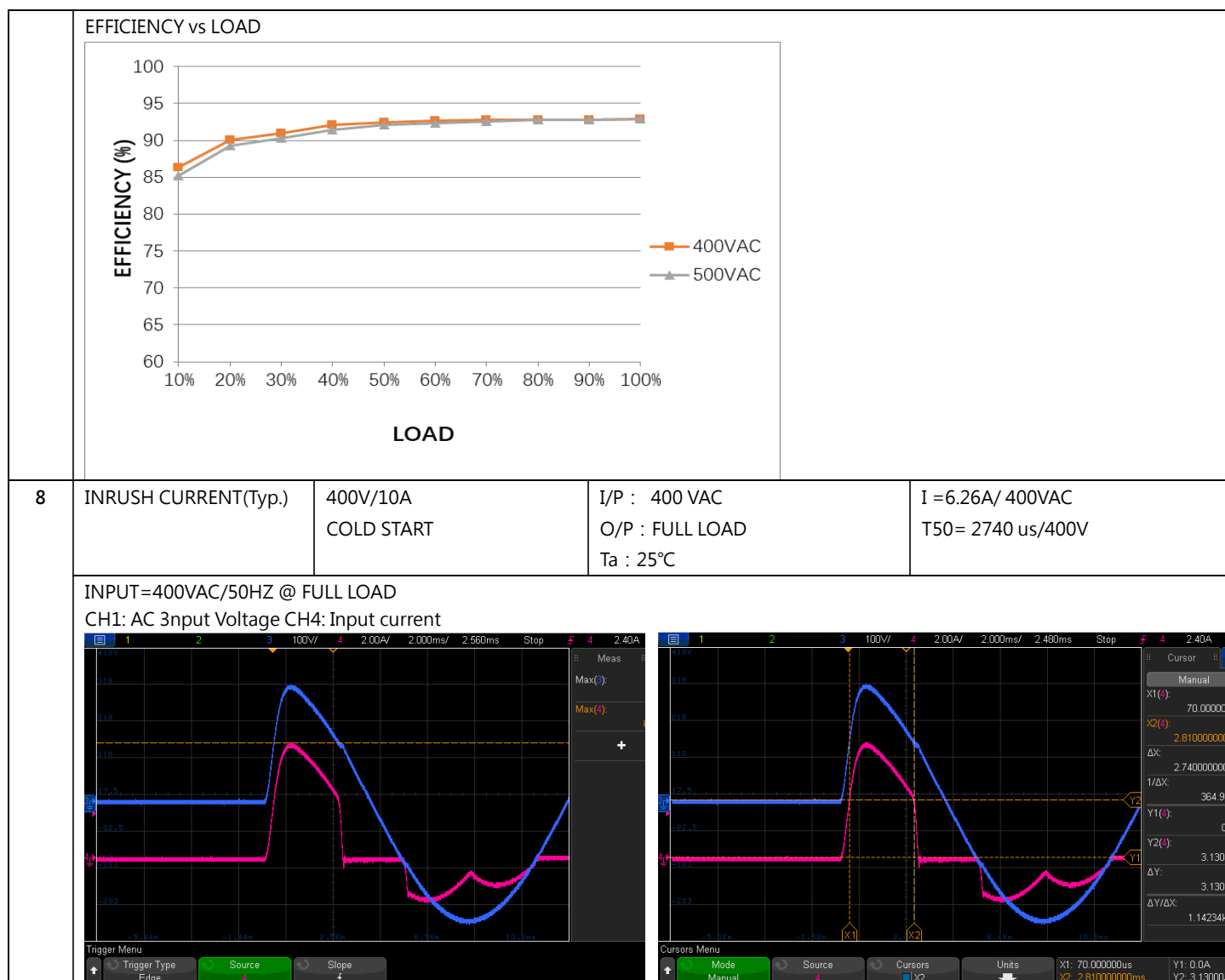
				
8	RISE TIME (Max)	400VAC/60ms 500VAC/60ms	I/P : 400 VAC I/P : 500 VAC O/P : FULL LOAD Ta : 25°C	9.08ms/400VAC 8.56ms/500VAC
INPUT=400VAC/50HZ @ FULL LOAD CH1: Output Voltage		INPUT=500VAC/60HZ @ FULL LOAD CH1: Output Voltage		
				
9	HOLD UP TIME (Typ.)	400VAC/20ms 500VAC/40ms	I/P : 400 VAC I/P : 500 VAC O/P : FULL LOAD Ta : 25°C	35.6ms/400VAC 58.4ms/500VAC
INPUT=400VAC/50HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage		INPUT=500VAC/60HZ @ FULL LOAD CH1: Output Voltage CH2: AC Input Voltage		
				
10	DYNAMIC LOAD	V1: 3600 mVp-p	I/P: 400VAC O/P: (1) FULL / MIN LOAD 50%DUTY / 120HZ (2) FULL / MIN LOAD 50%DUTY / 1KHZ Ta:25°C	(1) 1090mVp-p (2) 1150mVp-p

	FULL /MIN LOAD 50%DUTY / 120HZ 		FULL / MIN LOAD 50%DUTY / 1KHZ 	
11	PEAK LOAD 开机&循环	1) PEAK LOAD@5S 2) PEAK LOAD 循环  For example (24V model): $V_{in} = 400V$ Duty max=10% $P_{in} = P_{out} \times 1.05$ $P_{in} = 100W$ $I = 1.66A$ $T_{ON} = 5 sec$ $T_{OFF} = 10 sec$ $P_{in} = \frac{P_{out} \times T_{ON}}{T_{ON} + T_{OFF}}$ $P_{in} = 220W$	I/P: 600VAC I/P: 400VAC I/P: 320VAC O/P: PEAK LOAD	TEST : I/P=600VAC : <u>OK</u> I/P=400VAC : <u>OK</u> I/P=320VAC : <u>OK</u>

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	320VAC~600VAC (Dual phase operation possible in connecting L1,L3,FG or L2,L3,FG) 450VDC~800VDC/ FULL LOAD(L3: + L1:-) ■ OUTPUT DERATING VS INPUT VOLTAGE  Note : When the dual phase input voltage is between 320-380Vac and ambient temperature is	(1) I/P:TESTING O/P:FULL LOAD Dual phase DC Input : (2) I/P:DC TESTING(L3: + L1:-) O/P: FULL LOAD Ta:25°C I/P: LOW-LINE-3V=317 V HIGH-LINE +10V=610 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	(1) 262.75Vac~600Vac/ FULL LOAD Dual phase DC Input : (2) 318.9Vdc~800Vdc/FULL LOAD @ Dual phase operation L1,L3,FG or L2,L3,FG TEST: OK

		between-10C--40C, the power supply may experience hiccup at cold start. The power supply will start up normally after 5~10 seconds.	Dual phase operation : I/P: TESTING O/P: FULL LOAD / 70% LOAD/80% LOAD	(1) 286.1 Vac~600Vac/ FULL LOAD@ Dual phase operation L1,L3,FG or L2,L3,FG (2) 270.12Vac~600Vac/ 70% LOAD@ Dual phase operation L1,L3,FG or L2,L3,FG (3) 264.59Vac~600Vac/ 80% LOAD@ Dual phase operation L1,L3,FG or L2,L3,FG																																	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P: 320VAC~ 600VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK																																	
3	INPUT CURRENT (Typ.)	400V/ 0.69 A 500V/ 0.6 A	I/P : 400 VAC I/P : 500 VAC O/P : FULL LOAD Ta : 25°C	TEST: <table><tr><td></td><td>400VAC</td><td>500VAC</td></tr><tr><td>L1</td><td>0.645A</td><td>0.534A</td></tr><tr><td>L2</td><td>0.553A</td><td>0.466A</td></tr><tr><td>L3</td><td>0.545A</td><td>0.341A</td></tr></table>		400VAC	500VAC	L1	0.645A	0.534A	L2	0.553A	0.466A	L3	0.545A	0.341A																					
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L3	0.545A	0.341A																																			
4	LEAKAGE CURRENT	< 2 mA / 530 VAC	I/P : 530 VAC O/P : Min LOAD Ta : 25°C	L1,L2,L3-FG : 0.628mA(Peak)→62368																																	
5	NO LOAD CONSUMPTION	<2.5 W	I/P : 400 VAC I/P : 500 VAC O/P : NO LOAD Ta : 25°C	1.9382 W/400VAC 2.2173 W/500VAC																																	
6	POWER FACTOR (Typ.)	PF=0.53 /400VAC PF=0.52/500VAC	I/P : 400 VAC I/P : 500 VAC O/P : FULL LOAD Ta : 25°C	TEST: <table><tr><td></td><td>400VAC</td><td>500VAC</td></tr><tr><td>L1</td><td>0.5612</td><td>0.5796</td></tr><tr><td>L2</td><td>0.5749</td><td>0.5623</td></tr><tr><td>L3</td><td>0.5612</td><td>0.5697</td></tr></table>		400VAC	500VAC	L1	0.5612	0.5796	L2	0.5749	0.5623	L3	0.5612	0.5697																					
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P.F vs LOAD <table><caption>P.F vs LOAD Data</caption><thead><tr><th>LOAD (%)</th><th>400VAC PF</th><th>500VAC PF</th></tr></thead><tbody><tr><td>10%</td><td>0.44</td><td>0.40</td></tr><tr><td>20%</td><td>0.49</td><td>0.46</td></tr><tr><td>30%</td><td>0.52</td><td>0.49</td></tr><tr><td>40%</td><td>0.54</td><td>0.51</td></tr><tr><td>50%</td><td>0.55</td><td>0.52</td></tr><tr><td>60%</td><td>0.56</td><td>0.53</td></tr><tr><td>70%</td><td>0.57</td><td>0.54</td></tr><tr><td>80%</td><td>0.575</td><td>0.545</td></tr><tr><td>90%</td><td>0.58</td><td>0.55</td></tr><tr><td>100%</td><td>0.585</td><td>0.555</td></tr></tbody></table>					LOAD (%)	400VAC PF	500VAC PF	10%	0.44	0.40	20%	0.49	0.46	30%	0.52	0.49	40%	0.54	0.51	50%	0.55	0.52	60%	0.56	0.53	70%	0.57	0.54	80%	0.575	0.545	90%	0.58	0.55	100%	0.585	0.555
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50%	0.55	0.52																																			
60%	0.56	0.53																																			
70%	0.57	0.54																																			
80%	0.575	0.545																																			
90%	0.58	0.55																																			
100%	0.585	0.555																																			
7	EFFICIENCY(Typ.)	92.5%	I/P: 400 VAC O/P:FULL LOAD Ta:25°C	92.615%																																	



PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	OLP : 105%~ 150% rated power Protection type: 105%~150% rated output power for more than 5 sec then constant current limiting without shutdown at rate current when Vo=30%~100%	I/P: 600VAC I/P: 400VAC I/P: 320VAC O/P:TESTING Ta:25°C	OLP : 122.38%/600VAC 123.35%/400VAC 123.19%/320VAC Protection type: 105%~150% rated output power for more than 5 sec then constant current limiting without shutdown at rate current when Vo=30%~100%

2	OVER VOLTAGE PROTECTION	45V~54V Protection type: Hiccup mode, recovers automatically after fault condition is removed.	I/P: 600VAC I/P: 320VAC O/P: MIN LOAD Ta: 25°C	49.0V/ 600VAC 49.3V/ 320VAC Protection type: Hiccup mode, recovers automatically after fault condition is removed.
3	OVER TEMPERATURE PROTECTION	Protection type: Shut down o/p voltage or hiccup mode, recovers automatically after temperature goes down	I/P: 600VAC I/P: 320VAC O/P: FULL LOAD	TEST: <u>OK</u> O.T.P. Active Protection type: Shut down o/p voltage or hiccup mode, recovers automatically after temperature goes down
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE Protection type: Constant current limiting with auto-recovery after fault condition is removed.	I/P: 600VAC I/P: 320VAC O/P: FULL LOAD Ta: 25°C	NO DAMAGE Protection type: Constant current limiting with auto-recovery after fault condition is removed.

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	DC OK CONTACT RATINGS	30VDC/1A , 30VAC/0.5A RESISTIVE LOAD	I/P: 400VAC O/P: FULL LOAD Ta: 25°C	TEST: <u>OK</u>
2	PARALLEL(optional)	Up to 960W (3+1), please refer to the Instruction manual	I/P: TESTING O/P: TESTING LOAD Ta: 25°C	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	Q3/Q4 Rated: 950 V/ 14A	AC ON/OFF I/P: High-Line = 700V <u>VO=Vomax</u> 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/	Q3 <u>VO=Vomax</u> VDS: (1) 886V (2) 915V (3) 907V (4) 899V (5) 907V (6) 907V (7) 915V (8) 907V Q4 <u>VO=Vomax</u> VDS: (1) 835V (2) 843V (3) 835V (4) 835V (5) 835V (6) 843V (7) 843V (8) 843V

			Min. Load 90%Duty/5KHz (6)Dynamic Load 100% Load/ Min. Load 50%Duty/120Hz (7)0%→400% Load. (8) Peak Load <u>VO= Vnormal</u> O/P: (1)Full Load Ta:25°C	<u>VO= Vnormal</u> (1) 867V	<u>VO= Vnormal</u> (1) 803V
2	Diode Peak Voltage	Q100 Rated: 20A/ 200 V	AC ON/OFF I/P:High-Line =700 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) 126V (2) 185V (3) 133V (4) 126V (5) 126V (6) 149V (7) 182V (8) 150V (9) 182V <u>VO=Vnormal</u> (1) 120.1V	
3	Input Capacitor Voltage	C5/C6 Rated: 150 μ / 450 V	I/P: High-Line +3V =603V 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	C5 (1) 419V (2) 438V (3) 430V (4) 419V (5) 419V (6) 419V	C6 (1) 423V (2) 432V (3) 430V (4) 415V (5) 419V (6) 419V
4	Control IC Voltage Test	PWM IC U1 Rated: 9.4V~28V IC U105 Rated: 3 V ~30 V IC U103 Rated: 3.3V~36V	AC ON/OFF I/P:High-Line =700V O/P(1)FULL LOAD (2) Output Short (3)O.L.P (4)O.V.P. (5)NO LOAD VRmin(LOW LINE) Ta:25°C	U1 (1) 19.2V (2) 19.3V (3) 19.3V (4) 19.3V (5) 19.2V	U105/U103 (1) 11.7V (2) 12.0V (3) 11.6V (4) 11.6V (5) 9.7V

5	Clamp Diode Peak Voltage	D37/D38 Rated : 1A/620V	AC ON/OFF I/P : High-Line = 700 V O/P : (1) Dynamic Load 90%Duty/1KHz (2)Full load continue Ta : 25°C	D37 (1) 374V (2) 368V	D38 (1) 356V (2) 356V
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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: 4.87KVAC/min I/P-FG :2.5KVAC/min O/P-FG:0.5KVAC/min O/P-DC OK: 0.5 KVAC/min	I/P-O/P: 5.357KVAC/min I/P-FG: 3 KVAC/min O/P-FG:0.6 KVAC/min O/P-DC OK: 0.6 KVAC/min Ta:25°C	I/P-O/P: 9.01 mA I/P-FG: 8.23 mA O/P-FG: 10.42 mA O/P-DC OK: 0.007 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 < 100 mΩ	40A / 2min Ta:25°C	8 mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	BS EN/EN61000-3-2 CLASS A	I/P: 400VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	BS EN/EN55032(CISPR32) / BS EN/EN61204-3 / CNS15936 CLASS B	I/P : 400 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 : 400 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	BS EN/ EN61000-4-2 AIR : 15KV / Contact : 8KV	I/P : 400 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
5	E.F.T	BS EN/ EN61000-4-4 INPUT : 4KV	I/P : 400 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	BS EN/ EN61000-4-5 Line-Line : 2KV	I/P : 400 VAC/50HZ O/P : FULL LOAD	CRITERIA A

	Line-Earth : 4KV	Ta : 25°C	
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 : XTR-240-36 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 400VAC O/P : FULL LOAD Ta= 27.5 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 400VAC O/P : FULL LOAD Ta= 60.6 °C <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta= 27.5°C</th><th>HIGH AMBIENT Ta= 60.6°C</th></tr><tr><td>1</td><td>ZR2</td><td>48.9°C</td><td>82.3°C</td></tr><tr><td>2</td><td>C3</td><td>51.9°C</td><td>85.3°C</td></tr><tr><td>3</td><td>RY100</td><td>55.9°C</td><td>88.4°C</td></tr><tr><td>4</td><td>C171</td><td>52.1°C</td><td>84.8°C</td></tr><tr><td>5</td><td>LF100</td><td>54.6°C</td><td>87.6°C</td></tr><tr><td>6</td><td>LF1</td><td>57.4°C</td><td>92°C</td></tr><tr><td>7</td><td>D6</td><td>61.3°C</td><td>94.7°C</td></tr><tr><td>8</td><td>C4</td><td>55.8°C</td><td>90.5°C</td></tr><tr><td>9</td><td>ZR4</td><td>60.5°C</td><td>94.1°C</td></tr><tr><td>10</td><td>LF4</td><td>66.5°C</td><td>100°C</td></tr><tr><td>11</td><td>L5</td><td>56.1°C</td><td>87.3°C</td></tr><tr><td>12</td><td>C57</td><td>62.2°C</td><td>96.7°C</td></tr><tr><td>13</td><td>T3</td><td>57.7°C</td><td>92.1°C</td></tr><tr><td>14</td><td>R13</td><td>63.3°C</td><td>96.5°C</td></tr><tr><td>15</td><td>D12</td><td>69.1°C</td><td>101.9°C</td></tr><tr><td>16</td><td>Q2</td><td>69.7°C</td><td>102.1°C</td></tr><tr><td>17</td><td>TSW1</td><td>62.6°C</td><td>95.8°C</td></tr><tr><td>18</td><td>U3</td><td>59°C</td><td>92.6°C</td></tr><tr><td>19</td><td>ZNR7</td><td>63°C</td><td>95.7°C</td></tr><tr><td>20</td><td>RTH1</td><td>63°C</td><td>95.9°C</td></tr><tr><td>21</td><td>R40</td><td>61.7°C</td><td>95.1°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta= 27.5°C	HIGH AMBIENT Ta= 60.6°C	1	ZR2	48.9°C	82.3°C	2	C3	51.9°C	85.3°C	3	RY100	55.9°C	88.4°C	4	C171	52.1°C	84.8°C	5	LF100	54.6°C	87.6°C	6	LF1	57.4°C	92°C	7	D6	61.3°C	94.7°C	8	C4	55.8°C	90.5°C	9	ZR4	60.5°C	94.1°C	10	LF4	66.5°C	100°C	11	L5	56.1°C	87.3°C	12	C57	62.2°C	96.7°C	13	T3	57.7°C	92.1°C	14	R13	63.3°C	96.5°C	15	D12	69.1°C	101.9°C	16	Q2	69.7°C	102.1°C	17	TSW1	62.6°C	95.8°C	18	U3	59°C	92.6°C	19	ZNR7	63°C	95.7°C	20	RTH1	63°C	95.9°C	21	R40	61.7°C	95.1°C
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			NO	Position	ROOM AMBIENT Ta= 27.5°C	HIGH AMBIENT Ta= 60.6°C
			22	U1	66.4°C	99.9°C
			23	D7	58.8°C	92°C
			24	D37	62.5°C	88.9°C
			25	D70	61.8°C	94.6°C
			26	Q109	57.3°C	90.5°C
			27	U105	53.1°C	86.4°C
			28	D38	62.5°C	95.9°C
			29	TB2	48.7°C	81.6°C
			30	J101	62.2°C	95.3°C
			31	C107	61.5°C	94.4°C
			32	R102	64.6°C	97.6°C
			33	C205	57.5°C	91.2°C
			34	U102	63.2°C	96.3°C
			35	U103	62.6°C	95.6°C
			36	R50	68.7°C	101.5°C
			37	Q4	63.1°C	96°C
			38	Q3	62.4°C	95.3°C
			39	Q70	65.7°C	97.8°C
			40	C72	64.3°C	96.7°C
			41	T1 Coil	76.6°C	109.3°C
			42	T1 Core	66.1°C	99°C
			43	Q100	78.6°C	110.8°C
			44	Q101	77.1°C	109.4°C
			45	C110	58°C	92.1°C
			46	Q200	58.9°C	93°C
			47	D104	57.8°C	92°C
			48	R49	69.5°C	102.3°C
			49	C200	57.9°C	91°C
			50	C6	66.1°C	96°C
2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 400 VAC O/P : 118.61% LOAD Ta : 25°C		TEST : OK	
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 600VAC/380VAC O/P : 100% LOAD Ta= -40 °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 : 600 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 : 400 VAC O/P : FULL LOAD		±0.011 %/°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	-40~60°C	1. Thermal shock Temperature : -45°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:400V/ FULL LOAD AC ON 3sec/AC OFF 1sec TEST 1cycle:400V/ 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 C171 IS THE MOST CRITICAL COMPONENT (1) I/P : 400VAC O/P : FULL LOAD Ta= 27.5 °C LIFE TIME (2) I/P : 400VAC O/P : FULL LOAD Ta= 60.6 °C LIFE TIME (3) I/P : 400VAC O/P : 75% LOAD Ta= 60.8 °C LIFE TIME (4) I/P : 400VAC O/P : 50% LOAD Ta= 59.7 °C LIFE TIME	(1) 532647.6 HRS (2) 48403.4 HRS (3) 75575.1 HRS (4) 110288.8 HRS	
10	MTBF	Conducted by Parts Stress Analysis Prediction 1432.3K hrs min. Telcordia SR-332 (Bellcore) ; 191.5K hrs min. MIL-HDBK-217F (25°C)		
11	Ongoing Reliability Test	I/P : 400VAC 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