Test Report: SPWM-240-24

240W Constant Voltage PWM Output LED Driver

■ DESIGN VERIFY TEST

Output Function Test
Input Function Test
Protection Function Test
Component Stress Test

■ SAFETY & E.M.C. TEST

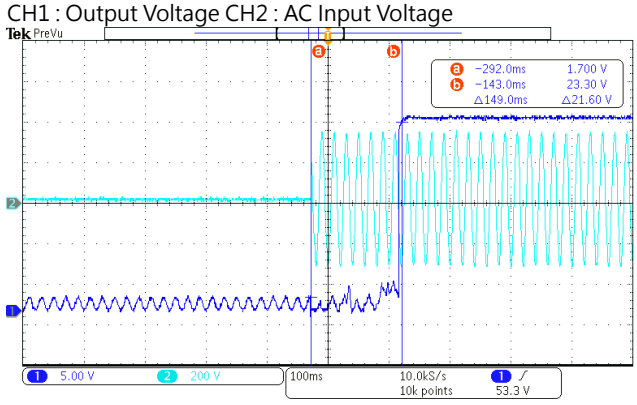
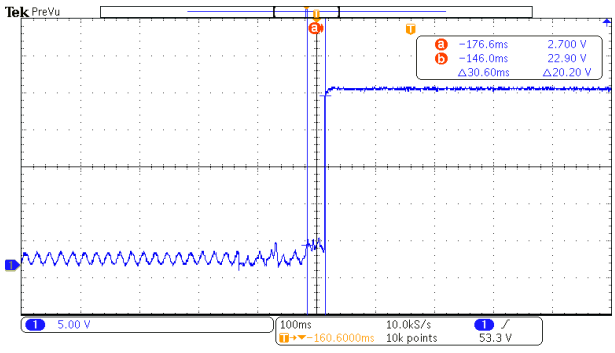
Safety Test
E.M.C. Test

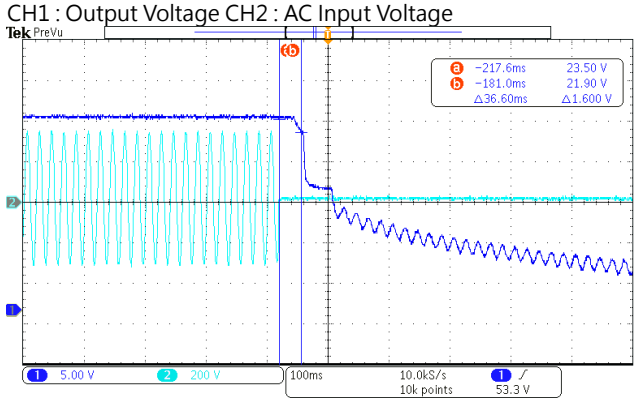
■ RELIABILITY TEST

ENVIRONMENT TEST

ESIGN VERIFY TEST

OUTPUT FUNCTION TEST

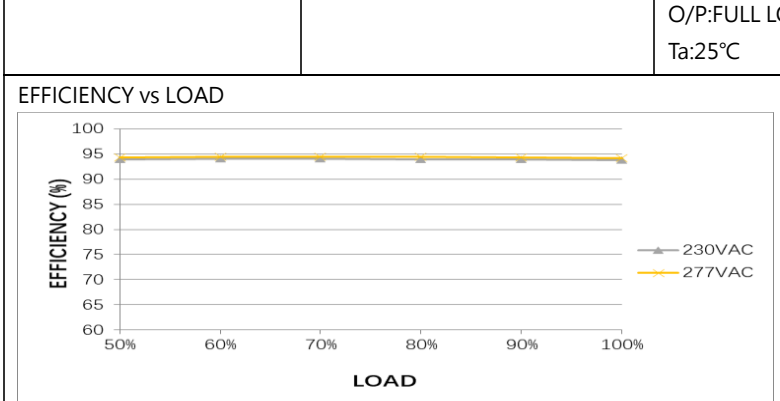
NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	DIMMING RANGE	0~100%	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	0.12 %~ 98.6 % /3.2KHz
2	VOLTAGE ADJ. RANGE	23 V~26 V	I/P: 230 VAC O/P:NO LOAD Ta:25℃	Test：22.3 V ~ 26.5 V
3	OVER/UNDERSHOOT TEST	< ± 5%	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST: 0.84 %
4	SET UP TIME (Max)	230VAC/ 500ms	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	TEST : 149 ms
	INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage 			
5	RISE TIME (Typ.)	230VAC/ 80ms	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	30.6ms
	INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage 			

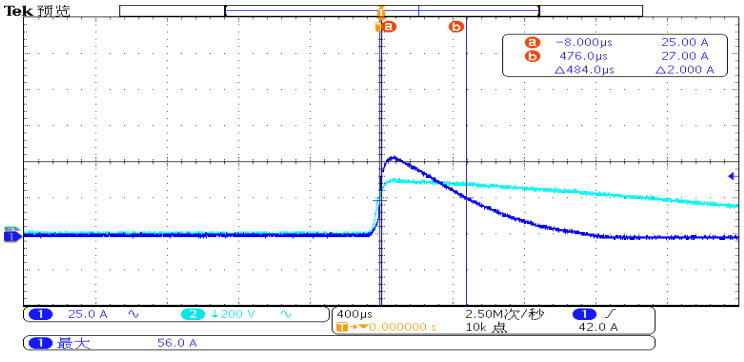
6	HOLD UP TIME (Typ.)	230VAC/ 10ms	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	36.6ms
	INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage 			

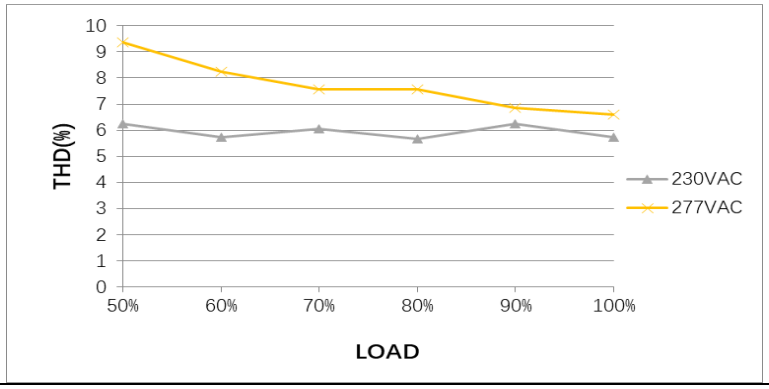
INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	180VAC~305 VAC 255VDC~410VDC	(1) I/P:TESTING O/P:FULL LOAD (2) I/P:DC TESTING(L:+ N:-) O/P: FULL / 50% LOAD (3) I/P:DC TESTING(L:- N:+) O/P: FULL / 50% LOAD (4) I/P: LOW-LINE=255VDC HIGH-LINE=410VDC O/P: Dimming on/off Ta:25℃	(1) 180V~ 305V (2) 255Vdc~410Vdc/FULL LOAD 255 Vdc~410Vdc/50% LOAD (3) 255Vdc~410Vdc/FULL LOAD 255 Vdc~410Vdc/50% LOAD (4) OK
			I/P: LOW-LINE-3V=177 V HIGH-LINE+10V=315 V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	TEST: OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P: 180VAC ~305VAC O/P:FULL~MIN LOAD Ta:25℃	OK
3	INPUT CURRENT (TYP)	277 VAC/ 1.1 A 230 VAC/ 1.3 A	I/P: 277VAC I/P: 230VAC O/P:FULL LOAD Ta:25℃	I = 0.93 A/ 277VAC I = 1.11 A/ 230VAC

4	LEAKAGE CURRENT	< 0.25mA / 277 VAC	I/P： 277 VAC O/P：Min LOAD Ta：25℃	L-FG: 0.0121 mA N-FG: 0.0134 mA
5	STANDBY POWER CONSUMPTION	<0.5W (Dimming off)	I/P: 230VAC O/P：DIM OFF Ta：25℃	0.420 W / 230VAC
6	POWER FACTOR(TYP)	0.92 /277 VAC 0.95 /230 VAC	I/P: 277VAC I/P: 230VAC O/P: FULL LOAD Ta:25℃	PF= 0.970 /277VAC PF= 0.989 /230VAC
	P.F vs LOAD			
7	EFFICIENCY (TYP)	93.0 %	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	230VAV/ 93.7%
	EFFICIENCY vs LOAD			
8	INRUSH CURRENT (TYP)	230 V/ 60A COLD START (twidth=600us measured at 50% Ipeak) COLD START	I/P: 230 VAC O/P:FULL LOAD Ta:25℃	I = 56 A/ 230VAC T50= 484 us
	INPUT=230VAC/50HZ @ FULL LOAD CH1 : Input current CH2 : AC Input Voltage			





9	TOTAL HARMONIC DISTORTION	THD<10% @load≧ 50%, 230VAC; @load≧ 75%/277VAC	I/P： 230VAC/277VAC O/P：75% LOAD 50% LOAD Ta：25℃	THD： 6.24 / 230VAC*50%load THD： 7.55/ 277VAC*75%load
	THD&LOAD 			

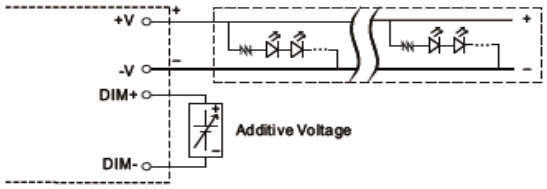
PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105 % ~ 150 %	I/P: 305VAC I/P: 230VAC I/P: 180VAC O/P:TESTING Ta:25℃	121%/ 305VAC 121%/ 230VAC 121%/ 180VAC Protection type： Hiccup mode, recovers automatically after fault condition is removed.
2	OVER VOLTAGE PROTECTION	V1: 27 V~ 36 V	I/P: 305VAC I/P: 230VAC I/P: 180VAC O/P:MIN LOAD Ta:25℃	28.7V/ 305VAC 28.7 V/ 230VAC 28.7V/ 180VAC Protection type： Shut down O/P voltage, re-power on to recover after fault condition is removed
3	OVER TEMPERATURE PROTECTION	NO DAMAGE	I/P: 305 VAC I/P: 180 VAC O/P:FULL LOAD	O.T.P Active Protection type： Shut down O/P voltage, re-power on to recover after fault condition is removed
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 305VAC I/P: 180 VAC O/P: FULL LOAD Ta:25℃	NO DAMAGE Protection type： 【For Blank type】： Shut down O/P voltage, re-power on to recover after fault condition is removed. 【For DA2/DA2Q type】： Hiccup mode, recovers automatically after fault condition is removed.

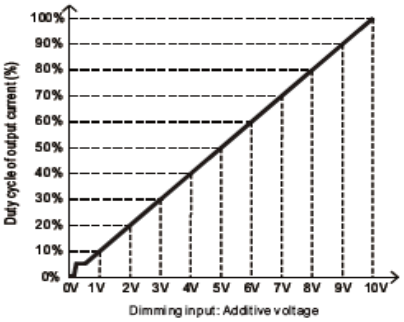
CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	DIMMING OPERATION (Blank Type)	※ 3 in 1 dimming function • Output constant current level can be adjusted by applying one of the three methodologies between DIM+ and DIM-: 0 ~ 10VDC, or 10V PWM signal or resistance. • Direct connecting to LEDs is suggested. It is not suitable to be used with additional drivers. • Dimming source current from power supply: 100μA (typ.)		

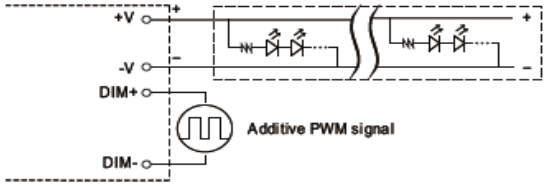
◎ Applying additive 0 ~ 10VDC



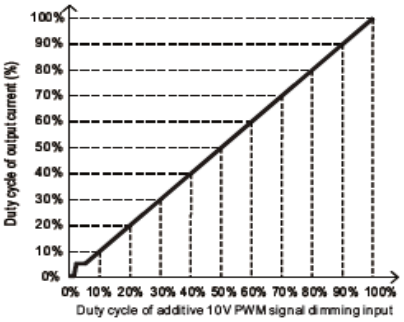
"DO NOT connect "DIM- to -V"



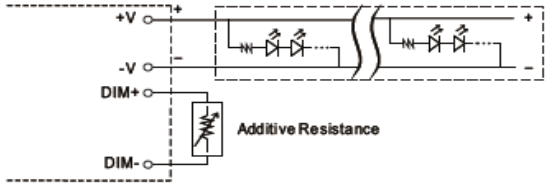
◎ Applying additive 10V PWM signal (frequency range 300Hz~3KHz):



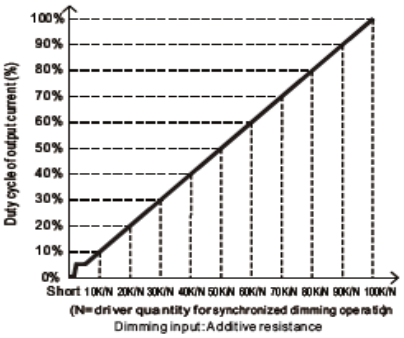
"DO NOT connect "DIM- to -V"



◎ Applying additive resistance: 0~100kΩ



"DO NOT connect "DIM- to -V"



Note : 1. Min. dimming level is about 6% and the output current is not defined when 0% < Iout < 6%.
2. The output current could drop down to 0% when dimming input is about 0kΩ or 0Vdc, or 10V PWM signal with 0% duty cycle.

I/P : 230 VAC ; O/P : DIMMING TEST ;Ta : 25℃

	Resistance value	Short	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	OPEN
1	Output Current	0	1.080 A	2.132 A	3.192 A	4.230 A	5.300 A	6.370 A	7.450 A	8.232 A	9.340 A	10.330 A	10.320 A
	Output Current duty	0%	10.80 %	21.32 %	31.92 %	42.30 %	53.00 %	63.70 %	74.50 %	82.32 %	93.40 %	103.30 %	103.20 %
2	Dimming value	0V	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
	Output Current	0	0.950 A	1.911 A	2.875 A	3.844 A	4.850 A	5.880 A	6.940 A	8.000 A	9.060 A	10.160 A	10.170 A
	Output Current duty	0%	9.50 %	19.11 %	28.75 %	38.44 %	48.50 %	58.80 %	69.40 %	80.00 %	90.60 %	101.60 %	101.70 %
3	Duty value	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
	Output Current	0	1.071 A	2.073 A	3.066 A	4.060 A	5.050 A	6.060 A	7.080 A	8.130 A	9.070 A	10.250 A	10.260 A
	Output Current duty	0%	10.71 %	20.73 %	30.66 %	40.60 %	50.50 %	60.60 %	70.80 %	81.30 %	90.70 %	102.50 %	102.60 %

2 PUSH DIMMING OPERATION (DA2/DA2Q Type)

※**PUSH dimming (primary side), for DA2/DA2Q Model**

- Intput wiring diagram

- The factory default dimming level is at 100%.
- Up to 10 drivers can perform the PUSH dimming at the same time when utilizing one common push button.
- The maximum length of the cable from the push button to the last driver is 20 meters.

Action	Action duration
Short Push	0.1~1s
Long Push	>1s

Push Button functionally

Model	Application	Dip Switch 1	2	3	Push 1 for brightness	Push 2 for colour
DA2 Type	1 logic unit of LED (DT6,Brightness Dimming)				Short Push : ON/OFF Long Push : Dim up/down. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	**This model does not feature this button.**
DA2Q Type	1 logic unit of LED (DT6,Brightness Dimming)	ON	ON	ON	Short Push : ON/OFF Long Push : Dim up/down. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	Short Push : no response Long Push : no response
	4 logic unit of LED (DT6,Brightness Dimming)	ON	ON	OFF	**4 control gears are synchronously controlled** Short Push : ON/OFF Long Push : Dim up/down. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	Short Push : no response Long Push : no response
	1 logic unit of colourtype RGBW (DT8, RGBW colour control) (factory default)	OFF	OFF	OFF	Short Push : ON/OFF Long Push : Dim up/down. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	Short Push : Switch to "W channel control" or "RGB color control". Long Push : Dimming "W channel control" or "RGB color control". -W channel control: Long press to dim up stop at maximum. Long press to dim down stop at minimum(0). -RGB color control: Long press to change RGB color.
	1 logic unit of colour type Tc (DT8, Tunable white control)	ON	OFF	OFF	Short Push : ON/OFF Long Push : Dim up/down - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	Short Push : ON/OFF Long Push : Dim2Warm - The color temperature warms up while the brightness dims, and the color temperature cools down while the brightness brightens. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change (up,cooler/down,warmer) - dim up possible even if when unit is OFF

Model		Dip Switch 1	2	3	PUSH 1 for brightness	PUSH 2 for colour
DA2Q Type	2 logic units of colour type Tc (DT8. Tunable white control)	OFF	ON	OFF	**2 control gears are synchronously controlled** Short Push : ON/OFF Long Push : Dim up/down - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	**2 control gears are synchronously controlled** Short Push : ON/OFF Long Push : Dim2Warm - The color temperature warms up while the brightness dims, and the color temperature cools down while the brightness brightens. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change (up,cooler/down,warmer) - dim up possible even if when unit is OFF
	2 logic units (1 logic unit of DT6) (1 logic unit of colour type Tc)	OFF	OFF	ON	**Only the DT6 device responds** Short Push : ON/OFF Long Push : Dim up/down - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change(up/down) - dim up possible even if when unit is OFF	**Only the DT8 device responds** Short Push : ON/OFF Long Push : Dim2Warm - The color temperature warms up while the brightness dims, and the color temperature cools down while the brightness brightens. - dim up stop at maximum; dim down stop at minimum dim (not dim off) - with next push, direction change (up,cooler/down,warmer) - dim up possible even if when unit is OFF

I/P : 230 VAC

O/P : DIMMING TEST

Ta : 25℃

TEST RESULT : OK

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q3 Rated 600 V/21 A	AC ON/OFF I/P:High-Line +3V =308V O/P: (1)Full Load input (2)Output Short (3)Dimming off (4)OLP (5) No Load I/P:Low-Line -3V = 177V O/P: (1)Full Load input (2)Output Short (3)Dimming off (4)OLP (5) No Load Ta:25℃	 (1) 465 V (2) 449 V (3) 445V (4) 449 V (5) 449V (1) 465 V (2) 457 V (3) 457V (4) 469V (5) 453V

2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated 650V/25A	AC ON/OFF I/P:High-Line +3V =308 V O/P: (1)Full Load input (2)Output Short (3)Dimming off (4)OLP (5) No Load I/P:Low-Line -3V = 177V O/P: (1)Full Load input (2)Output Short (3)Dimming off (4)OLP (5) No Load Ta:25℃	 VDS: (1) 521 V (2) 505 V (3) 493 V (4) 521 V (5) 505 V VDS: (1) 525 V (2) 517 V (3) 525 V (4) 525 V (5) 517 V
3	P.F.C DIODE	D5 Rated 8A/600V	AC ON/OFF I/P:High-Line +3V =308 V O/P: (1)Full Load input (2)Output Short (3)Dimming off (4)OLP (5) No Load I/P: Low-Line -3V = 177V O/P: (1)Full Load (2)Output Short (3)Dimming off (4)OLP (5) No Load Ta:25℃	 (1) 461 V (2) 465 V (3) 457 V (4) 461 V (5) 461 V (1) 461 V (2) 461 V (3) 461 V (4) 461 V (5) 461 V
4	Diode Peak Voltage	Q100 Rated 130 A/80 V	AC ON/OFF I/P: High-Line +3V =308 V O/P: (1)Full Load (2)Output Short (3) Dimming off (4) OLP (5).NO LOAD Ta:25℃	 VDS: (1) 61.7V (2) 57.7V (3) 61.7V (4) 58.5V (5) 57.7V
5	Input Capacitor Voltage	C5 Rated: 68μ / 450V Surge voltage: 580V	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 Ta:25℃	 (1) 453 V (2) 445 V (3) 453 V (4) 441 V

6	Control IC Voltage Test	PWM IC U2Rated 10V~27V PFC IC U1 Rated -0.3 V~ 27V MCU IC U602 Rated 1.7 V~ 3.6 V	AC ON/OFF I/P:High-Line +3V =308 V O/P:(1) Full Load (2) Output Short (3) O.L.P (4) O.V.P. (5) No Load VR min (Low Line) (6) DIM OFF Ta:25℃	U2 (1) 15.8V (2) 15.8V (3) 15.8V (4) 16.0 V (5) 11.9 V (6) 12.9 V U1 (1) 17.2 V (2) 15.8V (3) 15.8V (4) 15.8 V (5) 12.9 V (6) 12.9 V U602 (1)3.305V (2)3.305V (3)3.303V (4)3.304V (5)3.305V (6)3.305V
7	DIMMING MOS	Q110/ Q113 Rated： 60V/160A	AC ON/OFF I/P：High-Line +3V = 308 V O/P：(1) Full Load (2) Output Short (3) Dim on/off Ta：25℃	Q110 (1) 19.8 V (2) 24.3 V (3) 15.4 V Q113 (1)20.2V (2)24.8V (3)16.6 V

■ SAFETY & EMC TEST REPORT

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 3.75 K VAC/min	I/P-O/P: 4.125 KVAC/min Ta:25℃	I/P-O/P: 0.83 mA NO DAMAGE
2	ISOLATION RESISTANCE	I/P-O/P: 500 VDC>100MΩ	I/P-O/P: 500 VDC Ta:25℃	I/P-O/P: >9999 MΩ NO DAMAGE

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS C	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	PASS
2	CONDUCTION	EN55015 CLASS B	I/P: 230 VAC /50HZ O/P:FULL/50% LOAD Ta:25℃	PASS Test by certified Lab
3	RADIATION	EN55015 CLASS B	I/P: 230 VAC /50HZ O/P:FULL LOAD Ta:25℃	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 AIR : 8KV / Contact : 4KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A/ Blank type CRITERIA B/ DA2&DA2Q type
5	E.F.T	EN61000-4-4 INPUT: 1KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	CRITERIA A
6	SURGE	IEC61000-4-5 L-N :2KV	I/P: 230 VAC/50HZ O/P:FULL LOAD Ta:25℃	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

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECIFICATION</th><th>TEST CONDITION</th><th>RESULT</th></tr>
<tr><td>1</td><td>TEMPERATURE RISE TEST</td><td colspan="3">MODEL： SPWM-240-24DA2Q
1. ROOM AMBIENT BURN-IN：2 HRS
I/P： 230VAC O/P： FULL LOAD Ta=35.2 ℃
2. HIGH AMBIENT BURN-IN： 2 HRS
I/P： 230VAC O/P： FULL LOAD Ta=49.2 ℃
<table>
<tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=35.2℃</th><th>HIGH AMBIENT Ta=49.2 ℃</th></tr>
<tr><td>1</td><td>ZNR1</td><td>65.5℃</td><td>77.8℃</td></tr>
<tr><td>2</td><td>C1</td><td>70.8℃</td><td>84.1℃</td></tr>
<tr><td>3</td><td>C2</td><td>69.5℃</td><td>83.0℃</td></tr>
<tr><td>4</td><td>C9</td><td>75.2℃</td><td>89.0℃</td></tr>
<tr><td>5</td><td>BD1</td><td>78.4℃</td><td>92.0℃</td></tr>
<tr><td>6</td><td>R7</td><td>85.1℃</td><td>98.8℃</td></tr>
<tr><td>7</td><td>Q1</td><td>79.3℃</td><td>93.1℃</td></tr>
<tr><td>8</td><td>C5</td><td>72.2℃</td><td>86.6℃</td></tr>
<tr><td>9</td><td>C88</td><td>75.5℃</td><td>90.5℃</td></tr>
<tr><td>10</td><td>U1</td><td>77.5℃</td><td>91.8℃</td></tr>
<tr><td>11</td><td>Q2</td><td>84.7℃</td><td>99.3℃</td></tr>
<tr><td>12</td><td>RTH2</td><td>75.5℃</td><td>89.5℃</td></tr>
<tr><td>13</td><td>T1</td><td>79.2℃</td><td>94.4℃</td></tr>
<tr><td>14</td><td>C130</td><td>71.0℃</td><td>85.9℃</td></tr>
<tr><td>15</td><td>C104</td><td>70.5℃</td><td>85.5℃</td></tr>
<tr><td>16</td><td>Q100</td><td>71.6℃</td><td>86.7℃</td></tr>
<tr><td>17</td><td>U100</td><td>81.5℃</td><td>96.8℃</td></tr>
<tr><td>18</td><td>TC</td><td>67.6℃</td><td>81.4℃</td></tr>
</table></td></tr>
<tr><td>2</td><td>OVER LOAD BURN-IN TEST</td><td>NO DAMAGE
1 HOUR (MIN)</td><td>I/P： 230 VAC
O/P：121 % LOAD
Ta：25℃</td><td>TEST：OK</td></tr>
<tr><td>3</td><td>LOW TEMPERATURE
TURN ON TEST</td><td>TURN ON AFTER 2 HOUR</td><td>I/P： 305VAC/180VAC
O/P： 100/80 % LOAD
Ta= -25℃</td><td>TEST：OK</td></tr>
<tr><td>4</td><td>HIGH HUMIDITY
HIGH TEMPERATURE
HIGH VOLTAGE
TURN ON TEST</td><td>AFTER 12 HOURS
IN CHAMBER ON
CONTROL 45 ℃
NO DAMAGE</td><td>I/P： 315 VAC
O/P：FULL LOAD
Ta=45 ℃
HUMIDITY= 95 %R.H</td><td>TEST：OK</td></tr>
<tr><td>5</td><td>TEMPERATURE
COEFFICIENT</td><td>±0.03 %(0℃~50℃)</td><td>I/P： 230 VAC
O/P：FULL LOAD</td><td>±0.007 %(0~50℃)</td></tr>
</table>

6	STORAGE TEMPERATURE TEST	-40~80℃	1. Thermal shock Temperature： -45℃~ +90℃ 2. Temperature change rate ：25℃ / MIN 3. Dwell time low and high temperature ： 30 MIN/EACH 4. Total test cycle：10CYCLE 5. Input/output condition： STATIC TEST：OK
7	THERMAL SHOCK TEST	-20~45℃	1. Thermal shock Temperature： -25℃~ +50℃ 2. Temperature change rate ：25℃ / 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	5 ~ 100Hz, 2G 12min./1cycle, 72min. each along X, Y, Z axes	1 Carton & 1 Set (1) Waveform： Sine Wave (2) Frequency：5~100Hz (3) Sweep Time：12min/sweep cycle (4) Acceleration：3G (5) Test Time：180min in each axis (X.Y.Z) (6) Ta：25℃
9	CAPACITOR LIFE CYCLE	SUPPOSE C104 IS THE MOST CRITICAL COMPONENT (1) I/P： 230VAC O/P：FULL LOAD Ta=25 ℃ LIFE TIME (2) I/P： 230VAC O/P：FULL LOAD Ta=45 ℃ LIFE TIME (3) I/P： 230VAC O/P：75% LOAD Ta =45 ℃ LIFE TIME (4) I/P： 230VAC O/P：50% LOAD Ta =45 ℃ LIFE TIME	(1) 221551HRS (2) 51678HRS (3) 143053HRS (4) 251409HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 1801.3K hrs min. Telcordia SR-332 (Bellcore) ; 155.5K hrs min. MIL-HDBK-217F (25℃)	
11	Ongoing Reliability Test	I/P：230VAC O/P：FULL LOAD TA=50℃ Demonstration Mean Time Between Failure : 50,000 hours	

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	WUWQIN/ZHOUBIAO	WENF	WUWQ

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