



Test Report: NSP-75-27

75W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply

■ 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

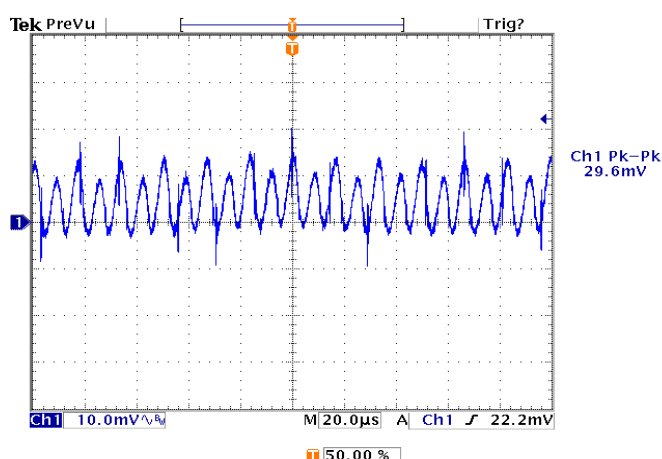
ENVIRONMENT TEST

DESIGN VERIFY TEST

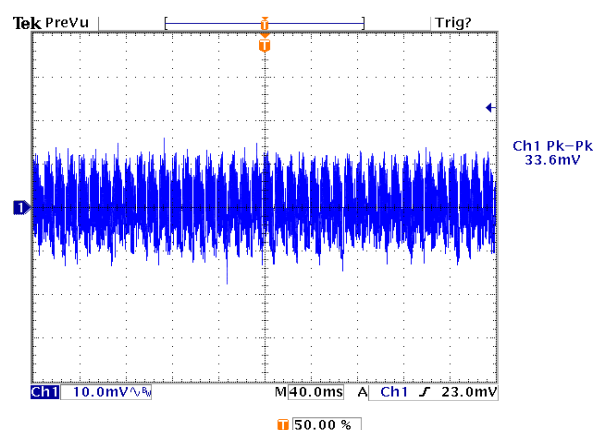
OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OUTPUT VOLTAGE ADJUST RANGE	CH1: 26V~ 32V	I/P : 230 VAC O/P : MIN LOAD Ta : 25°C	24.59V~33.83V/230VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1%~ +1%	I/P: 85VAC /305VAC O/P:FULL/ MIN. LOAD Ta:25°C	V1: 0%~0.3%
3	LINE REGULATION	V1: -0.5%~ +0.5%	I/P: 85VAC~ 305VAC O/P:FULL LOAD Ta:25°C	V1: -0.04%~+0.04%
4	LOAD REGULATION	V1: -0.5%~ +0.5%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.00%~ +0.04%
5	OVER/UNDERSHOOT TEST	< ± 5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	1.33%
6	RIPPLE & NOISE (Max)	V1: 240mVp-p	I/P: 230 VAC O/P: MIN LOAD—FULL LOAD Ta:25°C	V1: 33.6mVp-p / 100% load

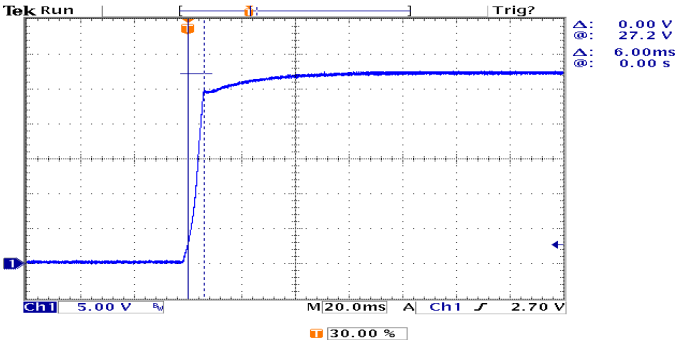
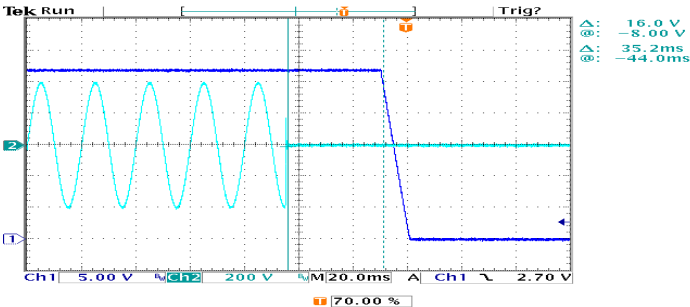
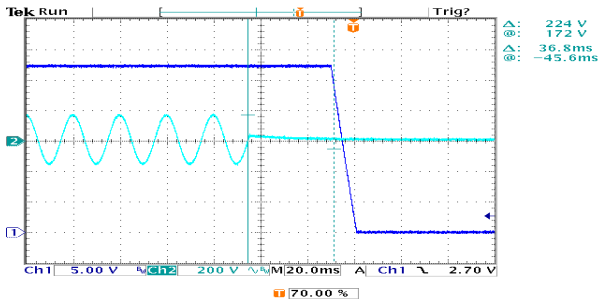
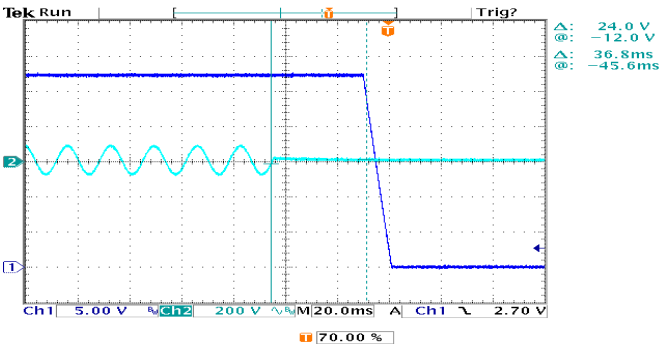
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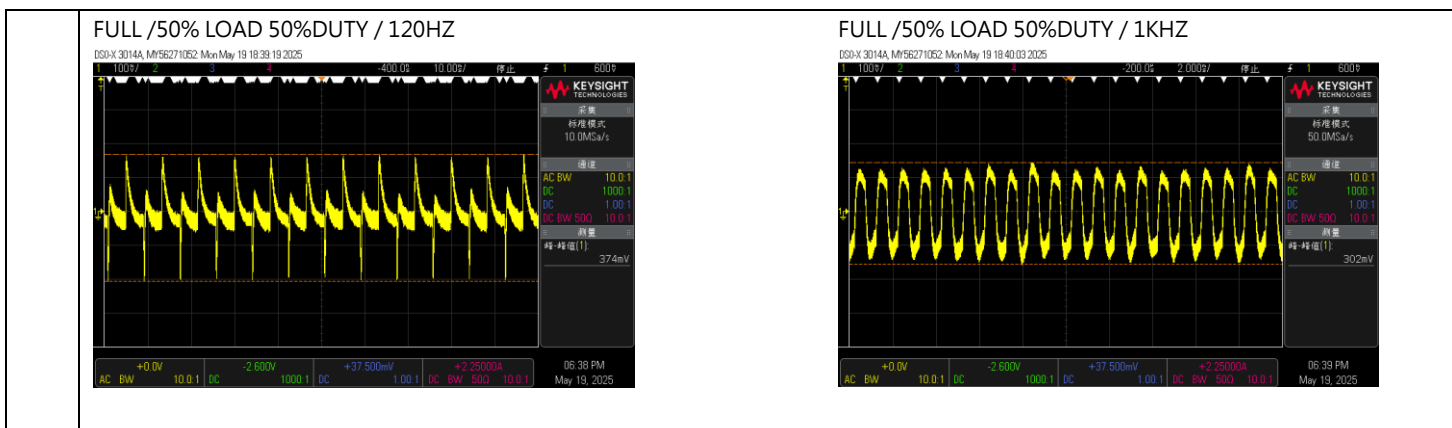


low frequency :



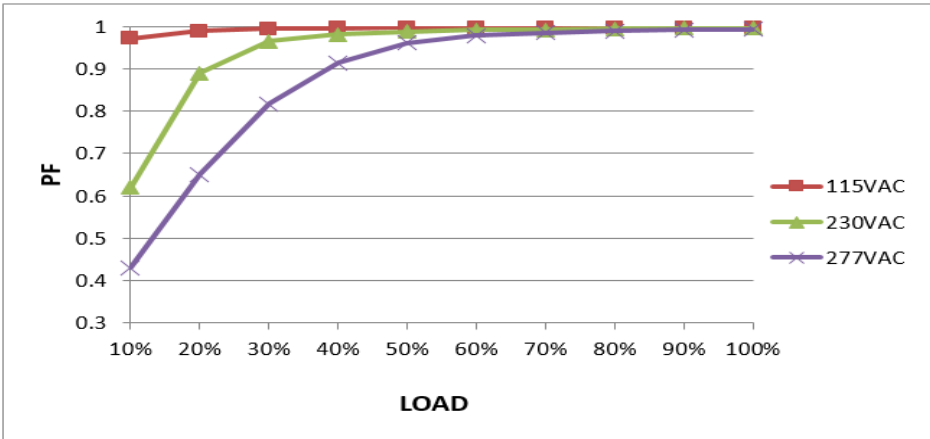
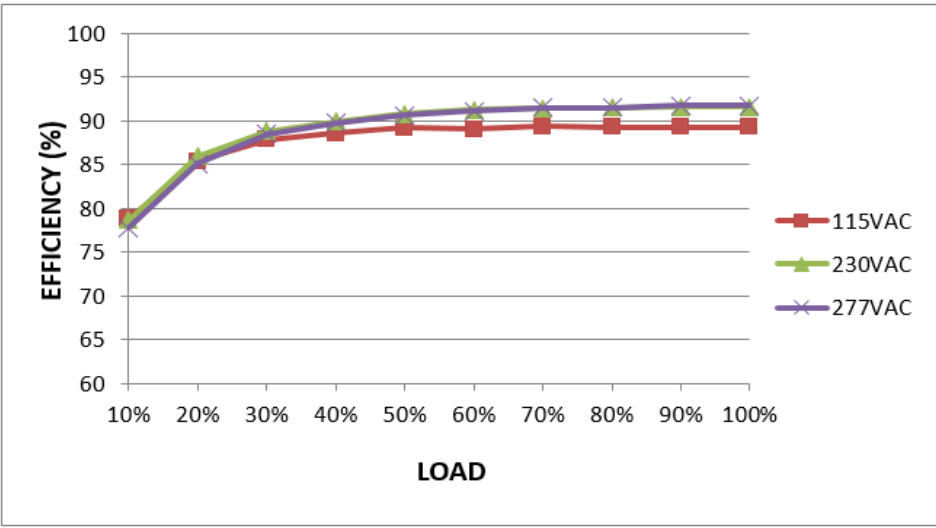
7	SET UP TIME(Max)	277VAC/1000ms 230VAC/1000ms 115VAC/1500ms	I/P : 277VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/412ms 230VAC/420ms 115VAC/356ms
INPUT=277VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Vltage INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage				
8	RISE TIME (Max)	277VAC/80ms 230VAC/80ms 115VAC/80ms	I/P : 277VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/10.4ms 230VAC/9.6ms 115VAC/6ms
INPUT=277VAC/60HZ @ FULL LOAD CH1 : Output Voltage INPUT=230VAC/50HZ @ FULL LOAD CH1 : Output Voltage				

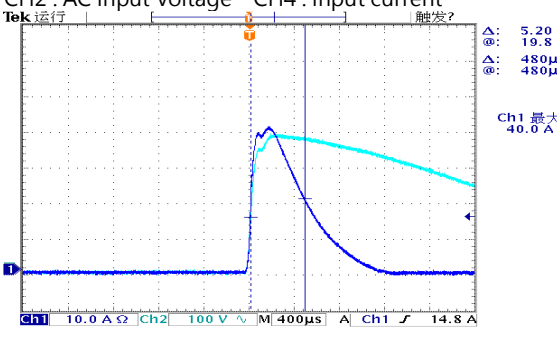
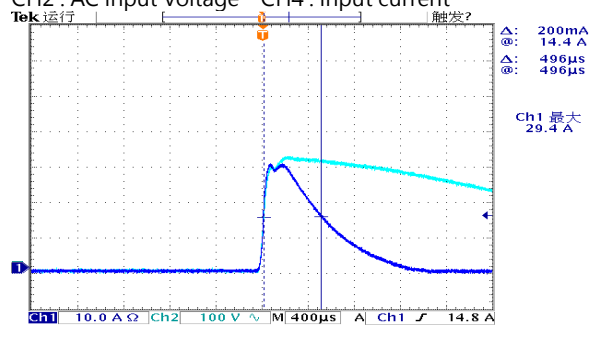
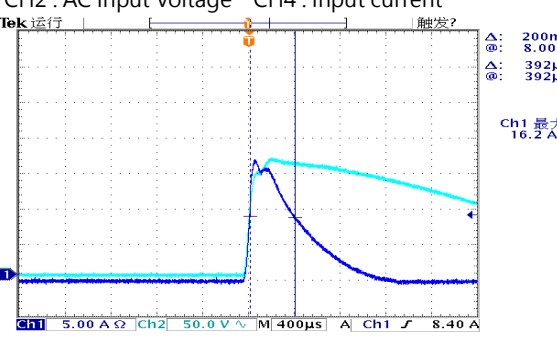
	INPUT=115VAC/60HZ @ FULL LOAD CH1 : Output Voltage 			
9	HOLD UP TIME (Typ.)	277VAC/16ms 230VAC/16ms 115VAC/16ms	I/P : 277VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	277VAC/35.2ms 230VAC/36.8ms 115VAC/36.8ms
	INPUT=277VAC/60HZ @ FULL LOAD CH1 : Output Voltage CH2 : AC Input Voltage  INPUT=230VAC/50HZ @ 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: 2700mVp-p	I/P: 230VAC O/P: (1)FULL /50% LOAD 50%DUTY / 120HZ (2)FULL /50% LOAD 50%DUTY / 1KHZ Ta:25°C	374mVp-p 302mVp-p



INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	85VAC~305VAC 120VDC~ 431VDC	(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 Ta:25°C	(1) 85 V~305V (2) 120Vdc~ 431 Vdc/FULL LOAD 120 Vdc~ 431Vdc/50% LOAD (3) 120Vdc~ 431Vdc/FULL LOAD 120Vdc~431 Vdc/50% LOAD
			I/P: LOW-LINE-3V=82 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:85VAC ~305VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK
3	INPUT CURRENT (Typ.)	277V/ 0.35A 230V/ 0.4 A 115V/ 0.8 A	I/P : 277 VAC I/P : 230 VAC I/P : 115VAC O/P : FULL LOAD Ta : 25°C	I =0.31A/ 277VAC I =0.36A/ 230VAC I =0.73A/ 115VAC
4	LEAKAGE CURRENT	Earth leakage current <350μA(rms)@277Vac	I/P : 277 VAC O/P : Min LOAD Ta : 25°C	L-FG : 204μA N-FG : 205μA
		Touch current <100μA(rms)@277Vac	I/P : 277 VAC O/P : Min LOAD Ta : 25°C	L-V+ : 44 μA L-V- : 45 μA N-V+ : 44 μA N-V- : 45 μA

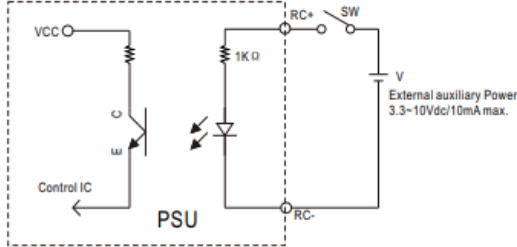
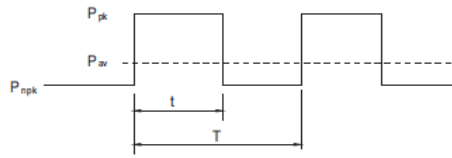
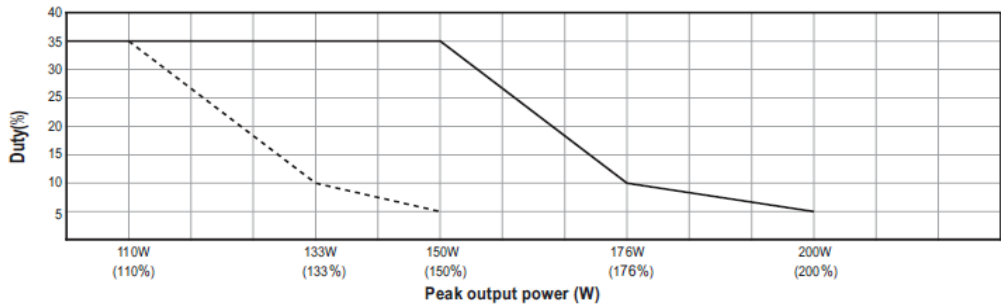
5	POWER FACTOR (Typ.)	0.90/277VAC 0.93/ 230VAC 0.98/ 115VAC	I/P : 277VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF=0.994/277VAC PF=0.997/230VAC PF=0.998/115VAC																																												
P.F vs LOAD																																																
 <table><caption>Power Factor (PF) 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>0.98</td><td>0.62</td><td>0.42</td></tr><tr><td>20%</td><td>0.99</td><td>0.88</td><td>0.65</td></tr><tr><td>30%</td><td>0.99</td><td>0.95</td><td>0.82</td></tr><tr><td>40%</td><td>0.99</td><td>0.97</td><td>0.90</td></tr><tr><td>50%</td><td>0.99</td><td>0.98</td><td>0.95</td></tr><tr><td>60%</td><td>0.99</td><td>0.99</td><td>0.98</td></tr><tr><td>70%</td><td>0.99</td><td>0.99</td><td>0.99</td></tr><tr><td>80%</td><td>0.99</td><td>0.99</td><td>0.99</td></tr><tr><td>90%</td><td>0.99</td><td>0.99</td><td>0.99</td></tr><tr><td>100%</td><td>0.99</td><td>0.99</td><td>0.99</td></tr></tbody></table>					LOAD	115VAC	230VAC	277VAC	10%	0.98	0.62	0.42	20%	0.99	0.88	0.65	30%	0.99	0.95	0.82	40%	0.99	0.97	0.90	50%	0.99	0.98	0.95	60%	0.99	0.99	0.98	70%	0.99	0.99	0.99	80%	0.99	0.99	0.99	90%	0.99	0.99	0.99	100%	0.99	0.99	0.99
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6	EFFICIENCY(Typ.)	91%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	91.58%																																												
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100%	90	91	91																																													
7	NO LOAD POWER CONSUMPTION(Typ.)	Remote Power ON : 2W/277VAC 2W/230VAC 2W/115VAC Remote Power OFF : 0.5W/277VAC 0.5W/230VAC 0.3W/115VAC	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : RC ON/RC OFF Ta : 25°C	Remote Power ON : 0.7975W/277VAC 0.7937W/230VAC 0.9423W/115VAC Remote Power OFF : 0.3739W/277VAC 0.2925W/230VAC 0.1232W/115VAC																																												

8	INRUSH CURRENT(Typ.)	277V/45A 230V/35A 115V/20A COLD START	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : RC ON/RC OFF Ta : 25°C	I =40.0A/ 277VAC T50=480us/277V I =29.4A/ 230VAC T50= 496us/230V I =16.2A/ 115VAC T50= 392us/115V
INPUT=277VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH4 : Input current  INPUT=230VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH4 : Input current  INPUT=115VAC/50HZ @ FULL LOAD CH2 : AC Input Voltage CH4 : Input current 				

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105%~ 200%	I/P: 305VAC I/P: 230VAC I/P: 85VAC O/P:TESTING Ta:25°C	145.71%/ 305VAC 145.71%/ 230VAC 145.81%/85VAC Protection type : 1、Normally works within 105 ~ 200% rated output power for more than 5 seconds and then constant current limiting without shutdown(Vout>30%), recovers automatically after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover 2、>200% rated power, constant current limiting (Vout>30%)with auto-recovery after fault condition is removed, or shut down o/p voltage when Vout<30%,AC re-power on to recover
2	OVER VOLTAGE PROTECTION	33V~42V	I/P: 305VAC I/P: 230VAC I/P: 85VAC O/P:MIN LOAD Ta:25°C	37.5 V / 305VAC 37.4 V/ 230VAC 37.4 V/ 85VAC Protection type : Shut down o/p voltage, re-power on to recover
3	OVER TEMPERATURE PROTECTION	NO DAMAGE	I/P: 305VAC I/P: 85VAC O/P:FULL LOAD	O.T.P. Active Protection type : Shut down o/p voltage, re-power on to recover
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P: 305VAC I/P: 85VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE Protection type : Constant current limiting for more than 5 seconds (Vout<30%) and then shut down a/p voltage, AC re-power on to recover

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT												
1	REMOTE ON/OFF CONTROL	2.Remote Control The PSU can be turned ON/OFF by using the "Remote Control" function with external switch and auxiliary power <table><tr><td>PSU Vo Status</td><td>Between RC-(pin1) and RC+(pin2) on CN1</td></tr><tr><td>POWER ON</td><td>Keep 0~0.8Vdc or open</td></tr><tr><td>POWER OFF</td><td>Keep 3.3~10Vdc by external voltage</td></tr></table>  I/P: 230 VAC O/P:FULL LOAD Ta:25°C Test Result : <table><tr><td>Between ON/OFF</td><td>Power Output Status</td></tr><tr><td>SW OFF (0~0.8V)</td><td>ON</td></tr><tr><td>SW ON (3.3~10V)</td><td>OFF</td></tr></table>	PSU Vo Status	Between RC-(pin1) and RC+(pin2) on CN1	POWER ON	Keep 0~0.8Vdc or open	POWER OFF	Keep 3.3~10Vdc by external voltage	Between ON/OFF	Power Output Status	SW OFF (0~0.8V)	ON	SW ON (3.3~10V)	OFF		
PSU Vo Status	Between RC-(pin1) and RC+(pin2) on CN1															
POWER ON	Keep 0~0.8Vdc or open															
POWER OFF	Keep 3.3~10Vdc by external voltage															
Between ON/OFF	Power Output Status															
SW OFF (0~0.8V)	ON															
SW ON (3.3~10V)	OFF															
2	PEAK POWER	1. Peak Power $P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leq P_{rated}$$Duty = \frac{t}{T} \times 100\% \leq 35\%$$t \leq 5 \text{ sec}$  P_{av}: Average output power (W) P_{pk}: Peak output power (W) P_{npk}: Non-peak output power (W) P_{rated}: Rated output power (W) t: Peak power width (sec) T: Period (sec)  For example (24V model) : Vin = 200Vac Duty_max = 5% Pav = Prated = 100W Ppk= 200W t ≤ 5 sec $T \geq \frac{5 \text{ sec}}{5\%} \geq 100 \text{ sec}$ $P_{npk} \leq \frac{TP_{av} - tP_{pk}}{T-t}$ Pnpk ≤ 94.7W Note:When the output voltage is adjusted to the upper limit, the peak power is 150% rated power I/P: 100/305VAC O/P:PEAK LOAD (1Hour NO DAMAGE) Ta:25°C Test Result: PASS														

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q6 650V/11A	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. I/P:Low-Line -3V = 82V 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. Ta:25°C	VDS: (1) 440V (2) 472V (3) 440V (4) 444V (5) 440V (6) 444V (7) 468V VDS: (1) 436V (2) 468V (3) 436V (4) 440V (5) 436V (6) 444V (7) 460V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated 650 V/15A	I/P:High-Line +3V =308V AC ON/OFF 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.	VDS: (1) 472V (2) 459V (3) 447V (4) 452V (5) 456V (6) 459V (7) 459V

			I/P:Low-Line -3V =82V AC ON/OFF 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. Ta:25°C	VDS: (1) 500V (2) 472V (3) 492V (4) 468V (5) 460V (6) 492V (7) 484V
3	P.F.C DIODE	D8 Rated 4 A/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 I/P:Low-Line -3V = 82V 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 Ta:25°C	(1) 434V (2) 430V (3) 430V (4) 438V (1) 442V (2) 434V (3) 442V (4) 438V
4	Diode Peak Voltage	D101 20A/100V	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 (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 Ta:25°C	D101: VDS: (1) 74.1V (2) 12.1V (3) 73.3V (4) 73.3V (5) 73.3V (6) 74.9V (7) 11.9V (8) 70.1V

5	Input Voltage	Capacitor C5 Rated: 82μ/ 450V Surge voltage: 500V	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°C	(1)448V (2)432V (3)444V (4)432V
6	Control IC Voltage Test	PWM IC U2 Rated 9.6V~ 36V	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 VRmin(LOW LINE) Ta:25°C	U2 (1) 19.0V (2) 19.0V (3) 19.0V (4) 19.0V (5) 19.0V

■ SAFETY& E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 4.2 K VAC/min I/P-FG : 2.1 K VAC/min O/P-FG: 1.5 KVAC/min	I/P-O/P: 4.62 KVAC/min I/P-FG: 2.52 KVAC/min O/P-FG: 1.8 KVAC/min Ta:25°C	I/P-O/P: 1.880 mA I/P-FG: 1.910 mA O/P-FG: 1.547 mA
2	ISOLATION RESISTANCE	I/P-O/P: 500 VDC>100MΩ I/P-FG: 500 VDC>100MΩ O/P-FG: 500 VDC >100MΩ	I/P-O/P: 500 VDC I/P-FG: 500 VDC O/P-FG: 500 VDC Ta:25°C	I/P-O/P: >9999 MΩ I/P-FG: >9999 MΩ O/P-FG: >9999 MΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40A / 2min Ta:25°C	8mΩ

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	BS EN/EN55032(CISPR32),CNS 15936 EN/EN55014-1(CISPR14-1) EN/EN55011(CISPR11)	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	BS EN/EN55032(CISPR32),CNS 15936 EN/EN55014-1(CISPR14-1) EN/EN55011(CISPR11)	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	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°C	CRITERIA A
5	E.F.T	EN61000-4-4 INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A
6	SURGE	IEC61000-4-5 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 : NSP-75-24 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=63.2 °C <table><tr><th>NO</th><th>Position</th><th>ROOM AMBIENT Ta=25.8 °C</th><th>HIGH AMBIENT Ta=63.2 °C</th></tr><tr><td>1</td><td>LF1</td><td>46.8°C</td><td>81.8°C</td></tr><tr><td>2</td><td>C2</td><td>52.0°C</td><td>84.5°C</td></tr><tr><td>3</td><td>RTH1</td><td>64.8°C</td><td>90.8°C</td></tr><tr><td>4</td><td>L1</td><td>52.8°C</td><td>84.6°C</td></tr><tr><td>5</td><td>L2</td><td>51.5°C</td><td>84.4°C</td></tr><tr><td>6</td><td>C10</td><td>54.0°C</td><td>87.5°C</td></tr><tr><td>7</td><td>Q1</td><td>50.9°C</td><td>86.9°C</td></tr><tr><td>8</td><td>C5</td><td>52.2°C</td><td>86.8°C</td></tr><tr><td>9</td><td>U2</td><td>63.1°C</td><td>97.5°C</td></tr><tr><td>10</td><td>C36</td><td>59.1°C</td><td>94.0°C</td></tr><tr><td>11</td><td>BD1</td><td>59.0°C</td><td>91.3°C</td></tr><tr><td>12</td><td>D8</td><td>59.2°C</td><td>93.1°C</td></tr><tr><td>13</td><td>Q5</td><td>53.2°C</td><td>88.5°C</td></tr><tr><td>14</td><td>T1</td><td>74.8°C</td><td>108.1°C</td></tr><tr><td>15</td><td>C202</td><td>61.8°C</td><td>96.3°C</td></tr><tr><td>16</td><td>C105</td><td>66.9°C</td><td>100.3°C</td></tr><tr><td>17</td><td>U4</td><td>57.1°C</td><td>92.0°C</td></tr><tr><td>18</td><td>U101</td><td>59.2°C</td><td>94.0°C</td></tr><tr><td>19</td><td>Q100</td><td>78.2°C</td><td>110.3°C</td></tr><tr><td>20</td><td>RTH3</td><td>59.2°C</td><td>95.0°C</td></tr></table>			NO	Position	ROOM AMBIENT Ta=25.8 °C	HIGH AMBIENT Ta=63.2 °C	1	LF1	46.8°C	81.8°C	2	C2	52.0°C	84.5°C	3	RTH1	64.8°C	90.8°C	4	L1	52.8°C	84.6°C	5	L2	51.5°C	84.4°C	6	C10	54.0°C	87.5°C	7	Q1	50.9°C	86.9°C	8	C5	52.2°C	86.8°C	9	U2	63.1°C	97.5°C	10	C36	59.1°C	94.0°C	11	BD1	59.0°C	91.3°C	12	D8	59.2°C	93.1°C	13	Q5	53.2°C	88.5°C	14	T1	74.8°C	108.1°C	15	C202	61.8°C	96.3°C	16	C105	66.9°C	100.3°C	17	U4	57.1°C	92.0°C	18	U101	59.2°C	94.0°C	19	Q100	78.2°C	110.3°C	20	RTH3	59.2°C	95.0°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 : 85VAC/305VAC O/P : 80/100 % LOAD Ta=-35/-45 °C	TEST : OK																																																																																				
4	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 50 °C/95 %R.H NO DAMAGE	I/P : 315 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK																																																																																				
5	TEMPERATURE COEFFICIENT	± 0.05 %/°C(0~60°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.016 %/°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: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 C105 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) 316979HRS (2) 45340HRS (3) 90679HRS (4) 131400HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 2163.5K hrs min. Telcordia SR-332 (Bellcore) ; 250.4K 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	WUWQIN/ZHOUBIAO	WENF	WUWQ

2020.10.1 TAG-QA-009