



Test Report: HB-320-48

320W Single Output Switching Power Supply

■ 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

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	V1 : 250 mVp-p (Max)	I/P : 230VAC O/P : FULL LOAD Ta : 25°C	V1 : 73.2 mVp-p (Max)	P
2	OUTPUT VOLTAGE ADJUST RANGE	CH1 : 43 V ~ 52 V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	42.01 V ~ 53.48 V / 230 VAC 42.01 V ~ 53.48 V / 115 VAC	P
3	OUTPUT CURRENT ADJUST RANGE	CH1 : 3.35A ~ 6.7A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	2.668 A ~ 7.657 A / 230 VAC 2.806 A ~ 7.657 A / 115 VAC	P
4	OUTPUT VOLTAGE TOLERANCE	V1 : 1 % ~ -1 % (Max)	I/P : 100 VAC / 305 VAC O/P : FULL / MIN LOAD Ta : 25°C	V1 : 0.09 % ~ -0.09 %	P
5	LINE REGULATION	V1 : 0.5 % ~ -0.5 % (Max)	I/P : 100 VAC ~ 305 VAC O/P : FULL LOAD Ta : 25°C	V1 : 0 % ~ 0 %	P
6	LOAD REGULATION	V1 : 0.5 % ~ -0.5 % (Max)	I/P : 230 VAC O/P : FULL ~ MIN LOAD Ta : 25°C	V1 : 0.09 % ~ -0.09 %	P
7	SET UP TIME	230VAC : 2500 ms (Max) 115VAC : 2500 ms(Max)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 947 ms 115VAC/ 930 ms	P
8	RISE TIME	230VAC : 80 ms (Max) 115VAC : 80 ms (Max)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 21 ms 115VAC/ 22 ms	P
9	HOLD UP TIME	230VAC : 15 ms (TYP) 115VAC : 15 ms (TYP)	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 25 ms 115VAC/ 25 ms	P
10	OVER/UNDERSHOOT TEST	< ±5%	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	TEST : <5 %	P
11	DYNAMIC LOAD	V1 : 4800 mVp-p	I/P : 230 VAC (1).O/P : FULL /Min LOAD 90%DUTY/ 1KHZ (2).O/P : FULL /Min LOAD 50%DUTY/ 120HZ Ta : 25°C	(1)313 mVp-p (2)1248 mVp-p	P

12	DIMMER TEST (B Type only)	<p>SPEC:</p> <p>* IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistor or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-</p> <p>*Reference resistance value for output current adjustment (Typical)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Resistance value</td> <td>10K</td><td>20K</td><td>30K</td><td>40K</td><td>50K</td><td>60K</td><td>70K</td><td>80K</td><td>90K</td><td>100K</td> </tr> <tr> <td>Output current</td> <td>10%</td><td>20%</td><td>30%</td><td>40%</td><td>50%</td><td>60%</td><td>70%</td><td>80%</td><td>90%</td><td>100%</td> </tr> </table> <p>* 1 ~ 10V dimming function for output current adjustment (Typical)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Dimming value</td> <td>1V</td><td>2V</td><td>3V</td><td>4V</td><td>5V</td><td>6V</td><td>7V</td><td>8V</td><td>9V</td><td>10V</td> </tr> <tr> <td>Output current</td> <td>10%</td><td>20%</td><td>30%</td><td>40%</td><td>50%</td><td>60%</td><td>70%</td><td>80%</td><td>90%</td><td>100%</td> </tr> </table> <p>* 10V PWM signal for output current adjustment (Typical)</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td>Duty value</td> <td>10%</td><td>20%</td><td>30%</td><td>40%</td><td>50%</td><td>60%</td><td>70%</td><td>80%</td><td>90%</td><td>100%</td> </tr> <tr> <td>Output current</td> <td>10%</td><td>20%</td><td>30%</td><td>40%</td><td>50%</td><td>60%</td><td>70%</td><td>80%</td><td>90%</td><td>100%</td> </tr> </table> <p>TEST RESULT: I/P : 230 VAC ; Ta : 25°C</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <tr> <td rowspan="3" style="width: 5%; text-align: center;">1</td> <td style="width: 10%;">Resistance value</td> <td>10K</td><td>20K</td><td>30K</td><td>40K</td><td>50K</td><td>60K</td><td>70K</td><td>80K</td><td>90K</td><td>100K</td> </tr> <tr> <td>Output current</td> <td>2.396A</td><td>4.473A</td><td>6.628A</td><td>8.796A</td><td>10.957A</td><td>13.137A</td><td>15.203A</td><td>17.358A</td><td>19.731A</td><td>21.909A</td> </tr> <tr> <td>%</td> <td>10.89%</td><td>20.33%</td><td>30.13%</td><td>39.98%</td><td>49.80%</td><td>59.71%</td><td>69.10%</td><td>78.90%</td><td>89.69%</td><td>99.59%</td> </tr> <tr> <td rowspan="3" style="text-align: center;">2</td> <td>Dimming value</td> <td>1V</td><td>2V</td><td>3V</td><td>4V</td><td>5V</td><td>6V</td><td>7V</td><td>8V</td><td>9V</td><td>10V</td> </tr> <tr> <td>Output current</td> <td>2.471A</td><td>4.671A</td><td>6.685A</td><td>9.043A</td><td>11.317A</td><td>13.495A</td><td>15.659A</td><td>17.920A</td><td>20.106A</td><td>22.035A</td> </tr> <tr> <td>%</td> <td>11.23%</td><td>21.23%</td><td>30.39%</td><td>41.10%</td><td>51.44%</td><td>61.34%</td><td>71.18%</td><td>81.45%</td><td>91.39%</td><td>100.16%</td> </tr> <tr> <td rowspan="3" style="text-align: center;">3</td> <td>Duty value</td> <td>10%</td><td>20%</td><td>30%</td><td>40%</td><td>50%</td><td>60%</td><td>70%</td><td>80%</td><td>90%</td><td>100%</td> </tr> <tr> <td>Output current</td> <td>2.560A</td><td>4.732A</td><td>6.901A</td><td>9.078A</td><td>11.251A</td><td>13.426A</td><td>15.592A</td><td>17.753A</td><td>19.918A</td><td>22.082A</td> </tr> <tr> <td>%</td> <td>11.64%</td><td>21.51%</td><td>31.37%</td><td>41.26%</td><td>51.14%</td><td>61.03%</td><td>70.87%</td><td>80.70%</td><td>90.54%</td><td>100.37%</td> </tr> </table>	Resistance value	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	Output current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	Output current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Output current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	1	Resistance value	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	Output current	2.396A	4.473A	6.628A	8.796A	10.957A	13.137A	15.203A	17.358A	19.731A	21.909A	%	10.89%	20.33%	30.13%	39.98%	49.80%	59.71%	69.10%	78.90%	89.69%	99.59%	2	Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	Output current	2.471A	4.671A	6.685A	9.043A	11.317A	13.495A	15.659A	17.920A	20.106A	22.035A	%	11.23%	21.23%	30.39%	41.10%	51.44%	61.34%	71.18%	81.45%	91.39%	100.16%	3	Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	Output current	2.560A	4.732A	6.901A	9.078A	11.251A	13.426A	15.592A	17.753A	19.918A	22.082A	%	11.64%	21.51%	31.37%	41.26%	51.14%	61.03%	70.87%	80.70%	90.54%	100.37%	P
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INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	100VAC~305 VAC	I/P : TESTING O/P : FULL LOAD Ta : 25°C	61 V~305V	P
			I/P : LOW-LINE-3V= 97 V HIGH-LINE+15%=305V O/P : FULL/MIN LOAD ON : 30 Sec . OFF : 30 Sec 10MIN (AC POWER ON/OFF NO DAMAGE)	TEST : OK	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE OSC	I/P : 100VAC ~ 305 VAC O/P : FULL~MIN LOAD Ta : 25°C	TEST : OK	P
3	POWER FACTOR	0.95/ 230 VAC FULL LOAD (TYP) 0.98/ 115 VAC FULL LOAD (TYP) 0.94/ 277 VAC FULL LOAD (TYP)	I/P : 230 VAC I/P : 115 VAC I/P : 277 VAC O/P : FULL LOAD Ta : 25°C	PF=0.975 /230V/100%LOAD PF=0.998 /115V/100%LOAD PF=0.95 / 277V/100%LOAD	P
4	EFFICIENCY	94.5 % (TYP) 95 % (TYP)	I/P : 230 VAC I/P : 277 VAC O/P : FULL LOAD Ta : 25°C	94.796 % 95.4 %	P
5	INPUT CURRENT	277V/ 1.45 A (TYP) 230V/ 1.6 A (TYP) 115V/ 3.5 A (TYP)	I/P : 277 VAC I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I = 1.5471 A/ 277VAC I = 1.6241 A/ 230 VAC I = 3.156 A/ 115 VAC	P
6	INRUSH CURRENT	230V/ 75 A (TYP)	I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	I = 67 A/ 230 VAC	P
7	LEAKAGE CURRENT	< 0.75 mA / 230 VAC	I/P : 305 VAC O/P : Min LOAD Ta : 25°C	L-FG : 0.001 mA N-FG : 0.001 mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	95 % ~ 108 %	I/P : 230 VAC I/P : 115 VAC O/P : TESTING Ta : 25°C	105.08 %/ 230 VAC 105.22 %/ 115 VAC Constant current limiting, recovers automatically after fault condition is removed	P
2	OVER VOLTAGE PROTECTION	CH1 : 53.5V ~ 60 V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	55.28 V/ 230 VAC 55.23 V/ 115 VAC Shut down and latch off o/p voltage, re-power on to recover	P
3	OVER TEMPERATURE PROTECTION	SPEC : RTH1 : 100 ± 10°C O.T.P. NO DAMAGE	I/P : 230 VAC O/P : FULL LOAD	O.T.P. Active Shut down o/p voltage · recovers automatically after temperature goes down	P
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P : 305 VAC O/P : FULL LOAD Ta : 25°C	NO DAMAGE Hiccup Mode	P

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q5 Rated : STP26NM60N 20A/600V	I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C	(1) 476 V (2) 460 V (3) 468 V	P
2	Diode Peak Voltage	Q101 Rated : PSMN035-150 50A/150V Q102 Rated : PSMN035-150 50A/150V	I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on (2)Output Short (3)Full load continue Ta : 25°C	(1) 118 V (2) 38.4 V (3) 111 V (1) 118 V (2) 42 V (3) 115 V	P
3	Input Capacitor Voltage	C5 Rated : 220u/450V 105°C 18*50 CXW	I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta : 25°C	(1) 424.25 V (2) 431.56 V (3) 432.21 V	P
4	Control IC Voltage Test	U900 Rated : L6599AD 8.85V~16V	I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on /Off (2) Min load Turn on /Off (3)Full Load /Min load Change Ta : 25°C	(1) 13.758 V (2) 13.725 V (3) 13.748 V	P
5	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q 1 Rated : STP26NM60N 20A/600V	I/P : High-Line +3V = 308 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C	(1) 588 V (2) 484 V (3) 570 V	P

SAFETY & E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P : 3.75KVAC/min I/P-FG : 1.88 KVAC/min O/P-FG : 0.5 KVAC/min	I/P-O/P : 4 KVAC/min I/P-FG : 2.256 KVAC/min O/P-FG : 0.6 KVAC/min Ta : 25°C	I/P-O/P : 2.469 mA I/P-FG : 1.997 mA O/P-FG : 1.648 mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P : 500VDC>100MΩ I/P-FG : 500VDC>100MΩ O/P-FG : 500VDC>100MΩ	I/P-O/P : 500 VDC I/P-FG : 500 VDC O/P-FG : 500 VDC Ta : 25°C/70%RH	I/P-O/P : 30 GΩ I/P-FG : 30 GΩ O/P-FG : 30 GΩ NO DAMAGE	P
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta : 25°C / 70%RH	20 mΩ	P

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	HARMONIC	EN61000-3-2 CLASS A CLASS C CLASS D	I/P:277Vac/240/230/220VAC/50HZ O/P:100/75/50%ELECTRONIC LOAD O/P:100%/50% LED LOAD Ta:25°C	PASS	P
2	CONDUCTION	EN55022; EN55015 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab	P
3	RADIATION	EN55022 ;EN55015 CLASS B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab	P
4	E.S.D	EN61000-4-2 INDUSTRY AIR : 8KV / Contact : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A	P
5	E.F.T	EN61000-4-4 INDUSTRY INPUT : 2KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A	P
6	SURGE	IEC61000-4-5 INDUSTRY L-N : 2KV L,N-PE : 4KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	CRITERIA A	P
7	Test by certified Lab & Test Report Prepare				

RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																																																																																																								
1	TEMPERATURE RISE TEST	MODEL : HLG-320H-24 1. ROOM AMBIENT BURN-IN : 13 HRS I/P : 230VAC O/P : FULL LOAD Ta=30.6 °C 2. HIGH AMBIENT BURN-IN : 16.5 HRS I/P : 230VAC O/P : FULL LOAD Ta=67.8 °C			P																																																																																																																								
		<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 5%;">NO</th> <th style="width: 10%;">Position</th> <th style="width: 35%;">P/N</th> <th style="width: 15%;">ROOM AMBIENT Ta= 30.6 °C</th> <th style="width: 15%;">HIGH AMBIENT Ta=67.8 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF1</td><td>TR889-R2</td><td>60.3°C</td><td>91.5°C</td></tr> <tr><td>2</td><td>L2</td><td>TR993</td><td>64.9°C</td><td>95.7°C</td></tr> <tr><td>3</td><td>C11</td><td>C/MPE 225/450V 10% P=15 MMX</td><td>66.8°C</td><td>97.7°C</td></tr> <tr><td>4</td><td>BD1</td><td>10A/800V SILICON US10KB80R</td><td>67.0°C</td><td>97.9°C</td></tr> <tr><td>5</td><td>Q1</td><td>STP26NM60N 20A/600V TO220</td><td>66.7°C</td><td>97.3°C</td></tr> <tr><td>6</td><td>C5</td><td>220u/450V 105°C 18*50 CXW</td><td>66.1°C</td><td>96.5°C</td></tr> <tr><td>7</td><td>L1</td><td>TF2295</td><td>68.5°C</td><td>98.5°C</td></tr> <tr><td>8</td><td>D2</td><td>BYT79X-600 15A/600V TO220F</td><td>67.7°C</td><td>98.5°C</td></tr> <tr><td>9</td><td>C13</td><td>C/MPP 473/1KV 5% P=15 R76</td><td>65.9°C</td><td>96.7°C</td></tr> <tr><td>10</td><td>C902</td><td>220u/35V UL8Kh 8*11.5 ZLH</td><td>65.5°C</td><td>96.4°C</td></tr> <tr><td>11</td><td>C40</td><td>220u/16V UL8Kh 6.3*11 ZLH</td><td>67.0°C</td><td>97.6°C</td></tr> <tr><td>12</td><td>D3</td><td>3A/600V 1N5406 DO-201 P=17.5(H)</td><td>70.7°C</td><td>100.9°C</td></tr> <tr><td>13</td><td>D41</td><td>1A/100V FR102 T-52mm</td><td>65.4°C</td><td>95.8°C</td></tr> <tr><td>14</td><td>C906</td><td>330u/50V UL10Kh 10*20 ZLJ</td><td>63.6°C</td><td>94.7°C</td></tr> <tr><td>15</td><td>C205</td><td>220u/16V UL8Kh 6.3*11 ZLH</td><td>64.7°C</td><td>96.2°C</td></tr> <tr><td>16</td><td>T1</td><td>TF2289</td><td>68.8°C</td><td>100.7°C</td></tr> <tr><td>17</td><td>C102</td><td>1000u/35V UL10Kh 12.5*25 KY</td><td>62.3°C</td><td>94.1°C</td></tr> <tr><td>18</td><td>C106</td><td>1000u/35V UL10Kh 12.5*25 KY</td><td>62.6°C</td><td>94.5°C</td></tr> <tr><td>19</td><td>Q101</td><td>AP96T07GP-HF 120A/75V TO220</td><td>65.2°C</td><td>96.5°C</td></tr> <tr><td>20</td><td>C104</td><td>1000u/35V UL10Kh 12.5*25 KY</td><td>61.6°C</td><td>93.2°C</td></tr> <tr><td>21</td><td>U900</td><td>L6599AD SO-16N</td><td>62.7°C</td><td>93.8°C</td></tr> <tr><td>22</td><td>RTH2</td><td>330KΩ 3Φ TTC3A334F4573EY 1%</td><td>62.4°C</td><td>93.8°C</td></tr> <tr><td>23</td><td>LF100</td><td>TR950</td><td>62.5°C</td><td>94.8°C</td></tr> </tbody> </table>	NO	Position		P/N	ROOM AMBIENT Ta= 30.6 °C	HIGH AMBIENT Ta=67.8 °C	1	LF1	TR889-R2	60.3°C	91.5°C	2	L2	TR993	64.9°C	95.7°C	3	C11	C/MPE 225/450V 10% P=15 MMX	66.8°C	97.7°C	4	BD1	10A/800V SILICON US10KB80R	67.0°C	97.9°C	5	Q1	STP26NM60N 20A/600V TO220	66.7°C	97.3°C	6	C5	220u/450V 105°C 18*50 CXW	66.1°C	96.5°C	7	L1	TF2295	68.5°C	98.5°C	8	D2	BYT79X-600 15A/600V TO220F	67.7°C	98.5°C	9	C13	C/MPP 473/1KV 5% P=15 R76	65.9°C	96.7°C	10	C902	220u/35V UL8Kh 8*11.5 ZLH	65.5°C	96.4°C	11	C40	220u/16V UL8Kh 6.3*11 ZLH	67.0°C	97.6°C	12	D3	3A/600V 1N5406 DO-201 P=17.5(H)	70.7°C	100.9°C	13	D41	1A/100V FR102 T-52mm	65.4°C	95.8°C	14	C906	330u/50V UL10Kh 10*20 ZLJ	63.6°C	94.7°C	15	C205	220u/16V UL8Kh 6.3*11 ZLH	64.7°C	96.2°C	16	T1	TF2289	68.8°C	100.7°C	17	C102	1000u/35V UL10Kh 12.5*25 KY	62.3°C	94.1°C	18	C106	1000u/35V UL10Kh 12.5*25 KY	62.6°C	94.5°C	19	Q101	AP96T07GP-HF 120A/75V TO220	65.2°C	96.5°C	20	C104	1000u/35V UL10Kh 12.5*25 KY	61.6°C	93.2°C	21	U900	L6599AD SO-16N	62.7°C	93.8°C	22	RTH2	330KΩ 3Φ TTC3A334F4573EY 1%	62.4°C	93.8°C	23	LF100	TR950	62.5°C	94.8°C		
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2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 305VAC/100VAC O/P : 100 % LOAD Ta= -40 °C	TEST : OK	P																																																																																																																								
3	HIGH HUMIDITY HIGH TEMPERATURE HIGH VOLTAGE TURN ON TEST	AFTER 12 HOURS IN CHAMBER ON CONTROL 60 °C NO DAMAGE	I/P : 305 VAC O/P : FULL LOAD Ta= 60 °C HUMIDITY= 95 %R.H	TEST : OK	P																																																																																																																								
4	TEMPERATURE COEFFICIENT	±0.03 %(0~50°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.003 %(0~50°C)	P																																																																																																																								

HB-320 series

5	STORAGE TEMPERATURE TEST	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 : 5 CYCLE 5. Input/Output condition : STATIC	OK	P
6	THERMAL SHOCK TEST	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 : 10 CYCLE 5. Input/Output condition : 230VAC/Full Load AC ON/OFF TEST turn on 58sec ; turn off 2sec	OK	P
7	VIBRATION TEST	1 Carton & 1 Set (1) Waveform : Sine Wave (2) Frequency : 10~500Hz (3) Sweep Time : 12min/sweep cycle (4) Acceleration : 5G (5) Test Time : 72min in each axis (X.Y.Z) (6) Ta : 25°C	TEST : OK	P
8	CAPACITOR LIFE CYCLE	HLG-320H-24:SUPPOSE C106 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	(1) 341842HRS (2) 43681HRS (3) 69939HRS	P
9	MTBF	MIL-HDBK-217F NOTICES2 PARTS COUNT TOTAL FAILURE RATE : 157.1KHRS		P
10	DMTBF/Accelerated Life Test	Demonstration Mean Time Between Failure(Expected Life) : 50,000 hours @ Tcase 70°C		P