



# Test Report: HVG-150-15

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150W Constant Voltage + Constant Current 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

■ DESIGN VERIFY TEST

**OUTPUT FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	RIPPLE & NOISE	V1 : 150 mVp-p (Max)	I/P : 347VAC O/P : FULL LOAD Ta : 25°C	V1 : 9.2 mVp-p (Max)
2	CONSTANT CURRENT REGION	8.25V~15 V	I/P: 230 VAC O/P:CV MODE Ta:25°C	O/P=8.25V : 10.237 A O/P=14V : 10.234 A
3	OUTPUT VOLTAGE ADJUST RANGE	CH1 : 13.5V ~ 17 V	I/P : 480 VAC I/P : 347 VAC O/P : MIN LOAD Ta : 25°C	13.052 V ~ 17.519 V / 480 VAC 13.045 V ~ 17.519 V / 347 VAC
4	OUTPUT CURRENT ADJUST RANGE	CH1 : 5.5A~10 A	I/P : 480 VAC I/P : 347 VAC O/P : CV MODE Ta : 25°C	5.020 A ~ 11.074 A / 480 VAC 5.023 A ~ 11.078 A / 347 VAC
5	OUTPUT VOLTAGE TOLERANCE	V1 : 2%~-2 % (Max)	I/P : 180 VAC / 480 VAC O/P : FULL/ MIN LOAD Ta : 25°C	V1 : 0.04 %~ -0.04 %
6	LINE REGULATION	V1 : 0.5 %~- 0.5% (Max)	I/P : 180 VAC ~ 480 VAC O/P : FULL LOAD Ta : 25°C	V1 : 0 %~ 0 %
7	LOAD REGULATION	V1 : 1.5 %~-1.5% (Max)	I/P : 347 VAC O/P : FULL -MIN LOAD Ta : 25°C	V1 : 0.04 %~ -0.04 %
8	SET UP TIME	480 VAC : 500 ms (Max) 347VAC : 500 ms(Max) 230VAC : 500 ms(Max)	I/P : 480 VAC I/P : 347 VAC I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	480 VAC/ 231 ms 347VAC/ 288 ms 230VAC/ 342 ms
9	RISE TIME	480 VAC : 80 ms (Max) 347VAC : 80 ms (Max) 230VAC : 80 ms (Max)	I/P : 480 VAC I/P : 347 VAC I/P : 230 VAC O/P : FULL LOAD Ta : 25°C	480 VAC/ 66 ms 347VAC/ 42 ms 230VAC/ 42 ms
10	HOLD UP TIME	480 VAC : 18 ms (TYP) 347VAC : 18 ms (TYP)	I/P : 480 VAC I/P : 347 VAC O/P : FULL LOAD Ta : 25°C	480 VAC/ 40 ms 347VAC/ 24 ms
11	OVER/UNDERSHOOT TEST	< ±5%	I/P : 347 VAC O/P : FULL LOAD Ta : 25°C	TEST : <5 %

12	DYNAMIC LOAD	V1 : 1500 mVp-p	I/P : 347 VAC (1).O/P : FULL /Min LOAD 90%DUTY/ 1KHZ (2).O/P : FULL /Min LOAD 90%DUTY/ 3KHZ (3).O/P : FULL /Min LOAD 90%DUTY/ 5KHZ (4).O/P : FULL /Min LOAD 50%DUTY/ 120HZ Ta : 25°C	(1)920 (2)788 (3)716 (4)892	mVp-p mVp-p mVp-p mVp-p
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13	<p>DIMMER TEST (B Type only) SPEC: ※Built-in 3 in 1 dimming function, IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistance or 0 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-. ※Please DO NOT connect "DIM-" to "-V". ※Reference resistance value for output current adjustment (Typical)</p> <table border="1"> <tr> <th>Resistance value</th> <th>Short</th> <th>10K</th> <th>20K</th> <th>30K</th> <th>40K</th> <th>50K</th> <th>60K</th> <th>70K</th> <th>80K</th> <th>90K</th> <th>100K</th> <th>OPEN</th> </tr> <tr> <td>Output current</td> <td>0%</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> <td>95%~108%</td> </tr> </table> <p>*1 ~ 10V dimming function for output current adjustment (Typical)</p> <table border="1"> <tr> <th>Dimming value</th> <th>Short</th> <th>1V</th> <th>2V</th> <th>3V</th> <th>4V</th> <th>5V</th> <th>6V</th> <th>7V</th> <th>8V</th> <th>9V</th> <th>10V</th> <th>OPEN</th> </tr> <tr> <td>Output current</td> <td>0%</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> <td>95%~108%</td> </tr> </table> <p>*10V PWM signal for output current adjustment (Typical) : Frequency range :100Hz ~ 3KHz</p> <table border="1"> <tr> <th>Duty value</th> <th>Short</th> <th>10%</th> <th>20%</th> <th>30%</th> <th>40%</th> <th>50%</th> <th>60%</th> <th>70%</th> <th>80%</th> <th>90%</th> <th>100%</th> <th>OPEN</th> </tr> <tr> <td>Output current</td> <td>0%</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> <td>95%~108%</td> </tr> </table> <p>TEST RESULT: I/P : 230 VAC ;Ta : 25°C</p> <table border="1"> <tr> <td rowspan="3">1</td> <th>Resistance value</th> <th>SHORT</th> <th>10K</th> <th>20K</th> <th>30K</th> <th>40K</th> <th>50K</th> <th>60K</th> <th>70K</th> <th>80K</th> <th>90K</th> <th>100K</th> <th>OPEN</th> </tr> <tr> <th>Output current</th> <td>0.000A</td> <td>0.990A</td> <td>1.980A</td> <td>3.000A</td> <td>4.020A</td> <td>5.110A</td> <td>6.110A</td> <td>7.030A</td> <td>8.040A</td> <td>9.150A</td> <td>10.160A</td> <td>10.389A</td> </tr> <tr> <th>%</th> <td>0.00%</td> <td>9.90%</td> <td>19.80%</td> <td>30.00%</td> <td>40.20%</td> <td>51.10%</td> <td>61.10%</td> <td>70.30%</td> <td>80.40%</td> <td>91.50%</td> <td>101.60%</td> <td>103.89%</td> </tr> <tr> <td rowspan="3">2</td> <th>Dimming value</th> <th>SHORT</th> <th>1V</th> <th>2V</th> <th>3V</th> <th>4V</th> <th>5V</th> <th>6V</th> <th>7V</th> <th>8V</th> <th>9V</th> <th>10V</th> <th>OPEN</th> </tr> <tr> <th>Output current</th> <td>0.000A</td> <td>0.950A</td> <td>1.960A</td> <td>2.970A</td> <td>4.000A</td> <td>5.000A</td> <td>6.010A</td> <td>7.020A</td> <td>8.030A</td> <td>9.030A</td> <td>10.050A</td> <td>10.389A</td> </tr> <tr> <th>%</th> <td>0.00%</td> <td>9.50%</td> <td>19.60%</td> <td>29.70%</td> <td>40.00%</td> <td>50.00%</td> <td>60.10%</td> <td>70.20%</td> <td>80.30%</td> <td>90.30%</td> <td>100.50%</td> <td>103.89%</td> </tr> <tr> <td rowspan="3">3</td> <th>Duty value</th> <th>SHORT</th> <th>10%</th> <th>20%</th> <th>30%</th> <th>40%</th> <th>50%</th> <th>60%</th> <th>70%</th> <th>80%</th> <th>90%</th> <th>100%</th> <th>OPEN</th> </tr> <tr> <th>Output current</th> <td>0.000A</td> <td>1.280A</td> <td>2.250A</td> <td>3.220A</td> <td>4.200A</td> <td>5.180A</td> <td>6.160A</td> <td>7.140A</td> <td>8.120A</td> <td>9.100A</td> <td>10.070A</td> <td>10.389A</td> </tr> <tr> <th>%</th> <td>0.00%</td> <td>12.80%</td> <td>22.50%</td> <td>32.20%</td> <td>42.00%</td> <td>51.80%</td> <td>61.60%</td> <td>71.40%</td> <td>81.20%</td> <td>91.00%</td> <td>100.70%</td> <td>103.89%</td> </tr> </table>												Resistance value	Short	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	OPEN	Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%	Dimming value	Short	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN	Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%	Duty value	Short	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN	Output current	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	95%~108%	1	Resistance value	SHORT	10K	20K	30K	40K	50K	60K	70K	80K	90K	100K	OPEN	Output current	0.000A	0.990A	1.980A	3.000A	4.020A	5.110A	6.110A	7.030A	8.040A	9.150A	10.160A	10.389A	%	0.00%	9.90%	19.80%	30.00%	40.20%	51.10%	61.10%	70.30%	80.40%	91.50%	101.60%	103.89%	2	Dimming value	SHORT	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN	Output current	0.000A	0.950A	1.960A	2.970A	4.000A	5.000A	6.010A	7.020A	8.030A	9.030A	10.050A	10.389A	%	0.00%	9.50%	19.60%	29.70%	40.00%	50.00%	60.10%	70.20%	80.30%	90.30%	100.50%	103.89%	3	Duty value	SHORT	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN	Output current	0.000A	1.280A	2.250A	3.220A	4.200A	5.180A	6.160A	7.140A	8.120A	9.100A	10.070A	10.389A	%	0.00%	12.80%	22.50%	32.20%	42.00%	51.80%	61.60%	71.40%	81.20%	91.00%	100.70%	103.89%
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INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
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1	INPUT VOLTAGE RANGE	180VAC-480 VAC	I/P : TESTING O/P : FULL LOAD Ta : 25°C	170 V-528V  TEST : OK
			I/P : LOW-LINE-3V=177V HIGH-LINE+3V=531 V O/P : FULL/MIN LOAD ON : 30 Sec . OFF : 30 Sec 10MIN ( AC POWER ON/OFF NO DAMAGE )	
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P : 180VAC ~ 480 VAC O/P : FULL -MIN LOAD Ta : 25°C	TEST : OK
3	POWER FACTOR	0.98 / 230 VAC(TYP)	I/P : 230VAC	PF= 0.995 / 230 VAC
		0.97 / 277VAC(TYP)	I/P : 277VAC	PF= 0.992 / 277 VAC
		0.95 /347 VAC(TYP)	I/P : 347VAC	PF= 0.983 / 347VAC
		0.93 / 480 VAC(TYP)	I/P : 480VAC O/P : FULL LOAD Ta : 25°C	PF= 0.955 / 480VAC
4	EFFICIENCY	89 % (TYP)	I/P : 347 VAC O/P : FULL LOAD Ta : 25°C	89.99 %
5	INPUT CURRENT	347V/ 0.5 A (TYP)	I/P : 347 VAC	I = 0.49 A/ 347 VAC
		480V/ 0.38 A (TYP)	I/P : 480 VAC O/P : FULL LOAD Ta : 25°C	I = 0.37 A/ 480 VAC
6	INRUSH CURRENT	480V/ 35 A (TYP) (twidth=790 us measured at 50% Ipeak) COLD START	I/P : 480VAC O/P : FULL LOAD Ta : 25°C	I = 25 A/ 480VAC T50= 789 us
7	LEAKAGE CURRENT	< 0.75 mA / 480 VAC	I/P : 480 VAC O/P : Min LOAD Ta : 25°C	L-FG : 0.36 mA N-FG : 0.36 mA
8	TOTAL HARMONIC DISTORTION	Total harmonic distortion will be lower than 20% when output loading is 50% or higher at 230VAC / 277VAC / 347VAC	I/P : 230VAC I/P : 277VAC I/P : 347VAC O/P : 50% LOAD Ta : 25°C	THD : 5.29 THD : 5.14 THD : 7.43
		Total harmonic distortion will be lower than 20% when output loading is 75% or higher at 480VAC	I/P : 480VAC O/P : 75% LOAD Ta : 25°C	THD : 14.42

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER CURRENT	95% - 108%	I/P : 480 VAC I/P : 347 VAC O/P : TESTING Ta : 25°C	102%/ 480 VAC 102%/ 347 VAC Constant current limiting, recovers automatically after fault condition is removed
2	OVER VOLTAGE PROTECTION	CH1 : 18 V ~ 21 V	I/P : 480 VAC I/P : 347 VAC O/P : MIN LOAD Ta : 25°C	19.784V/ 480VAC 19.805V/ 347 VAC Shut down o/p voltage with auto-recovery or re-power on to recovery
3	OVER TEMPERATURE PROTECTION	SPEC : NO DAMAGE	I/P : 347 VAC O/P : FULL LOAD	O.T.P. Active  Shut down o/p voltage, recovers automatically after temperature goes down
4	SHORT PROTECTION	NO DAMAGE	I/P : 528VAC O/P : FULL LOAD Ta : 25°C	NO DAMAGE Constant current limiting, recovers automatically after fault condition is removed

**COMPONENT STRESS TEST**

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	Power Transistor (D to S) or (C to E) Peak Voltage	Q3 Rated : 7A/950V	I/P : High-Line +3V = 531 V O/P : (1) Full Load Turn on (2) Output Short (3) Full load continue Ta : 25°C	(1) 780 V (2) 336 V (3) 744 V
2	Diode Peak Voltage	Q101 Rated : 79A/60V	I/P : High-Line +3V = 531 V O/P : (1) Full Load Turn on (2) Output Short (3) Full load continue Ta : 25°C	(1) 53.6 V (2) 59 V (3) 52 V
3	Input Capacitor Voltage	C5 Rated : 56u/450V	I/P : High-Line +3V = 531 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 V (2) 428 V (3) 444 V
4	Control IC Voltage Test	U1 Rated : 10.3V~22.5V  U2 Rated : 11V~28V	I/P : High-Line +3V = 531 V O/P : (1) Full Load Turn on /Off (2) Min load Turn on /Off (3) Full Load /Min load Change (4) Full Load Turn on /Off (5) Min load Turn on /Off (6) Full Load /Min load Ta : 25°C	(1) 18 V (2) 17.8 V (3) 18.4 V  (4) 16.2 (5) 16 (6) 16.2

5	Power Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated : 7A/950V	I/P : High-Line +3V = 531 V O/P : (1)Full Load Turn on (2) Output Short (3)Full load continue Ta : 25°C	(1) 892 V (2) 816 V (3) 844 V
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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 : 3.75 KVAC/min I/P-FG : 2 KVAC/min O/P-FG : 1.5 KVAC/min	I/P-O/P : 4 KVAC/min I/P-FG : 2.4 KVAC/min O/P-FG : 1.8 KVAC/min Ta : 25°C	I/P-O/P : 3.77 mA I/P-FG : 2.617 mA O/P-FG : 3.44 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 : 500 VDC I/P-FG : 500 VDC O/P-FG : 500 VDC Ta : 25°C/70%RH	I/P-O/P : 6.05 GΩ I/P-FG : 4.78 GΩ O/P-FG : 7.59 GΩ NO DAMAGE
3	GROUNDING CONTINUITY	FG(PE) TO CHASSIS OR TRACE < 100 mΩ	40 A / 2min Ta : 25°C / 70%RH	15 mΩ

### E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	EN61000-3-2 CLASS C	I/P: 347V/230VAC/60HZ O/P:100%ELECTRONIC LOAD O/P:100% LED LOAD Ta:25°C	PASS
2	CONDUCTION	EN55015 CLASS B	I/P: 230/347VAC (50HZ) O/P:FULL/50% LOAD Ta:25°C	PASS Test by certified Lab
3	RADIATION	EN55015 CLASS B	I/P: 230/347 VAC (50HZ) O/P:FULL LOAD Ta:25°C	PASS Test by certified Lab
4	E.S.D	EN61000-4-2 LIGHT INDUSTRY AIR:8KV / Contact:4KV	I/P:230/347 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A
5	E.F.T	EN61000-4-4 LIGHT INDUSTRY INPUT : 1KV	I/P: 230/347 VAC/50HZ O/P:FULL LOAD Ta:25°C	CRITERIA A
6	SURGE	IEC61000-4-5 INDUSTRY L-N :2KV L,N-PE:4KV	I/P: 230/347 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 : HVG-150-15 1. ROOM AMBIENT BURN-IN : 13 HRS I/P : 347VAC O/P : FULL LOAD Ta= 28.4 °C 2. HIGH AMBIENT BURN-IN : 3 HRS I/P : 347VAC O/P : FULL LOAD Ta=60.8 °C	<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta=28.4 °C</th> <th>HIGH AMBIENT Ta=60.8 °C</th> </tr> </thead> <tbody> <tr><td>1</td><td>LF2</td><td>57.8°C</td><td>83.7°C</td></tr> <tr><td>2</td><td>BD1</td><td>60.3°C</td><td>85.9°C</td></tr> <tr><td>3</td><td>L2</td><td>67.3°C</td><td>93.5°C</td></tr> <tr><td>4</td><td>C48</td><td>61.1°C</td><td>86.7°C</td></tr> <tr><td>5</td><td>C46</td><td>60.1°C</td><td>85.7°C</td></tr> <tr><td>6</td><td>C15</td><td>65.1°C</td><td>90.7°C</td></tr> <tr><td>7</td><td>Q1</td><td>65.0°C</td><td>90.7°C</td></tr> <tr><td>8</td><td>C5</td><td>66.8°C</td><td>91.2°C</td></tr> <tr><td>9</td><td>Q4</td><td>69.7°C</td><td>95.2°C</td></tr> <tr><td>10</td><td>C62</td><td>64.3°C</td><td>88.8°C</td></tr> <tr><td>11</td><td>RTH2</td><td>64.0°C</td><td>88.5°C</td></tr> <tr><td>12</td><td>T1</td><td>75.7°C</td><td>100.3°C</td></tr> <tr><td>13</td><td>C203</td><td>71.2°C</td><td>96.5°C</td></tr> <tr><td>14</td><td>Q101</td><td>75.2°C</td><td>100.5°C</td></tr> <tr><td>15</td><td>C104</td><td>68.4°C</td><td>93.8°C</td></tr> <tr><td>16</td><td>C105</td><td>65.2°C</td><td>91.1°C</td></tr> <tr><td>17</td><td>C106</td><td>64.8°C</td><td>90.5°C</td></tr> <tr><td>18</td><td>U2</td><td>64.8°C</td><td>88.6°C</td></tr> </tbody> </table>	NO	Position	ROOM AMBIENT Ta=28.4 °C	HIGH AMBIENT Ta=60.8 °C	1	LF2	57.8°C	83.7°C	2	BD1	60.3°C	85.9°C	3	L2	67.3°C	93.5°C	4	C48	61.1°C	86.7°C	5	C46	60.1°C	85.7°C	6	C15	65.1°C	90.7°C	7	Q1	65.0°C	90.7°C	8	C5	66.8°C	91.2°C	9	Q4	69.7°C	95.2°C	10	C62	64.3°C	88.8°C	11	RTH2	64.0°C	88.5°C	12	T1	75.7°C	100.3°C	13	C203	71.2°C	96.5°C	14	Q101	75.2°C	100.5°C	15	C104	68.4°C	93.8°C	16	C105	65.2°C	91.1°C	17	C106	64.8°C	90.5°C	18	U2	64.8°C	88.6°C	
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR ( MIN )	I/P : 347 VAC O/P : 104 % LOAD Ta : 25°C	TEST : OK																																																																												
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 528VAC/200VAC 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 50°C NO DAMAGE	I/P : 528 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK																																																																												
5	TEMPERATURE COEFFICIENT	± 0.03%(0-50°C)	I/P : 347 VAC O/P : FULL LOAD	± 0.003 % (0-50°C)																																																																												
6	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																																																																												



7	THERMAL SHOCK TEST	1. Thermal shock Temperature : -45°C~ +55°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 : 347VAC/Full Load AC ON/OFF TEST turn on 58sec ; turn off 2sec	OK
8	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
9	CAPACITOR LIFE CYCLE	HVG-150-15:SUPPOSE C104 IS THE MOST CRITICAL COMPONENT (1) I/P : 347VAC O/P : FULL LOAD Tc= 75 °C LIFE TIME (2) I/P : 347VAC O/P : FULL LOAD Tc= 75 °C LIFE TIME (3) I/P : 347VAC O/P : 75% LOAD Tc= 75 °C LIFE TIME	(1) 52102HRS (2) 60828HRS (3) 70590 HRS
10	MTBF	Conducted by Parts Stress Analysis Prediction 158.6K 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	DANIEL GAO	SANFORD SU	VINCENT TSENG

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