



Test Report: LOP-200-36

200W 4"×2" Low Profile Open Frame 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: 34.2V~37.8V	I/P : 230 VAC I/P : 115 VAC O/P : MIN LOAD Ta : 25°C	32.808V~39.025V/230VAC 32.808V~39.023V/115VAC
2	OUTPUT VOLTAGE TOLERANCE	V1: -1% ~ +1%	I/P: 80VAC~ 264VAC O/P:FULL~ MIN. LOAD Ta:25°C	V1: -0.0111 % ~0.0111 %
3	LINE REGULATION	V1: -0.5% ~ +0.5%	I/P: 80VAC~ 264VAC O/P:FULL LOAD Ta:25°C	V1: 0 % ~0.0111 %
4	LOAD REGULATION	V1: -1% ~ +1%	I/P: 230VAC O/P:FULL ~MIN LOAD Ta:25°C	V1: -0.0111 % ~0.00553 %
5	OVER/UNDERSHOOT TEST	<±5%	I/P: 230VAC O/P:FULL LOAD Ta:25°C	2.30 %
6	RIPPLE & NOISE (Max)	V1: 250mVp-p	I/P:230VAC O/P: FULL LOAD Ta:25°C	V1: 63mVp-p / high frequency 108mVp-p / low frequency
		high frequency :	low frequency :	
7	SET UP TIME(Max)	230VAC/1000ms 115VAC/1500ms	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	230VAC/ 432.0ms 115VAC/ 399.2ms
		INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage	INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage CH3: AC Input Voltage	

	<p>8 RISE TIME (Max)</p> <p>230VAC/30ms 115VAC/30ms</p>	<p>I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C</p>	<p>230VAC/ 5.41ms 115VAC/ 5.34ms</p>
<p>INPUT=230VAC/50HZ @ FULL LOAD CH1: Output Voltage</p>		<p>INPUT=115VAC/60HZ @ FULL LOAD CH1: Output Voltage</p>	
	<p>9 HOLD UP TIME (Typ.)</p> <p>16ms /140W load 8ms /200W load</p>	<p>I/P : 230 VAC O/P : TESTING Ta : 25°C</p>	<p>28.8ms /180W load 20.4ms /300W load</p>
<p>INPUT=230VAC/50HZ @ 180W load CH1: Output Voltage CH3: AC Input Voltage</p>		<p>INPUT=230VAC/50HZ @ 300W load CH1: Output Voltage CH3: AC Input Voltage</p>	
	<p>10 DYNAMIC LOAD</p> <p>V1: 3600mVp-p</p>	<p>I/P: 230VAC O/P: (1) FULL/0% LOAD 50%DUTY / 120HZ (2) FULL/0% LOAD 50%DUTY / 1KHZ Ta:25°C</p>	<p>730mVp-p 510mVp-p</p>
<p>FULL /50% LOAD 50%DUTY / 120HZ</p>		<p>FULL /50% LOAD 50%DUTY / 1KHZ</p>	

<p>11 TRANSIENT RECOVERY TIME</p>	<p>V1: 360mVp-p < 500us</p>	<p>I/P: 230VAC O/P:40% LOAD CHANGE 50%DUTY/120HZ 1.25A/us</p>	<p>318mVp-p 0us</p>
<p>12 PEAK LOAD</p>	<p>150% PEAK LOAD@3S</p>	<p>I/P: 264VAC I/P: 115VAC O/P: PEAK LOAD</p>	<p>TEST : OK</p>

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	80VAC~264VAC 113VDC~ 370VDC 	(1) I/P: TESTING O/P: FULL / 70% LOAD (2) I/P: DC TESTING (L: + N: -) O/P: FULL / 70% LOAD (3) I/P: DC TESTING (L: - N: +) O/P: FULL / 70% LOAD Ta:25°C I/P: HIGH-LINE+15%=300V O/P:FULL/MIN LOAD (PLEASE CHECK DERATING CURVE) ON: 30 Sec OFF: 30 Sec 10MIN (POWER ON/OFF NO DAMAGE)	(1) 76.3V~264V/ FULL LOAD 76.0V~264V/ 70% LOAD (2) 107Vdc~370Vdc/FULL LOAD 107Vdc~370Vdc/70% LOAD (3) 107Vdc~370Vdc/FULL LOAD 107Vdc~370Vdc/70% LOAD TEST : OK
2	INPUT FREQUENCY RANGE	47HZ ~63 HZ NO DAMAGE	I/P:80 VAC ~264 VAC O/P:FULL~MIN LOAD Ta:25°C	TEST : OK
3	INPUT CURRENT (Typ.)	230V/ 1A 115V/ 2.2A	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =0.927A/ 230VAC I =1.9123A/ 115VAC
4	LEAKAGE CURRENT	Earth leakage current < 500uA(rms) @ 264VAC Touch current < 70uA(rms) @ 264VAC	I/P : 264 VAC O/P : Min LOAD Ta : 25°C	Earth: 269.3uA / 264VAC Touch:40.2uA / 264VAC
5	NO LOAD CONSUMPTION	<0.5W	I/P : 230VAC I/P : 115VAC O/P : NO LOAD	0.299W/ 230VAC 0.232W/ 115VAC



			Ta : 25°C																																		
6	POWER FACTOR (Typ.)	0.95/ 230VAC 0.98/115VAC	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	PF=0.9985/230VAC PF=0.9977/115VAC																																	
<p>P.F vs LOAD</p> <table border="1"> <caption>P.F vs LOAD Data</caption> <thead> <tr> <th>LOAD (%)</th> <th>115VAC PF</th> <th>230VAC PF</th> </tr> </thead> <tbody> <tr><td>10%</td><td>1.0</td><td>0.8</td></tr> <tr><td>20%</td><td>1.0</td><td>0.98</td></tr> <tr><td>30%</td><td>1.0</td><td>0.99</td></tr> <tr><td>40%</td><td>1.0</td><td>0.99</td></tr> <tr><td>50%</td><td>1.0</td><td>0.99</td></tr> <tr><td>60%</td><td>1.0</td><td>0.99</td></tr> <tr><td>70%</td><td>1.0</td><td>0.99</td></tr> <tr><td>80%</td><td>1.0</td><td>0.99</td></tr> <tr><td>90%</td><td>1.0</td><td>0.99</td></tr> <tr><td>100%</td><td>1.0</td><td>0.99</td></tr> </tbody> </table>					LOAD (%)	115VAC PF	230VAC PF	10%	1.0	0.8	20%	1.0	0.98	30%	1.0	0.99	40%	1.0	0.99	50%	1.0	0.99	60%	1.0	0.99	70%	1.0	0.99	80%	1.0	0.99	90%	1.0	0.99	100%	1.0	0.99
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7	EFFICIENCY(Typ.)	94%	I/P:230 VAC O/P:FULL LOAD Ta:25°C	94.7 %																																	
<p>EFFICIENCY vs LOAD</p> <table border="1"> <caption>EFFICIENCY vs LOAD Data</caption> <thead> <tr> <th>LOAD (%)</th> <th>115VAC Efficiency (%)</th> <th>230VAC Efficiency (%)</th> </tr> </thead> <tbody> <tr><td>10%</td><td>85</td><td>87</td></tr> <tr><td>20%</td><td>90</td><td>90</td></tr> <tr><td>30%</td><td>91</td><td>92</td></tr> <tr><td>40%</td><td>91.5</td><td>93</td></tr> <tr><td>50%</td><td>92</td><td>93.5</td></tr> <tr><td>60%</td><td>92.5</td><td>94</td></tr> <tr><td>70%</td><td>92.5</td><td>94.2</td></tr> <tr><td>80%</td><td>92.5</td><td>94.3</td></tr> <tr><td>90%</td><td>92.8</td><td>94.4</td></tr> <tr><td>100%</td><td>93</td><td>94.7</td></tr> </tbody> </table>					LOAD (%)	115VAC Efficiency (%)	230VAC Efficiency (%)	10%	85	87	20%	90	90	30%	91	92	40%	91.5	93	50%	92	93.5	60%	92.5	94	70%	92.5	94.2	80%	92.5	94.3	90%	92.8	94.4	100%	93	94.7
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100%	93	94.7																																			
8	INRUSH CURRENT(Typ.)	230V/80A 115V/40A COLD START	I/P : 230 VAC I/P : 115 VAC O/P : FULL LOAD Ta : 25°C	I =54.7A/ 230VAC I =23.1A/ 115VAC T50=470 us/230V																																	
INPUT=230VAC/50HZ @ FULL LOAD CH1: AC Input Voltage CH4: Input current		INPUT=115VAC/ 60HZ @ FULL LOAD CH1: AC Input Voltage CH4: Input current																																			



PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	OVER LOAD PROTECTION	105 ~ 150% rated output power, PROTECTION TYPE : Hiccup after 3 sec, recovers automatically(3 sec) after fault condition is removed.	I/P: 264VAC I/P: 230VAC I/P: 115VAC O/P:TESTING Ta:25°C	139.49%/ 264VAC 139.32%/ 230VAC 139.29%/ 115VAC PROTECTION TYPE : Hiccup after 3 sec, recovers automatically(3 sec) after fault condition is removed.
2	OVER VOLTAGE PROTECTION	39.6V~46.8V Protection type : Shut down o/p voltage, re-power on to recover	I/P: 264VAC I/P: 80VAC O/P:MIN LOAD Ta:25°C	42.20V/ 264VAC 42.20V/ 80VAC Protection type : Shut down o/p voltage, re-power on to recover
3	OVER TEMPERATURE PROTECTION	Protection type : Shut down o/p voltage, recovers automatically after temperature goes down	I/P: 264VAC I/P: 80VAC O/P:FULL LOAD	O.T.P Active Protection type : Shut down o/p voltage, recovers automatically after temperature goes down
4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE Protection type : Hiccup mode, recovers automatically after fault condition is removed	I/P: 264VAC I/P: 80VAC O/P: FULL LOAD Ta:25°C	NO DAMAGE PROTECTION TYPE : Hiccup mode, recovers automatically after fault condition is removed

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	EXTERNAL FAN SUPPLY	12V@0.5A for driving a fan / 12V@0.1A without fan ; (10.98CFM) tolerance -15% ~+15% at main output 20% rated current.	I/P: 230 VAC O/P: TESTING Ta:25°C	TEST : -0.1824%~ 0.2073%

COMPONENT STRESS TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	
1	PWM Transistor (D to S) or (C to E) Peak Voltage	Q5/ Q6 Rated: 18A/600V	AC ON/OFF I/P: High-Line +3V =267V 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 (8) Peak Load Ta:25°C	Q5: VDS: (1) 467V (2) 479V (3) 467V (4) 463V (5) 463V (6) 463V (7) 467V (8) 471V	Q6: VDS: (1) 467V (2) 507V (3) 467V (4) 467V (5) 467V (6) 467V (7) 483V (8) 467V
2	P.F.C Transistor (D to S) or (C to E) Peak Voltage	Q1 Rated: 18A/600V	AC ON/OFF I/P: High-Line +3V =267V 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 (8) Peak Load Ta:25°C	VDS: (1) 491V (2) 439V (3) 499V (4) 487V (5) 491V (6) 483V (7) 427V (8) 499V	
3	P.F.C DIODE	D1 Rated: 8A/ 600V	I/P: High-Line +3V =267 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 (5) Peak Load Ta:25°C	(1) 447V (2) 435V (3) 443V (4) 447V (5) 447V	

4	Diode Peak Voltage	<p>Q100/Q101 Rated: 90A/100V</p>	<p>AC ON/OFF I/P: High-Line +3V =267 V Vo=Vomax 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) burst Mode 脫離前 (10) Peak Load</p> <p>Vo=Vnormal O/P: (1) Full Load Ta:25°C</p>	<p>Q100: Vo=Vomax VDS: (1) 88.8V (2) 88.8V (3) 86.4V (4) 86.2V (5) 86.8V (6) 86.6V (7) 87.6V (8) 86.0V (9) 86.0V (10) 86.2V Vo=Vnormal (1) 83.6V</p>	<p>Q101: Vo=Vomax VDS: (1) 85.0V (2) 89.2V (3) 85.6V (4) 85.0V (5) 85.0V (6) 86.6V (7) 85.2V (8) 84.6V (9) 84.6V (10) 85.6V Vo=Vnormal (1) 83.8V</p>
5	Input Capacitor Voltage	<p>C5 Rated: 100μ / 420V</p>	<p>I/P: High-Line +3V =267V 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</p>	<p>(1) 405V (2) 399V (3) 405V (4) 405V (5) 405V (6) 405V</p>	
6	Control IC Voltage Test	<p>PFC /PWM IC U1: Rated : 18.2V~ 28.7V</p> <p>O/P IC U101 Rated : 4.75V~38V</p>	<p>AC ON/OFF I/P: High-Line +3V =267 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</p>	<p>U1 (1) 26.7V (2) 19.1V (3) 19.1V (4) 26.4V (5) 19.3V</p>	<p>U101 (1) 20.1V (2) 8.40V (3) 20.5V (4) 21.9V (5) 15.3V</p>

■ SAFETY& E.M.C. TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC/min I/P-FG :2KVAC/min O/P-FG:1.5KVAC/min	I/P-O/P: 4.4 KVAC/min I/P-FG: 2.4 KVAC/min O/P-FG:1.8 KVAC/min Ta:25°C	I/P-O/P:1.86mA I/P-FG:2.62mA O/P-FG:1.259mA 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:50GΩ I/P-FG:50GΩ O/P-FG:50GΩ NO DAMAGE

E.M.C TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT
1	HARMONIC	BS EN/EN61000-3-2 CLASS A	I/P:230VAC/50HZ O/P:FULL LOAD Ta:25°C	PASS
2	CONDUCTION	BS EN/EN55032(CISPR32) BS EN/EN55011(CISPR11) Class I: Class B, Class II: Class A BS EN/EN55014(CISPR32) Class I: Class B	I/P : 230 VAC (50HZ) O/P : FULL/50% LOAD Ta : 25°C	PASS Test by certified Lab
3	RADIATION	BS EN/EN55032(CISPR32) BS EN/EN55011(CISPR11) Class I: Class B, Class II: Class A BS EN/EN55014(CISPR32) Class I: Class B	I/P : 230 VAC (50HZ) O/P : FULL LOAD Ta : 25°C	PASS Test by certified Lab
4	E.S.D	BS EN/EN61000-4-2 ■ MEDICAL AIR : 15KV / Contact : 8KV	I/P : 230 VAC/50HZ O/P : FULL LOAD Ta : 25°C	■ CRITERIA A
5	E.F.T	BS EN/EN61000-4-4 ■ INDUSTRY INPUT : 2KV	I/P : 230 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 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 : LOP-200-27 1. ROOM AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 28.5 °C 2. HIGH AMBIENT BURN-IN : 2 HRS I/P : 230VAC O/P : FULL LOAD Ta= 50.4 °C																																																																																																																																										
				<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>ROOM AMBIENT Ta= 28.5°C</th> <th>HIGH AMBIENT Ta=50.4°C</th> </tr> </thead> <tbody> <tr><td>1</td><td>D1</td><td>44.4°C</td><td>67.0°C</td></tr> <tr><td>2</td><td>Q1</td><td>39.5°C</td><td>63.0°C</td></tr> <tr><td>3</td><td>BD1</td><td>40.9°C</td><td>64.1°C</td></tr> <tr><td>4</td><td>L2</td><td>34.6°C</td><td>57.8°C</td></tr> <tr><td>5</td><td>LF2</td><td>36.7°C</td><td>59.4°C</td></tr> <tr><td>6</td><td>C10</td><td>34.3°C</td><td>56.8°C</td></tr> <tr><td>7</td><td>C5</td><td>33.3°C</td><td>55.0°C</td></tr> <tr><td>8</td><td>C15</td><td>34.7°C</td><td>57.4°C</td></tr> <tr><td>9</td><td>RTH2</td><td>36.4°C</td><td>59.3°C</td></tr> <tr><td>10</td><td>U1</td><td>40.5°C</td><td>62.4°C</td></tr> <tr><td>11</td><td>C106</td><td>31.9°C</td><td>54.5°C</td></tr> <tr><td>12</td><td>C105</td><td>34.6°C</td><td>57.3°C</td></tr> <tr><td>13</td><td>L100</td><td>36.8°C</td><td>59.9°C</td></tr> <tr><td>14</td><td>C110</td><td>33.2°C</td><td>56.2°C</td></tr> <tr><td>15</td><td>L1</td><td>43.0°C</td><td>66.3°C</td></tr> <tr><td>16</td><td>D41</td><td>34.2°C</td><td>56.1°C</td></tr> <tr><td>17</td><td>R4</td><td>37.3°C</td><td>59.7°C</td></tr> <tr><td>18</td><td>D31</td><td>34.3°C</td><td>57.2°C</td></tr> <tr><td>19</td><td>Q6</td><td>37.2°C</td><td>60.3°C</td></tr> <tr><td>20</td><td>Q5</td><td>40.0°C</td><td>63.3°C</td></tr> <tr><td>21</td><td>U4</td><td>31.2°C</td><td>54.4°C</td></tr> <tr><td>22</td><td>R100</td><td>57.3°C</td><td>67.5°C</td></tr> <tr><td>23</td><td>Q100</td><td>43.6°C</td><td>66.9°C</td></tr> <tr><td>24</td><td>U101</td><td>46.9°C</td><td>69.1°C</td></tr> <tr><td>25</td><td>Q101</td><td>45.1°C</td><td>66.4°C</td></tr> <tr><td>26</td><td>T1 coil</td><td>44.1°C</td><td>67.5°C</td></tr> <tr><td>27</td><td>T1 core</td><td>38.0°C</td><td>60.7°C</td></tr> <tr><td>28</td><td>RTH1</td><td>43.7°C</td><td>59.1°C</td></tr> <tr><td>29</td><td>ZNR1</td><td>34.1°C</td><td>55.8°C</td></tr> <tr><td>30</td><td>LF1</td><td>37.7°C</td><td>59.0°C</td></tr> <tr><td>31</td><td>C1</td><td>34.2°C</td><td>56.6°C</td></tr> <tr><td>32</td><td>C50</td><td>32.9°C</td><td>55.1°C</td></tr> <tr><td>33</td><td>D151</td><td>40.9°C</td><td>63.7°C</td></tr> </tbody> </table>	NO	Position	ROOM AMBIENT Ta= 28.5°C	HIGH AMBIENT Ta=50.4°C	1	D1	44.4°C	67.0°C	2	Q1	39.5°C	63.0°C	3	BD1	40.9°C	64.1°C	4	L2	34.6°C	57.8°C	5	LF2	36.7°C	59.4°C	6	C10	34.3°C	56.8°C	7	C5	33.3°C	55.0°C	8	C15	34.7°C	57.4°C	9	RTH2	36.4°C	59.3°C	10	U1	40.5°C	62.4°C	11	C106	31.9°C	54.5°C	12	C105	34.6°C	57.3°C	13	L100	36.8°C	59.9°C	14	C110	33.2°C	56.2°C	15	L1	43.0°C	66.3°C	16	D41	34.2°C	56.1°C	17	R4	37.3°C	59.7°C	18	D31	34.3°C	57.2°C	19	Q6	37.2°C	60.3°C	20	Q5	40.0°C	63.3°C	21	U4	31.2°C	54.4°C	22	R100	57.3°C	67.5°C	23	Q100	43.6°C	66.9°C	24	U101	46.9°C	69.1°C	25	Q101	45.1°C	66.4°C	26	T1 coil	44.1°C	67.5°C	27	T1 core	38.0°C	60.7°C	28	RTH1	43.7°C	59.1°C	29	ZNR1	34.1°C	55.8°C	30	LF1	37.7°C	59.0°C	31	C1	34.2°C	56.6°C	32	C50	32.9°C	55.1°C	33	D151	40.9°C	63.7°C
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2	OVER LOAD BURN-IN TEST	NO DAMAGE 1 HOUR (MIN)	I/P : 230 VAC O/P : 141.33% LOAD Ta : 25°C	TEST : OK
3	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOUR	I/P : 264VAC/100VAC O/P : 100 % LOAD Ta= -35 °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 : 272 VAC O/P : FULL LOAD Ta= 50 °C HUMIDITY= 95 %R.H	TEST : OK
5	TEMPERATURE COEFFICIENT	± 0.03 %/°C(0~50°C)	I/P : 230 VAC O/P : FULL LOAD	± 0.015 %/°C(0~50°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	-40~50°C	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 : 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 : 12min/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= 50 °C LIFE TIME (3) I/P : 230VAC O/P : 75% LOAD Ta= 50 °C LIFE TIME (4) I/P : 230VAC O/P : 50% LOAD Ta= 50 °C LIFE TIME	(1) 2051811.9 HRS (2) 343147 HRS (3) 415867.1 HRS (4) 473219.1 HRS	
10	MTBF	Conducted by Parts Stress Analysis Prediction 2928.9K hrs min. Telcordia SR-332 (Bellcore) ; 393.9K 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 : 30,000 hours		

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	YUWEI	LIUTT	WANGDZ

2020.10.1 TAG-QA-009