Test Report : GSM60X48

60W AC-DC Reliable Green Slim Wall-mounted Medical Adaptor

■ DESIGN VERIFY TEST

Output Function Test
Input Function Test
Protection Function Test

■ SAFETY TEST

Safety Test

■ RELIABILITY TEST

Environment Test
Other test

■ DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	150 mVp-p (Max)	I/P:230VAC O/P:FULL LOAD Ta:25℃	60 mVp-p	P
2	VOLTAGE TOLERANCE	-3% ~ +3% (Max)	I/P:90VAC~264VAC O/P:FULL~MIN. LOAD Ta:25℃	+0.33% ~ +0.52%	P
3	LINE REGULATION	-1% ~ +1% (Max)	I/P:90VAC ~264VAC O/P:FULL LOAD Ta:25℃	-0.23% ~ -0.38%	P
4	LOAD REGULATION	-2% ~ +2% (Max)	I/P:230VAC O/P:FULL ~MIN LOAD Ta:25℃	+0.12% ~ +0.31%	P
5	SET UP TIME	1000ms	I/P:230VAC O/P:FULL LOAD Ta:25℃	836.7ms	P
6	RISE TIME	100ms	I/P:230VAC O/P:FULL LOAD Ta:25℃	91.45ms	P
7	HOLD UP TIME	10 ms (Min)	I/P:115VAC O/P:FULL LOAD Ta:25℃	42.75ms	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE RANGE	80VAC ~ 264VAC	I/P:TESTING O/P:FULL LOAD Ta:25℃	58V ~ 264V	P
2	FREQUENCY RANGE	50HZ - 60HZ (Typ) NO DAMAGE OSC	I/P: 100VAC ~ 240VAC O/P:FULL~MIN LOAD Ta:25℃	TEST: OK	P
3	EFFICIENCY	88%	I/P:230VAC O/P:FULL LOAD Ta:25℃	91.24%	P
4	AVERAGE EFFICIENCY	88.0% (DoE Level VI) 89.0% (CoC Version 5)	I/P:115/230VAC O/P:25%、50%、75%、100% LOAD Ta:25℃	91.27% (115VAC) 91.03% (230VAC)	P
5	AC CURRENT	1.5 A (Max)	I/P: 100VAC O/P:FULL LOAD Ta:25℃	1.04A	P
6	NO LOAD POWER CONSUMPTION	< 0.15W (Max)	I/P:230VAC O/P: NO LOAD Ta:25℃	0.1228W	P

7	INRUSH CURRENT	< 100A COLD START	I/P:230VAC O/P:FULL LOAD Ta:25℃	76.3A	P
8	LEAKAGE CURRENT	< 100μA	I/P:264VAC O/P:Min LOAD Ta:25℃	L-FG: 20μA N-FG: 20μA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	105%~160%	I/P:230VAC O/P:TESTING Ta:25℃	148% HICCUP MODE RESET : AUTO RECOVER	P
2	OVER VOLTAGE PROTECTION	110%~140%	I/P:230VAC O/P:MIN LOAD Ta:25℃	122.5% (MMSZ5263BF) Clamp by ZENER diode	P
3	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:264VAC O/P:FULL LOAD Ta:25℃	NO DAMAGE HICCUP MODE RESET AUTO RECOVER	P

■ SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:5656 VDC/min	I/P-O/P:5656 VDC/min Ta:25℃	I/P-O/P: 0.03uA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>100MΩ	I/P-O/P:500 VDC Ta:25℃	I/P-O/P>100MΩ NO DAMAGE	P

■ RELIABILITY TEST

ENVIRONMENT TEST

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECICATION</th><th>TEST CONDITION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>1</td><td>TEMPERATURE RISE TEST</td><td colspan="3">1. ROOM AMBIENT BURN-IN：4HRS
I/P:230VAC O/P:100% LOAD Ta=25℃
2. HI AMBIENT BURN-IN：4HRS
I/P:230VAC O/P:100% LOAD Ta=40℃
3. HI AMBIENT BURN-IN：4HRS
I/P:230VAC O/P:50% LOAD Ta=70℃
<table>
<tr><th>NO</th><th>Position</th><th>1</th><th>2</th><th>3</th></tr>
<tr><td>1</td><td>BD1</td><td>67.2℃</td><td>80.9℃</td><td>92.1℃</td></tr>
<tr><td>2</td><td>C1</td><td>62.4℃</td><td>76.4℃</td><td>90.0℃</td></tr>
<tr><td>3</td><td>O/P D4</td><td>73.7℃</td><td>87.7℃</td><td>96.0℃</td></tr>
<tr><td>4</td><td>Q1</td><td>80.2℃</td><td>92.8℃</td><td>98.7℃</td></tr>
<tr><td>5</td><td>O/P C4</td><td>60.8℃</td><td>75.1℃</td><td>89.5℃</td></tr>
<tr><td>6</td><td>O/P C5</td><td>59.2℃</td><td>73.5℃</td><td>88.5℃</td></tr>
<tr><td>7</td><td>T1 鐵芯</td><td>73.0℃</td><td>87.2℃</td><td>95.8℃</td></tr>
<tr><td>8</td><td>T1 線圈</td><td>77.0℃</td><td>91.1℃</td><td>97.8℃</td></tr>
<tr><td>9</td><td>L1</td><td>56.8℃</td><td>70.9℃</td><td>87.0℃</td></tr>
<tr><td>10</td><td>CASE</td><td>65.5℃</td><td>78.7℃</td><td>90.5℃</td></tr>
</table></td><td>P</td></tr>
<tr><td>2</td><td>LOW TEMPERATURE TURN ON TEST</td><td>TURN ON AFTER 2 HOURS</td><td>I/P : 230VAC
O/P : 100% LOAD
Ta= -20℃</td><td>TEST：OK</td><td>P</td></tr>
</table>

OTHER

<table>
<tr><th>NO</th><th>TEST ITEM</th><th>SPECICATION</th><th>TEST CONDITION</th><th>RESULT</th><th>VERDICT</th></tr>
<tr><td>1</td><td>CAPACITOR
LIFE CYCLE</td><td colspan="3">SUPPOSE C6 IS THE MOST CRITICAL COMPONENT (6000hrs)
I/P:230 VAC O/P:100% LOAD Ta=25℃ LIFE TIME= 215258 HRS
I/P:230 VAC O/P:100% LOAD Ta=40℃ LIFE TIME= 79889 HRS</td><td>P</td></tr>
<tr><td>2</td><td>MTBF</td><td colspan="3">MIL-KDBK-217F NOTICES 2 PARTS COUNT
TOTAL FAILURE RATE： 2.042375
M.T.B.F：489626.05 HRS</td><td>P</td></tr>
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TEST RESULT	TESTER	APPROVAL
PASS	Archen Hsiao	Peter Chen