



Test Report : SGA60x24

AC-DC High Reliability Interchangeable 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	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	RIPPLE & NOISE	100 mVp-p (Max)	I/P:230VAC O/P:FULL LOAD Ta:25°C	60mVp-p	P
2	VOLTAGE TOLERANCE	-2% ~ +2% (Max)	I/P:90VAC~264VAC O/P:FULL~MIN. LOAD Ta:25°C	-1.01% ~ +1.17%	P
3	LINE REGULATION	-1% ~ +1% (Max)	I/P:90VAC ~264VAC O/P:FULL LOAD Ta:25°C	-0.05% ~ +0.17%	P
4	LOAD REGULATION	-2% ~ +2% (Max)	I/P:230VAC O/P:FULL ~MIN LOAD Ta:25°C	-0.92% ~ +1.26%	P
5	SET UP TIME	500 mS	I/P:230VAC O/P:FULL LOAD Ta:25°C	140.0 mS	P
6	RISE TIME	50 mS	I/P:230VAC O/P:FULL LOAD Ta:25°C	15.7 mS	P
7	HOLD UP TIME	12 mS (Min)	I/P:115VAC O/P:FULL LOAD Ta:25°C	19.6 mS	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE RANGE	90VAC ~ 264VAC	I/P:TESTING O/P:FULL LOAD Ta:25°C	59V ~ 264V	P
2	FREQUENCY RANGE	50HZ - 60HZ (Typ) NO DAMAGE OSC	I/P: 100VAC ~ 240VAC O/P:FULL~MIN LOAD Ta:25°C	TEST: OK	P
3	EFFICIENCY	88% (Typ)	I/P:230VAC O/P:FULL LOAD Ta:25°C	88.97%	P
4	AVERAGE EFFICIENCY	88%@115VAC 89%@230VAC	I/P:115/230VAC O/P:25%、50%、75%、100% LOAD Ta:25°C	89.81% (115VAC) 89.59% (230VAC)	P
5	AC CURRENT	1.5A (Max)	I/P: 100VAC O/P:FULL LOAD Ta:25°C	1.02A	P
6	NO LOAD POWER CONSUMPTION	< 0.15W (Max)	I/P:230VAC O/P: NO LOAD Ta:25°C	0.0512W	P

7	INRUSH CURRENT	< 80A COLD START	I/P:230VAC O/P:FULL LOAD Ta:25°C	74.3 A	P
8	LEAKAGE CURRENT	< 0.25mA	I/P:240VAC O/P:Min LOAD Ta:25°C	L-FG: 0.02mA N-FG: 0.02mA	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110% ~ 200%	I/P:230VAC O/P:TESTING Ta:25°C	130% HICCUP MODE RESET : AUTO RECOVER	P
2	OVER VOLTAGE PROTECTION	110% ~ 140%	I/P:230VAC O/P:MIN LOAD Ta:25°C	113% (MMSZ5254B) Clamp by ZENER diode	P
3	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:264VAC O/P:FULL LOAD Ta:25°C	NO DAMAGE HICCUP MODE RESET AUTO RECOVER	P

■ SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:4242 VDC/min	I/P-O/P:4242 VDC/min Ta:25°C	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°C	I/P-O/P>100MΩ NO DAMAGE	P

■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT																																	
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:230VAC O/P:100% LOAD Ta=25°C 2. HI AMBIENT BURN-IN : 4HRS I/P:230VAC O/P:100% LOAD Ta=40°C <table><thead><tr><th>NO</th><th>Position</th><th>1</th><th>2</th></tr></thead><tbody><tr><td>1</td><td>BD1</td><td>73.4°C</td><td>85.6°C</td></tr><tr><td>2</td><td>I/P C4</td><td>77.5°C</td><td>91.0°C</td></tr><tr><td>3</td><td>I/P Q2</td><td>89.2°C</td><td>103.7°C</td></tr><tr><td>4</td><td>O/P D1</td><td>89.7°C</td><td>102.0°C</td></tr><tr><td>5</td><td>O/P C8</td><td>63.7°C</td><td>77.1°C</td></tr><tr><td>6</td><td>T1</td><td>83.7°C</td><td>97.3°C</td></tr><tr><td>7</td><td>CASE</td><td>57.1°C</td><td>71.9°C</td></tr></tbody></table>			NO	Position	1	2	1	BD1	73.4°C	85.6°C	2	I/P C4	77.5°C	91.0°C	3	I/P Q2	89.2°C	103.7°C	4	O/P D1	89.7°C	102.0°C	5	O/P C8	63.7°C	77.1°C	6	T1	83.7°C	97.3°C	7	CASE	57.1°C	71.9°C		P
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2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 2 HOURS	I/P : 230VAC O/P : 100% LOAD Ta= -20°C	TEST : OK	P																																	

OTHER

NO	TEST ITEM	SPECIFICATION	TEST CONDITION	RESULT	VERDICT
1	CAPACITOR LIFE CYCLE	SUPPOSE C8 IS THE MOST CRITICAL COMPONENT I/P:230 VAC O/P:100% LOAD Ta=25°C LIFE TIME= 122560HRS I/P:230 VAC O/P:100% LOAD Ta=40°C LIFE TIME= 48414HRS			F
2	MTBF	MIL-KDBK-217F NOTICES 2 PARTS COUNT TOTAL FAILURE RATE : 2.134442 M.T.B.F : 468506 HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	PETER CHENG	VINCENT TSENG