



Test Report : SPB09A-24

9W SIP Package DC-DC Regulated Converter

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

■ SAFETY TEST

Safety Test

■ RELIABILITY TEST

Environment Test

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-1.5 % ~ +1.5 %	I/P:12VDC O/P:FULL LOAD Ta:25°C	-0.39%	P
2	RIPPLE & NOISE	100 mVp-p	I/P:12VDC O/P:FULL LOAD Ta:25°C	46mV	P
3	LINE REGULATION	-0.5% ~ +0.5%	I/P:9VDC~18VDC O/P:FULL LOAD Ta:25°C	-0.03% ~ +0.03%	P
4	LOAD REGULATION	-0.5% ~ +0.5%	I/P:12VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.09% ~ +0.20%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	9 VDC ~18 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	8.52VDC ~18.0 VDC	P
2	EFFICIENCY	88% (Typ)	I/P:12VDC O/P:FULL LOAD Ta:25°C	88.43%	P
3	DC CURRENT	852 mA / FULL LOAD 15 mA / NO LOAD	I/P:12VDC O/P:NO / FULL LOAD Ta:25°C	838.2 mA / FULL LOAD 7.8 mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:18VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P
2	OVER LOAD PROTECTION	120% ~ 250%	I/P:12VDC O/P:TESTING Ta:25°C	209.3% HICCUP MODE AUTO-RECOVER	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Power on : R.C. ~ - Vin>2.5V or open circuit Power off : R.C. ~ - Vin <0.8Vdc or short	I/P:12VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>1.4Vdc or Open Power off : R.C<1.2Vdc	P

SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1.5K VDC/min	I/P-O/P:1.5K VDC/min Ta:25°C	I/P-O/P: 0.002mA 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	SPECICATION	TEST CONDITION	RESULT	VERDICT												
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 8HRS I/P:12VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:12VDC O/P:FULL LOAD Ta=60°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:12VDC O/P:55% LOAD Ta=80°C 4. HIGH AMBIENT BURN-IN : 8HRS I/P:12VDC O/P:40% LOAD Ta=90°C			P												
		<table border="1"> <tr> <th>NO</th><th>Position</th><th>1</th><th>2</th><th>3</th><th>4</th></tr> <tr> <td>1</td><td>CASE</td><td>66.0°C</td><td>97.9°C</td><td>99.6°C</td><td>106.7°C</td></tr> </table>	NO	Position	1	2	3	4	1	CASE	66.0°C	97.9°C	99.6°C	106.7°C			
NO	Position	1	2	3	4												
1	CASE	66.0°C	97.9°C	99.6°C	106.7°C												
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:12VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	P												

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 3.75905 M.T.B.F : 266,024.80 HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG