



Test Report : SPB09C-12

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 % (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	12.016 -0.13%	P
2	RIPPLE & NOISE	100 mVp-p (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	50mV	P
3	LINE REGULATION	-0.5% ~ +0.5% (Max)	I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C	12.011 12.016 12.011 -0.04% ~ -0.04%	P
4	LOAD REGULATION	-0.5% ~ +0.5% (Max)	I/P:48VDC O/P:10% LOAD~FULL LOAD Ta:25°C	12.016 12.026 12.036 -0.08% ~ +0.08%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	36 VDC ~75 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	31.37VDC ~75.0 VDC	P
2	EFFICIENCY	88% (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	88.47%	P
3	DC CURRENT	213 mA / FULL LOAD (Max) 5 mA / NO LOAD (Max)	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	211 mA / FULL LOAD 3.72 mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:75VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P
2	OVER LOAD PROTECTION	120% ~ 250% (Typ)	I/P:48VDC O/P:TESTING Ta:25°C	162.7% 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:48VDC O/P:FULL LOAD Ta:25°C	Power on : R.C > 2.5Vdc or Open Power off : R.C < 0.8Vdc	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:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:FULL LOAD Ta=60°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:55% LOAD Ta=80°C 4. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:40% LOAD Ta=90°C			P												
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>70.3°C</td> <td>104.6°C</td> <td>106.1°C</td> <td>113.3°C</td> </tr> </tbody> </table>				NO	Position	1	2	3	4	1	CASE	70.3°C	104.6°C	106.1°C	113.3°C
NO	Position	1	2	3	4												
1	CASE	70.3°C	104.6°C	106.1°C	113.3°C												
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:48VDC 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	