



# Test Report : SPB09C-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:48VDC O/P:FULL LOAD Ta:25°C	+0.04%	P
2	RIPPLE & NOISE	100 mVp-p	I/P:48VDC O/P:FULL LOAD Ta:25°C	75 mV	P
3	LINE REGULATION	-0.5% ~ +0.5%	I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C	+0.13% ~ -0.04%	P
4	LOAD REGULATION	-0.5% ~ +0.5%	I/P:48VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.08% ~ +0.04%	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	30.6VDC ~75.0 VDC	P
2	EFFICIENCY	89% (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	89.02%	P
3	DC CURRENT	211 mA / FULL LOAD 15 mA / NO LOAD	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	210.5 mA / FULL LOAD 5.7 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%	I/P:48VDC O/P:TESTING Ta:25°C	193.0% 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			P								
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>65.0°C</td> <td>100.0°C</td> </tr> </tbody> </table>		NO	Position	1	2	1	CASE	65.0°C	100.0°C		
NO	Position	1	2										
1	CASE	65.0°C	100.0°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