



Test Report : SPB09W8-12

9W SIP Package 8:1 Ultra-Wide Input 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	-2.0% ~ +2.0 % (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	+0.09%	P
2	RIPPLE & NOISE	120 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	20 mV	P
3	LINE REGULATION	-0.5% ~ +0.5 %	I/P:9VDC~75VDC O/P:FULL LOAD Ta:25°C	+0.02% ~ +0.17%	P
4	LOAD REGULATION	-0.5% ~ +0.5%	I/P:24VDC O/P:0% LOAD~FULL LOAD Ta:25°C	-0.02% ~ +0.15%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	86%	I/P:24VDC O/P:FULL LOAD Ta:25°C	87.03%	P
2	DC CURRENT	431 mA / FULL LOAD 10 mA / NO LOAD	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	429 mA / FULL LOAD 4.1 mA / NO LOAD	P
3	UNDER VOLTAGE LOCKOUT	START-UP 8.8V SHUTDOWN VOLTAGE 8.0V	I/P:TESTING O/P:FULL LOAD Ta:25°C	8.48 VDC 7.96 VDC	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	CONTINUOUS, AUTOMATIC RECOVERY	P
2	OVER LOAD PROTECTION	120~230%	I/P:24VDC O/P:TESTING Ta:25°C	178.1% HICCUP MODE AUTO-RECOVER	P
3	CASE TEMPERATURE	+115°C max	I/P:24VDC O/P:TESTING Ta: TESTING	OK AUTOMATIC RECOVERY	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	POWER ON : R.C. ~ -VIN >2.5~30VDC OR OPEN CIRCUIT POWER OFF : R.C. ~ -VIN <1.0VDC OR SHORT	I/P:24VDC O/P:100% LOAD Ta:25°C	POWER ON : R.C.>1.84VDC OR OPEN POWER OFF : R.C.<1.81VDC OR SHORT	P

SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1500 VDC/min	I/P-O/P:1500 VDC/min Ta:25°C	I/P-O/P: 0.002mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>1000MΩ	I/P-O/P:500 VDC Ta:25°C	I/P-O/P>1000MΩ NO DAMAGE	P

RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT								
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:FULL LOAD Ta=60°C	<table><tr><th>NO</th><th>Position</th><th>1</th><th>2</th></tr><tr><td>1</td><td>CASE</td><td>74.2°C</td><td>109.2°C</td></tr></table>	NO	Position	1	2	1	CASE	74.2°C	109.2°C	
NO	Position	1	2									
1	CASE	74.2°C	109.2°C									
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:24VDC O/P: FULL LOAD Ta= -40°C	TEST : OK								

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 3.333 M.T.B.F : >300KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG