



Test Report : SPA01W8-09

1W 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	-0.49%	P
2	RIPPLE & NOISE	100 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	10 mV	P
3	LINE REGULATION	-0.5% ~ +0.5 %	I/P:9VDC~75VDC O/P:FULL LOAD Ta:25°C	-0.01% ~ -0.03%	P
4	LOAD REGULATION	-0.5% ~ +0.5 %	I/P:24VDC O/P:0% LOAD~FULL LOAD Ta:25°C	-0.06% ~ +0.04%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	80%	I/P:24VDC O/P:FULL LOAD Ta:25°C	80.13%	P
2	DC CURRENT	53 mA / FULL LOAD 5 mA / NO LOAD	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	51.5 mA / FULL LOAD 3.6 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	7.68 VDC 6.75 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	110~350%	I/P:24VDC O/P:TESTING Ta:25°C	201.8% HICCUP MODE AUTO-RECOVER	P
3	CASE TEMPERATURE	+110°C max	I/P:24VDC O/P:TESTING Ta: TESTING	OK AUTOMATIC RECOVERY	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=90°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:50% LOAD Ta=95°C												
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>38.8°C</td> <td>96.5°C</td> <td>102.9°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	38.8°C	96.5°C	102.9°C
NO	Position	1	2	3										
1	CASE	38.8°C	96.5°C	102.9°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 : 2.0 M.T.B.F : >500KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG