



# Test Report : SMT01A-15

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1W SMD 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	-2.0 % ~ +2.0 % (Max)	I/P:12VDC O/P:FULL LOAD Ta:25°C	+0.29%	P
2	RIPPLE & NOISE	100 mVp-p (Max)	I/P:12VDC O/P:FULL LOAD Ta:25°C	15mV	P
3	LINE REGULATION	-0.5% ~ +0.5% (Max)	I/P:9VDC~18VDC O/P:FULL LOAD Ta:25°C	-0.01% ~ -0.00%	P
4	LOAD REGULATION	-0.5% ~ +0.5% (Max)	I/P:12VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.01% ~ +0.01%	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	6.23VDC ~18.0 VDC	P
2	EFFICIENCY	75% (Typ)	I/P:12VDC O/P:FULL LOAD Ta:25°C	75.21%	P
3	DC CURRENT	111 mA / FULL LOAD (Max) 15 mA / NO LOAD (Max)	I/P:12VDC O/P:NO / FULL LOAD Ta:25°C	109.64 mA / FULL LOAD 13.69 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	130% ~ 200% (Typ)	I/P:12VDC O/P:TESTING Ta:25°C	193.2% HICCUP MODE AUTO-RECOVER	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
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## ■ 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=85°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:12VDC O/P:50% LOAD Ta=93°C			P										
		<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>39.4°C</td> <td>98.0°C</td> <td>103.4°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	39.4°C	98.0°C	103.4°C	
NO	Position	1	2	3											
1	CASE	39.4°C	98.0°C	103.4°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 : 1.58765 M.T.B.F : 629,860.95 HRS			P

TEST RESULT	TESTER	REVIEW	APPROVAL
PASS	Archen Hsiao	PETER CHENG	VINCENT ZENG