



Test Report : CAR01L-05

1W Automotive SMD Package DC-DC Unregulated 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	-5.0% ~ +5.0%	I/P:5VDC O/P:FULL LOAD Ta:25°C	-3.33%	P
2	RIPPLE & NOISE	50 mVp-p	I/P:5VDC O/P:FULL LOAD Ta:25°C	12mV	P
3	LINE REGULATION	-12.0% ~ +12.0%	I/P:4.5VDC~5.5VDC O/P:FULL LOAD Ta:25°C	-11.96% ~+12.00%	P
4	LOAD REGULATION	-15.0% ~ +15.0%	I/P:5VDC O/P:0% LOAD~FULL LOAD Ta:25°C	-6.35% ~ +5.58%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	78%	I/P:5VDC O/P:FULL LOAD Ta:25°C	81.55%	P
2	DC CURRENT	240mA / FULL LOAD 15mA / NO LOAD	I/P:5VDC O/P:NO / FULL LOAD Ta:25°C	235.78mA / FULL LOAD 12.2mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:5.5VDC O/P:FULL LOAD Ta:25°C	CONTINUOUS, AUTOMATIC RECOVERY	P
2	CASE TEMPERATURE	+135°C max	I/P:5VDC 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:4000 VDC/min	I/P-O/P:3000 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:5VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:5VDC O/P:FULL LOAD Ta=105°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:5VDC O/P:50% LOAD Ta=115°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>33.6°C</td> <td>112.1°C</td> <td>118.6°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	33.6°C	112.1°C	118.6°C
NO	Position	1	2	3										
1	CASE	33.6°C	112.1°C	118.6°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:5VDC 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 : 0.085659 M.T.B.F : 11670KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG