



# Test Report : N7809

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1A Non-Isolated DC-DC Switching Regulator

## ■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

## ■ SAFETY TEST

## ■ RELIABILITY TEST

Environment Test

**■ DESIGN VERIFY TEST**
**OUTPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	VOLTAGE ACCURACY	-3.0% ~ +3.0% (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	-0.37%
2	RIPPLE & NOISE	100 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	15 mV
3	LINE REGULATION	-0.3% ~ +0.3% (Max)	I/P:13VDC~36VDC O/P:FULL LOAD Ta:25°C	+0.06% ~ +0.04%
4	LOAD REGULATION	-0.4% ~ +0.4% (Max)	I/P:24VDC O/P:0% LOAD~FULL LOAD Ta:25°C	-0.08% ~ +0.12%

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	13 VDC ~36 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	9.12 VDC ~36 VDC
2	EFFICIENCY	95% (Typ)	I/P:24VDC O/P:FULL LOAD Ta:25°C	95.35%
3	DC CURRENT	730 mA / FULL LOAD (Max) 10 mA / NO LOAD (Max)	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	728 mA / FULL LOAD 7.7 mA / NO LOAD

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	SHORT PROTECTION	CONTINUOUS	I/P:36VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER
2	OVER LOAD PROTECTION	200% ~ 300% (Typ)	I/P:24VDC O/P:TESTING Ta:25°C	246% HICCUP MODE AUTO-RECOVER

**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=71°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:70% LOAD Ta=85°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>71.9°C</td> <td>117.9°C</td> <td>112.5°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	71.9°C	117.9°C	112.5°C
NO	Position	1	2	3										
1	CASE	71.9°C	117.9°C	112.5°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 : 0.52838 M.T.B.F : 1,892,591.64HRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG