



# Test Report : N78018-2

---

2A Non-Isolated DC-DC Switching Regulator

## ■ 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
1	VOLTAGE ACCURACY	-3.0% ~ +3.0 % (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	-1.42%
2	RIPPLE & NOISE	100 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	10 mV
3	LINE REGULATION	-0.5% ~ +0.5%	I/P:4.5VDC~28VDC O/P:FULL LOAD Ta:25°C	+0.16% ~ -0.01%
4	LOAD REGULATION	-1.5% ~ +1.5%	I/P:24VDC O/P:0% LOAD~FULL LOAD Ta:25°C	-0.56% ~ +1.43%

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	INPUT VOLTAGE RANGE	4.5 VDC ~28 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	4.5 VDC ~28 VDC
2	EFFICIENCY	83%	I/P:4.5VDC O/P:FULL LOAD Ta:25°C	84.38%
3	DC CURRENT	964 mA / FULL LOAD 1 mA / NO LOAD	I/P:4.5VDC O/P:NO / FULL LOAD Ta:25°C	929 mA / FULL LOAD 0.488 mA / NO LOAD

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	SHORT PROTECTION	CONTINUOUS	I/P:28VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER
2	OVER LOAD PROTECTION	150% ~ 300%	I/P:24VDC O/P:TESTING Ta:25°C	194.5 % HICCUP MODE AUTO-RECOVER
3	OVER TEMPERATURE PROTECTION	+110°C THERMAL SHUTDOWN	I/P:24VDC O/P:TESTING Ta: TESTING	OK AUTOMATIC RECOVERY

## ■ 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 3. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:50% 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>66.9°C</td> <td>98.4°C</td> <td>98.2°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	66.9°C	98.4°C	98.2°C
NO	Position	1	2	3										
1	CASE	66.9°C	98.4°C	98.2°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 : 0.625 M.T.B.F : >1,600KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG