



# Test Report : DETN02N-12

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2W 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

Other

## ■ DESIGN VERIFY TEST

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-2.0 % ~ +2.0 %	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 +0.99% V2 +0.72%	P
2	RIPPLE & NOISE	75 mVp-p	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 15mV V2 13mV	P
3	LINE REGULATION	-12.0% ~ +12.0%	I/P:21.6VDC~26.4VDC O/P:FULL LOAD Ta:25°C	V1 -10.86% ~ -10.91% V2 -10.93% ~ +10.90%	P
4	LOAD REGULATION	-8.0% ~ +8.0%	I/P:24VDC O/P:10% LOAD~FULL LOAD Ta:25°C	V1 -1.11% ~ +1.60% V2 -1.20% ~ +1.73%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	80% (Typ)	I/P:24VDC O/P:FULL LOAD Ta:25°C	80.89%	P
2	DC CURRENT	104 mA / FULL LOAD 15 mA / NO LOAD	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	104 mA / FULL LOAD 14 mA / NO LOAD	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	< 0.5S Max	I/P:26.4VDC O/P:FULL LOAD Ta:25°C	OK	P

## ■ SAFETY TEST

### SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:3.0K VDC/min	I/P-O/P:3.0K 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

**RELIABILITY TEST**
**ENVIRONMENT TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT												
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 8HRS I/P:24VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:24VDC O/P:FULL LOAD Ta=85°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:24VDC O/P:75% LOAD Ta=90°C 4. HIGH AMBIENT BURN-IN : 8HRS I/P:24VDC O/P:50% LOAD Ta=97°C			P												
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>38.4°C</td> <td>98.4°C</td> <td>102.0°C</td> <td>108.9°C</td> </tr> </tbody> </table>				NO	Position	1	2	3	4	1	CASE	38.4°C	98.4°C	102.0°C	108.9°C
NO	Position	1	2	3	4												
1	CASE	38.4°C	98.4°C	102.0°C	108.9°C												
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:24VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	P												

**OTHER**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 1.14693 M.T.B.F : 880K HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG