



# Test Report : DPRN01N-12

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1W SIP 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

Other

## DESIGN VERIFY TEST

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-3.0 % ~ +3.0 % (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 +0.12% V2 +0.76%	P
2	RIPPLE & NOISE	75 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1 6mV V2 6mV	P
3	LINE REGULATION	-1.0% ~ +1.0% (Max)	I/P:22.8VDC~26.4VDC O/P:FULL LOAD Ta:25°C	V1 -0.10% ~ +0.10% V2 -0.08% ~ -0.06%	P
4	LOAD REGULATION	-1.0% ~ +1.0% (Max)	I/P:24VDC O/P:10% LOAD~FULL LOAD Ta:25°C	V1 +0.01% ~ -0.02% V2 -0.08% ~ +0.09%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	22.8 VDC ~26.4 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	22.4VDC ~26.4 VDC	P
2	EFFICIENCY	68% (Typ)	I/P:24VDC O/P:FULL LOAD Ta:25°C	68.41%	P
3	DC CURRENT	63 mA / FULL LOAD (Max) 10 mA / NO LOAD (Max)	I/P:24 VDC O/P:NO / FULL LOAD Ta:25°C	61.2 mA / FULL LOAD 9.1 mA / NO LOAD	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	Current Limit Protection (1s max.)	I/P:26.4 VDC O/P:FULL LOAD Ta:25°C	Current Limit Protection NO DAMAGE	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

## ■ 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=71°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:24VDC O/P:60% LOAD Ta=85°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>57.0°C</td> <td>92.4°C</td> <td>101.7°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	57.0°C	92.4°C	101.7°C	
NO	Position	1	2	3											
1	CASE	57.0°C	92.4°C	101.7°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 : 0.99665 M.T.B.F : 1,003,360.25 HRS			P
<b>TEST RESULT</b>		<b>TESTER</b>		<b>APPROVAL</b>	
PASS		ARCHEN HSIAO		PETER CHENG	