



# Test Report : DPRN010-15

---

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:48VDC O/P:FULL LOAD Ta:25°C	V1 +0.07% V2 -0.09%	P
2	RIPPLE & NOISE	75 mVp-p (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	V1 7mV V2 7mV	P
3	LINE REGULATION	-1.0% ~ +1.0% (Max)	I/P:45.6VDC~52.8VDC O/P:FULL LOAD Ta:25°C	V1 +0.03% ~ +0.07% V2 -0.04% ~ -0.14%	P
4	LOAD REGULATION	-1.0% ~ +1.0% (Max)	I/P:48VDC O/P:10% LOAD~FULL LOAD Ta:25°C	V1 -0.05% ~ +0.03% V2 -0.03% ~ +0.04%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	45.6 VDC ~52.8 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	45.1 VDC ~52.8 VDC	P
2	EFFICIENCY	63% (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	63.22%	P
3	DC CURRENT	35 mA / FULL LOAD (Max) 8 mA / NO LOAD (Max)	I/P:48 VDC O/P:NO / FULL LOAD Ta:25°C	32.3 mA / FULL LOAD 7.8 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:52.8 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:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:FULL LOAD Ta=71°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC 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>55.2°C</td> <td>99.4°C</td> <td>111.4°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	55.2°C	99.4°C	111.4°C	
NO	Position	1	2	3											
1	CASE	55.2°C	99.4°C	111.4°C											
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:48VDC 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	