



# Test Report : DDRH-15-24

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15W High Reliable 150~1500Vdc Ultra Wide Input DC-DC Converter

## ■ 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	VERDITC
1	VOLTAGE ACCURACY	-2.0% ~ +2.0 %	I/P:800VDC O/P:FULL LOAD Ta:25°C	+0.25%	P
2	RIPPLE & NOISE	150 mVp-p	I/P:800VDC O/P:FULL LOAD Ta:25°C	110mV	P
3	LINE REGULATION	-1.0% ~ +1.0%	I/P:150VDC~1500VDC O/P: FULL LOAD Ta:25°C	+0.00% ~ +0.00%	P
4	LOAD REGULATION	-1.0% ~ +1.0%	I/P:800VDC O/P:10% LOAD~FULL LOAD Ta:25°C	-0.03% ~ +0.04%	P
5	HOLD UP TIME	16ms min.	I/P:800VDC O/P:FULL LOAD Ta:25°C	42.0ms	P
6	SETUP TIME	1s max.	I/P:800VDC O/P: FULL LOAD Ta:25°C	164ms	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	INPUT VOLTAGE RANGE	150 VDC ~1500 VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	126.3VDC ~1500 VDC	P
2	EFFICIENCY	88%	I/P:800VDC O/P:FULL LOAD Ta:25°C	89.51%	P
3	DC CURRENT	30mA / FULL LOAD 0.2mA / NO LOAD	I/P:800VDC O/P:NO / FULL LOAD Ta:25°C	20.97mA / FULL LOAD 0.169 mA / NO LOAD	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	SHORT PROTECTION	CONTINUOUS	I/P:1500VDC O/P:FULL LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P
2	OVER LOAD PROTECTION	110% ~ 300%	I/P:800VDC O/P:TESTING Ta:25°C	205.0% HICCUP MODE AUTO-RECOVER	P
3	OVER VOLTAGE PROTECTION	YES	I/P:800VDC O/P: MIN LOAD Ta:25°C	HICCUP MODE AUTO-RECOVER	P

4	DC INPUT REVERSE POLARITY	NO DAMAGE	I/P:800VDC O/P: FULL LOAD Ta:25°C	NO DAMAGE	P
5	UNDER VOLTAGE LOCKOUT	START-UP VOLTAGE 147Vdc SHUTDOWN VOLTAGE 137Vdc	I/P: TESTING O/P: FULL LOAD Ta:25°C	135.5VDC  126.3VDC	P

## ■ SAFETY TEST

### SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	WITHSTAND VOLTAGE	I/P-O/P:4.0KVAC/min	I/P-O/P:4.0KVAC/min Ta:25°C	I/P-O/P: 0.002mA NO DAMAGE	P
2	ISOLATION RESISTANCE	I/P-O/P:500VDC>1000MΩ	I/P-O/P:500 VDC Ta:25°C	I/P-O/P>1000MΩ NO DAMAGE	P

## ■ RELIABILITY TEST

### ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:800VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:800VDC O/P:FULL LOAD Ta=50°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:800VDC O/P:50% LOAD Ta=70°C			P
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:800VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	

**OTHER**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDITC
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : M.T.B.F : 388K HRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG