



# Test Report : MHB150-48S24

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150W DC-DC Half-Brick Regulated Single Output Converter

## ■ DESIGN VERIFY TEST

Output Function Test  
Input Function Test  
Protection Function Test  
Control Function Test

## ■ SAFETY TEST

Safety Test

## ■ RELIABILITY TEST

Other

## DESIGN VERIFY TEST

### OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-1%~+1%	I/P:48VDC O/P:100% LOAD Ta:25°C	-0.22%	P
2	RIPPLE & NOISE	240mVp-p	I/P:48VDC O/P:FULL LOAD Ta:25°C	165mV	P
3	LINE REGULATION	-0.2%~+0.2%	I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C	+0.00% ~ +0.00%	P
4	LOAD REGULATION	-0.2%~+0.2%	I/P:48VDC O/P:MIN-FULL LOAD Ta:25°C	+0.00% ~ +0.00%	P

### INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	36VDC~75VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	31.65~75VDC	P
2	EFFICIENCY	89%	I/P:48VDC O/P:FULL LOAD Ta:25°C	89.11%	P
3	DC CURRENT	3.6A / FULL LOAD 25 mA / NO LOAD	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	3.499 A / FULL LOAD 20.42 mA / NO LOAD	P

### PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110% ~ 150%	I/P:48VDC O/P:TESTING Ta:25°C	130.0% HICCUP MODE AUTO-RECOVER	P
2	OVER VOLTAGE PROTECTION	110% ~ 140%	I/P: TESTING O/P: MIN LOAD Ta:25°C	CLAMP BY ZENER DIODE	P
3	OVER TEMPERATURE PROTECTION	CASE:100 ± 5°C NO DAMAGE	I/P:48VDC O/P: TESTING	99.4°C SHUTDOWN AUTO-RECOVER	P
4	UNDERVOLTAGE LOCKOUT	< 32.5VDC	I/P: TESTING O/P: MIN LOAD Ta:25°C	31.65VDC SHUTDOWN AUTO-RECOVER	P
5	SHORT PROTECTION	SHORT OUTPUT 1 HOUR NO DAMAGE	I/P:75VDC O/P:FULL LOAD Ta:25°C	NO DAMAGE HICCUP MODE AUTO-RECOVER	P

## CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	Power on : R.C ~ -Vin:open Power off : R.C ~ -Vin <0.8Vdc	I/P:48VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>2.1Vdc or Open Power off : R.C<2.0Vdc or Short	P
2	TRIM CONTROL	+10%~ -10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 10k ohm VR	I/P:48VDC O/P:FULL LOAD Ta:25°C	Trim DOWN -14.80% Trim UP +24.76%	P

## SAFETY TEST

### SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:1500 VDC/min I/P-CASE:1500 VDC/min CASE-O/P:1500 VDC/min	I/P-O/P:1500 VDC/min I/P-CASE:1500 VDC/min CASE-O/P:1500 VDC/min Ta:25°C	I/P-O/P: 0.02mA I/P-CASE: 0.02mA CASE-O/P: 0.02mA 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

### OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	MTBF	MIL-HDBK-217F,GB,25°C TOTAL FAILURE RATE : 1.11111 M.T.B.F : 900 KHRS			P

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG