



Test Report : MHB100-48S24

100W 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

Environment Test

DESIGN VERIFY TEST

OUTPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	VOLTAGE ACCURACY	-1%~+1% (Max)	I/P:48VDC O/P:100% LOAD Ta:25°C	0.43%	P
2	RIPPLE & NOISE	240mVp-p (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	59mV	P
3	LINE REGULATION	-0.2%~+0.2% (Max)	I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C	-0.03% ~ +0%	P
4	LOAD REGULATION	-0.2%~+0.2% (Max)	I/P:48VDC O/P:MIN-FULL LOAD Ta:25°C	-0.05% ~ +0.06%	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	32.1~75VDC	P
2	EFFICIENCY	88% (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	88.8%	P
3	DC CURRENT	2465mA / FULL LOAD (Max) 50 mA / NO LOAD (Max)	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	2359 mA / FULL LOAD 15 mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110% ~ 140% (Max)	I/P:48VDC O/P:TESTING Ta:25°C	125% HICCUP MODE AUTO-RECOVER	P
2	OVER VOLTAGE PROTECTION	115% ~ 140% (Max)	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:FULL LOAD	99°C	P
4	INPUT UNDER VOLTAGE LOCKOUT	Power Up 34V (Typ) Power Down 32.5V (Typ)	I/P:TESTING O/P: 10% LOAD Ta:25°C	Vin turn off : 32.1V Vin turn on : 33.3V	P

5	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P:75VDC O/P:FULL LOAD Ta:25°C	NO DAMAGE HICCUP MODE AUTO-RECOVER	P
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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 -14.83% Trim UP +17.85%	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-O/P:1500 VDC/min Ta:25°C	I/P-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

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	THERMAL CURVE TEST	20LFM (NATURAL CONVECTION) HEATSINK TYPE : NONE	I/P:48VDC O/P:FULL LOAD Ta:25°C	OTP (>100°C)	P
		20LFM (NATURAL CONVECTION) HEATSINK TYPE : M-C308		T-case=74.7°C	
		20LFM (NATURAL CONVECTION) HEATSINK TYPE : M-C091		T-case=88.6°C	
		20LFM (NATURAL CONVECTION) HEATSINK TYPE : M-C092		T-case=71.7°C	
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 13 HOURS	I/P:48VDC O/P: 100% LOAD Ta= -40°C	TEST : OK	P

TEST RESULT	TESTER	APPROVAL
PASS	PETER CHENG	VINCNET ZENG