Test Report : SKMW20W8-05

20W 1"x1" Package 8:1 Ultra-Wide Input DC-DC Regulated 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	VERDICT
1	VOLTAGE ACCURACY	-1.5% ~ +1.5%	I/P:48VDC O/P:FULL LOAD Ta:25℃	-0.04%	P
2	RIPPLE & NOISE	150 mVp-p	I/P:48VDC O/P:FULL LOAD Ta:25℃	25mV	P
3	LINE REGULATION	-0.2% ~ +0.2%	I/P:9VDC~75VDC O/P:FULL LOAD Ta:25℃	-0.02% ~ -0.07%	P
4	LOAD REGULATION	-0.5% ~ +0.5%	I/P:48VDC O/P:0% LOAD~FULL LOAD Ta:25℃	-0.16% ~ +0.17%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	87%	I/P:48VDC O/P:FULL LOAD Ta:25℃	87.03%	P
2	DC CURRENT	487mA / FULL LOAD 10mA / NO LOAD	I/P:48VDC O/P:NO / FULL LOAD Ta:25℃	475mA / FULL LOAD 6.18mA / NO LOAD	P

PROTECTION FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	SHORT PROTECTION	CONTINUOUS	I/P:75VDC O/P:FULL LOAD Ta:25℃	CONTINUOUS, AUTOMATIC RECOVERY	P
2	OVER LOAD PROTECTION	110~200%	I/P:48VDC O/P:TESTING Ta:25℃	137.75% HICCUP MODE AUTO-RECOVER	P
3	CASE TEMPERATURE	+110℃ max	I/P:48VDC O/P:TESTING Ta: TESTING	OK AUTOMATIC RECOVERY	P
4	OVER VOLTAGE PROTECTION	YES	I/P: 48VDC O/P: MIN LOAD Ta:25℃	PROTECTION TYPE： CLAMP BY TVS DIODE	P
5	UNDER VOLTAGE LOCKOUT	START-UP 8.3V(Type) SHUTDOWN OLTAGE 8.0V(Type)	I/P:TESTING O/P:FULL LOAD Ta:25℃	8.39 VDC 8.03 VDC	P

CONTROL FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	REMOTE CONTROL	POWER ON : R.C. ~ -VIN >3.5~75VDC OR OPEN CIRCUIT POWER OFF : R.C. ~ -VIN <1VDC OR SHORT	I/P:48VDC O/P:100% LOAD Ta:25℃	POWER ON : R.C>1.43VDC OR OPEN POWER OFF : R.C.<1.39VDC OR SHORT	P
2	TRIM CONTROL	+10%~ -10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 1M ohm VR	I/P:48VDC O/P:FULL LOAD Ta:25℃	Trim DOWN -10.3% Trim UP +10.2%	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℃	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℃	I/P-O/P>1000MΩ NO DAMAGE	P

■ RELIABILITY TEST

ENVIRONMENT TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN：4HRS I/P:48VDC O/P:FULL LOAD Ta=25℃ 2. HIGH AMBIENT BURN-IN ：4HRS I/P:48VDC O/P:FULL LOAD Ta=65℃ 3. HIGH AMBIENT BURN-IN ：4HRS I/P:48VDC O/P:50% LOAD Ta=85℃		
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:48VDC O/P: FULL LOAD Ta= -40℃	TEST：OK

NO	Position	1	2	3
1	CASE	74.6℃	112.3℃	106.2℃

OTHER

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT
1	MTBF	MIL-HDBK-217F,GB,25℃ TOTAL FAILURE RATE：0.648508 M.T.B.F：1,542KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG