



Test Report : DKMW20W8-15

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°C	V1: -0.70% V2: -0.80%	P
2	RIPPLE & NOISE	150 mVp-p	I/P:48VDC O/P:FULL LOAD Ta:25°C	V1: 44 mV V2: 71 mV	P
3	LINE REGULATION	-0.2% ~ +0.2%	I/P:9VDC~75VDC O/P:FULL LOAD Ta:25°C	V1: -0.11% ~ -0.01% V2: +0.10% ~ +0.01%	P
4	LOAD REGULATION	-0.5% ~ +0.5%	I/P:48VDC O/P:0% LOAD~FULL LOAD Ta:25°C	V1: +0.01% ~ +0.03% V2: -0.03% ~ +0.01%	P
5	CROSS REGULATION	-5% ~ +5.0%	I/P:48VDC O/P:25%~FULL LOAD Ta:25°C	V1: -0.64% V2: -0.65%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	88%	I/P:48VDC O/P:FULL LOAD Ta:25°C	88.19%	P
2	DC CURRENT	480mA / FULL LOAD 10mA / NO LOAD	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	463.0mA / FULL LOAD 7.44 mA / 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°C	CONTINUOUS, AUTOMATIC RECOVERY	P
2	OVER LOAD PROTECTION	110~200%	I/P:48VDC O/P:TESTING Ta:25°C	148.37% HICCUP MODE AUTO-RECOVER	P
3	CASE TEMPERATURE	+110°C 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°C	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°C	8.41 VDC 7.98 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°C	POWER ON : R.C>1.43VDC OR OPEN POWER OFF : R.C.<1.38VDC OR SHORT	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: 0.002mA 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										
1	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4HRS I/P:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:48VDC O/P:FULL LOAD Ta=65°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:48VDC O/P:50% LOAD Ta=85°C												
<table border="1" style="margin-left: auto; margin-right: auto;"> <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>69.8°C</td> <td>107.0°C</td> <td>108.5°C</td> </tr> </tbody> </table>					NO	Position	1	2	3	1	CASE	69.8°C	107.0°C	108.5°C
NO	Position	1	2	3										
1	CASE	69.8°C	107.0°C	108.5°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:48VDC O/P: FULL LOAD Ta= -40°C	TEST : OK										

OTHER

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

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG