



Test Report : DKE10W8-05

10W 2"x1" Package 8:1 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	VERDICT
1	VOLTAGE ACCURACY	-2.0% ~ +2.0% (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1: -0.14% V2: -0.28%	P
2	RIPPLE & NOISE	150 mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	V1: 9 mV V2: 9 mV	P
3	LINE REGULATION	-0.5% ~ +0.5%	I/P:9VDC~75VDC O/P:FULL LOAD Ta:25°C	V1: +0.21% ~ -0.03% V2: -0.21% ~ +0.03%	P
4	LOAD REGULATION	-1.0% ~ +1.0%	I/P:24VDC O/P:0% LOAD~FULL LOAD Ta:25°C	V1: -0.01% ~ +0.63% V2: -0.01% ~ +0.59%	P
5	CROSS REGULATION	-5% ~ +5.0%	I/P:24VDC O/P:25%~FULL LOAD Ta:25°C	V1: +1.83% V2: +1.76%	P

INPUT FUNCTION TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	EFFICIENCY	85%	I/P:24VDC O/P:FULL LOAD Ta:25°C	86.28%	P
2	DC CURRENT	484 mA / FULL LOAD 10 mA / NO LOAD	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	480.0 mA / FULL LOAD 3.9 mA / NO LOAD	P
3	UNDER VOLTAGE LOCKOUT	START-UP 8.8V SHUTDOWN VOLTAGE 8.0V	I/P:TESTING O/P:FULL LOAD Ta:25°C	8.49 VDC 7.93 VDC	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	110~230%	I/P:24VDC O/P:TESTING Ta:25°C	185.34% HICCUP MODE AUTO-RECOVER	P
3	CASE TEMPERATURE	+110°C max	I/P:24VDC O/P:TESTING Ta: TESTING	OK AUTOMATIC RECOVERY	P
4	OVER VOLTAGE PROTECTION	YES	I/P: 24VDC O/P: MIN LOAD Ta:25°C	PROTECTION TYPE : CLAMP TVS DIODES	P

SAFETY TEST

SAFETY TEST

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	WITHSTAND VOLTAGE	I/P-O/P:3000 VDC/min	I/P-O/P:3000 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:24VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:FULL LOAD Ta=85°C 3. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:50% LOAD Ta=95°C												
		<table border="1"> <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>44.1°C</td> <td>104.1°C</td> <td>107.0°C</td> </tr> </tbody> </table>			NO	Position	1	2	3	1	CASE	44.1°C	104.1°C	107.0°C
NO	Position	1	2	3										
1	CASE	44.1°C	104.1°C	107.0°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:24VDC 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 : 3.333 M.T.B.F : 300KHRS		

TEST RESULT	TESTER	APPROVAL
PASS	ARCHEN HSIAO	PETER CHENG