



# Test Report : SKM50B-12

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50W DC-DC 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	-2%~+2% (Max)	I/P:24VDC O/P:100% LOAD Ta:25°C	0.04 %	P
2	RIPPLE & NOISE	80mVp-p (Max)	I/P:24VDC O/P:FULL LOAD Ta:25°C	35 mV	P
3	LINE REGULATION	-0.2%~+0.2% (Max)	I/P:18VDC~36VDC O/P:FULL LOAD Ta:25°C	-0 % ~ +0 %	P
4	LOAD REGULATION	-0.5%~+0.5% (Max)	I/P:24VDC O/P:MIN-FULL LOAD Ta:25°C	-0.05 % ~ +0.02 %	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	18VDC~36VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	15.1~36 VDC	P
2	EFFICIENCY	92% (Typ)	I/P:24VDC O/P:FULL LOAD Ta:25°C	92.3 %	P
3	DC CURRENT	2300mA / FULL LOAD (Max) 110mA / NO LOAD (Max)	I/P:24VDC O/P:NO / FULL LOAD Ta:25°C	2260mA / FULL LOAD 95.5mA / NO LOAD	P
4	UNDER VOLTAGE SHUTDOWN	16VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	15.1 VDC	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110%~180%	I/P:24VDC O/P:TESTING Ta:25°C	132% HICCUP MODE AUTO-RECOVER	P
2	INPUT OVER VOLTAGE PROTECTION	>40~50VDC (Typ)	I/P:TESTING O/P:MINI. LOAD Ta:25°C	41.6VDC SHUTDOWN OUTPUT VOLTAGE AUTO-RECOVER	P
3	OUTPUT OVER VOLTAGE PROTECTION	15V~19.2VDC (Typ)	I/P:24VDC O/P: TESTING Ta:25°C	Clamp by TVS diode	P

4	SHORT PROTECTION	SHORT EVERY OUTPUT 1 HOUR NO DAMAGE	I/P:36VDC 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 > 2.5Vdc or open Power off : R.C < 0.8Vdc or short (-Vin)	I/P:24VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>1.2Vdc or Open Power off : R.C<1.1Vdc or Short	P
2	TRIM CONTROL	-20%~ +10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 20k ohm VR	I/P:24VDC O/P:FULL LOAD Ta:25°C	Trim DOWN -26.6 % Trim UP +10.6%	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: 0.02 mA 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	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 4 HRS I/P:24VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:24VDC O/P:FULL LOAD Ta=55°C 3. ROOM AMBIENT BURN-IN : 4 HRS I/P:24VDC O/P:50% LOAD Ta=75°C			P												
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>CENTER</td> <td>69.0°C</td> <td>99.2°C</td> <td>102.8°C</td> </tr> </tbody> </table>				NO	Position	P/N	1	2	3	1	CASE	CENTER	69.0°C	99.2°C	102.8°C
NO	Position	P/N	1	2	3												
1	CASE	CENTER	69.0°C	99.2°C	102.8°C												
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:24VDC O/P: 100% LOAD Ta= -40°C	TEST : OK	P												

TEST RESULT	TESTER	APPROVAL
PASS	PETER	VINCENT