



# Test Report : SKM30C-15

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30W 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:48VDC O/P: FULL LOAD Ta:25°C	-0.59 %	P
2	RIPPLE & NOISE	120 mVp-p (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	20 mV	P
3	LINE REGULATION	-0.2 % ~ +0.2 % (Max)	I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C	-0.07 % ~ +0.01 %	P
4	LOAD REGULATION	-0.5 % ~ +0.5 % (Max)	I/P:48VDC O/P:MIN-FULL LOAD Ta:25°C	-0.11 % ~ +0 %	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	UNDER VOLTAGE LOCKOUT	32 VDC (Typ)	I/P:TESTING O/P:FULL LOAD Ta:25°C	22.1 VDC	P
2	EFFICIENCY	90.0 % (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	90.44 %	P
3	DC CURRENT	700 mA / FULL LOAD (Max) 30 mA / NO LOAD (Max)	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	687 mA / FULL LOAD 7 mA / NO LOAD	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110 % -180 %	I/P:48VDC O/P:TESTING Ta:25°C	177 % HICCUP MODE AUTO-RECOVER	P
2	INPUT OVER VOLTAGE PROTECTION	80 VDC - 100 VDC	I/P:TESTING O/P:MIN LOAD Ta:25°C	82.3 VDC SHUTDOWN AUTO-RECOVER	P
3	OUTPUT OVER VOLTAGE PROTECTION	18 VDC ~ 23.3 VDC	I/P:48VDC O/P:MIN LOAD Ta:25°C	CLAMP BY TVS DIODE	P
4	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

### 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 <0.5Vdc or short (-Vin)	I/P:48VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>1.13Vdc or Open Power off : R.C<1.0Vdc or Short	P
2	TRIM	-20%~ +10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 500k ohm VR	I/P:48VDC O/P:FULL LOAD Ta:25°C	Trim DOWN -33.67% Trim UP +11.35%	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	TEMPERATURE RISE TEST	1. ROOM AMBIENT BURN-IN : 13HRS I/P:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8HRS I/P:48VDC O/P:FULL LOAD Ta=55°C			P										
		<table border="1"> <thead> <tr> <th>NO</th> <th>Position</th> <th>P/N</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>CENTER</td> <td>65.4°C</td> <td>88.4°C</td> </tr> </tbody> </table>			NO	Position	P/N	1	2	1	CASE	CENTER	65.4°C	88.4°C	
NO	Position	P/N	1	2											
1	CASE	CENTER	65.4°C	88.4°C											
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 13 HOURS	I/P:48VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	P										

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2012.1.12	RD SAMPLE	PASS	PETER	VINCENT