



# Test Report : SKA20C-05

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20W 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:100% LOAD Ta:25°C	0%	P
2	RIPPLE & NOISE	50mVp-p (Max)	I/P:48VDC O/P:FULL LOAD Ta:25°C	30 mV	P
3	LINE REGULATION	-0.2%~+0.2% (Max)	I/P:36VDC~75VDC O/P:FULL LOAD Ta:25°C	- 0 % ~ +0.02%	P
4	LOAD REGULATION	-0.5%~+0.5% (Max)	I/P:48VDC O/P:MIN-FULL LOAD Ta:25°C	- 0.06% ~ +0.08%	P

**INPUT FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	INPUT VOLTAGE RANGE	36VDC~75VDC	I/P:TESTING O/P:FULL LOAD Ta:25°C	22.5-75VDC	P
2	EFFICIENCY	88.5% (Typ)	I/P:48VDC O/P:FULL LOAD Ta:25°C	88.84 %	P
3	DC CURRENT	490 mA / FULL LOAD (Max) 40 mA / NO LOAD (Max)	I/P:48VDC O/P:NO / FULL LOAD Ta:25°C	469 mA / FULL LOAD 29 mA / NO LOAD	P

**PROTECTION FUNCTION TEST**

NO	TEST ITEM	SPECICATION	TEST CONDITION	RESULT	VERDICT
1	OVER LOAD PROTECTION	110%~180% (Typ)	I/P:48VDC O/P:TESTING Ta:25°C	163 % HICCUP MODE AUTO-RECOVER	P
2	INPUT OVER VOLTAGE PROTECTION	>80VDC ~82VDC(Typ)	I/P:TESTING O/P:MINI. LOAD Ta:25°C	81.4 VDC SHUTDOWN OUTPUT VOLTAGE AUTO-RECOVER	P
3	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 < 0.8Vdc or short (-Vin)	I/P:48VDC O/P:FULL LOAD Ta:25°C	Power on : R.C>1.1Vdc or Open Power off : R.C<1.08Vdc or Short	P
2	TRIM CONTROL	-10%~ +10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 20k ohm VR	I/P:48VDC O/P:FULL LOAD Ta:25°C	Trim DOWN -9.51 % Trim UP 11.38 %	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 : 5 HRS I/P:48VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 15 HRS I/P:48VDC O/P:FULL 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> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>CENTER</td> <td>53.4°C</td> <td>97.8°C</td> </tr> </tbody> </table>			NO	Position	P/N	1	2	1	CASE	CENTER	53.4°C	97.8°C	
NO	Position	P/N	1	2											
1	CASE	CENTER	53.4°C	97.8°C											
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:48VDC O/P: 100% LOAD Ta= -40°C	TEST : OK	P										

DATE	SAMPLE	TEST RESULT	TESTER	APPROVAL
2011.11.15	RD SAMPLE 1122R	PASS	PETER	VINCENT