



Test Report : SKA40A-12

40W 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 | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------------|-------------------|--|-----------------|---------|
| 1 | VOLTAGE ACCURACY | -2%~+2% (Max) | I/P:12VDC O/P:100% LOAD Ta:25°C | 1.41% | P |
| 2 | RIPPLE & NOISE | 80mVp-p (Max) | I/P:12VDC O/P:FULL LOAD Ta:25°C | 35mV | P |
| 3 | LINE REGULATION | -0.5%~+0.5% (Max) | I/P:9VDC-18VDC O/P:FULL LOAD Ta:25°C | -0.02% ~ +0% | P |
| 4 | LOAD REGULATION | -0.5%~+0.5% (Max) | I/P:12VDC O/P:MIN-FULL LOAD Ta:25°C | -0.07% ~ +0.07% | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|---------------------|---|--|--|---------|
| 1 | INPUT VOLTAGE RANGE | 9VDC-18VDC | I/P:TESTING O/P:FULL LOAD Ta:25°C | 8.0-18VDC | P |
| 2 | EFFICIENCY | 90% (Typ) | I/P:12VDC O/P:FULL LOAD Ta:25°C | 89.83% | P |
| 3 | DC CURRENT | 3850 mA / FULL LOAD (Max) 150 mA / NO LOAD (Max) | I/P:12VDC O/P:NO / FULL LOAD Ta:25°C | 3766 mA / FULL LOAD 28 mA / NO LOAD | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECIFICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------------|--|---------------------------------------|--|---------|
| 1 | OVER LOAD PROTECTION | 110%~180% (Typ) | I/P:12VDC O/P:TESTING Ta:25°C | 133% HICCUP MODE AUTO-RECOVER | P |
| 2 | SHORT PROTECTION | SHORT EVERY OUTPUT 1 HOUR NO DAMAGE | I/P:18VDC 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:12VDC O/P:FULL LOAD Ta:25°C | Power on : R.C>1.1Vdc or Open Power off : R.C<1.1Vdc or Short | P |
| 2 | REMOTE SENSE | YES | I/P:12VDC O/P:FULL LOAD Ta:25°C | +SENSE OK -SENSE OK | P |
| 3 | TRIM CONTROL | +10%~ -10% (Typ) Trim ~ +Vout Trim DOWN Trim ~ -Vout Trim UP Using 500k ohm VR | I/P:12VDC O/P:FULL LOAD Ta:25°C | Trim DOWN -26.73% Trim UP +8.22% | 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 : 4HRS I/P:12VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 19HRS I/P:12VDC O/P:FULL LOAD Ta=60°C | | | P | | | | | | | | | | |
| <table border="1" style="margin-left: auto; margin-right: auto;"> <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>64.8°C</td> <td>98.1°C</td> </tr> </tbody> </table> | | | | | | NO | Position | P/N | 1 | 2 | 1 | CASE | CENTER | 64.8°C | 98.1°C |
| NO | Position | P/N | 1 | 2 | | | | | | | | | | | |
| 1 | CASE | CENTER | 64.8°C | 98.1°C | | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 3 HOURS | I/P:12VDC O/P: 100% LOAD Ta= -40°C | TEST : OK | P | | | | | | | | | | |

| DATE | SAMPLE | TEST RESULT | TESTER | APPROVAL |
|-----------|-----------|-------------|--------|--------------|
| 2010.3.17 | RD SAMPLE | PASS | PETER | VINCENT ZENG |