



# Test Report : SCWN03E-12

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3W DIP Package DC-DC Regulated 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 | -1.5 % ~ +1.5 % (Max) | I/P:5VDC<br>O/P:FULL LOAD<br>Ta:25°C          | +0.05 %           | P       |
| 2  | RIPPLE & NOISE   | 50 mVp-p (Max)        | I/P:5VDC<br>O/P:FULL LOAD<br>Ta:25°C          | 16.2 mV           | P       |
| 3  | LINE REGULATION  | -0.5% ~ +0.5% (Max)   | I/P:4.5VDC-9VDC<br>O/P:FULL LOAD<br>Ta:25°C   | -0.02% ~ +0.02%   | P       |
| 4  | LOAD REGULATION  | -0.5% ~ +0.5% (Max)   | I/P:5VDC<br>O/P:10% LOAD-FULL LOAD<br>Ta:25°C | -0.03 % ~ +0.03 % | P       |

**INPUT FUNCTION TEST**

| NO | TEST ITEM  | SPECICATION                                       | TEST CONDITION                            | RESULT                                | VERDICT |
|----|------------|---|---|---------------------------------------|---------|
| 1  | EFFICIENCY | 80 % (Typ)  | I/P:5VDC<br>O/P:FULL LOAD<br>Ta:25°C      | 80.7 %                                | P       |
| 2  | DC CURRENT | 750 mA / FULL LOAD (Max)<br>18 mA / NO LOAD (Max) | I/P:5VDC<br>O/P:NO / FULL LOAD<br>Ta:25°C | 744 mA / FULL LOAD<br>16 mA / NO LOAD | P       |

**PROTECTION FUNCTION TEST**

| NO | TEST ITEM                      | SPECICATION                                  | TEST CONDITION                          | RESULT                             | VERDICT |
|----|--------------------------------|--|---|------------------------------------|---------|
| 1  | OVER LOAD PROTECTION           | 120%~250% LOAD (Typ)                         | I/P:5VDC<br>O/P:TESTING<br>Ta:25°C      | 180 %                              | P       |
| 2  | INPUT UNDER VOLTAGE PROTECTION | POWER DOWN 4.2V (Typ)<br>POWER UP 4.4V (Typ) | I/P:TESTING<br>O/P: 10% LOAD<br>Ta:25°C | POWER DOWN:4.03V<br>POWER UP:4.09V | P       |
| 3  | SHORT PROTECTION               | CONTINUOUS                                   | I/P:9VDC<br>O/P:FULL LOAD<br>Ta:25°C    | NO DAMAGE<br>OK                    | 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<br>Ta:25°C | I/P-O/P: 0.002mA<br>NO DAMAGE | P       |
| 2  | ISOLATION RESISTANCE | I/P-O/P:500VDC>100MΩ | I/P-O/P:500 VDC<br>Ta:25°C      | I/P-O/P>100MΩ<br>NO DAMAGE    | P       |

## RELIABILITY TEST

### ENVIRONMENT TEST

| NO | TEST ITEM                    | SPECICATION  | TEST CONDITION  | RESULT    | VERDICT  |   |   |   |      |        |        |  |   |
|----|------------------------------|--|---|-----------|----------|---|---|---|------|--------|--------|--|---|
| 1  | TEMPERATURE RISE TEST        | 1. ROOM AMBIENT BURN-IN : 12HRS<br>I/P:5VDC O/P:FULL LOAD Ta=25°C<br>2. HIGH AMBIENT BURN-IN : 12HRS<br>I/P:5VDC O/P:FULL LOAD Ta=85°C | <table border="1" data-bbox="651 1055 1147 1149"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>29.8°C</td> <td>93.8°C</td> </tr> </tbody> </table> | NO        | Position | 1 | 2 | 1 | CASE | 29.8°C | 93.8°C |  | P |
| NO | Position                     | 1  | 2   |           |          |   |   |   |      |        |        |  |   |
| 1  | CASE                         | 29.8°C   | 93.8°C  |           |          |   |   |   |      |        |        |  |   |
| 2  | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOURS  | I/P:5VDC<br>O/P: FULL LOAD<br>Ta= -40°C   | TEST : OK | P        |   |   |   |      |        |        |  |   |

### OTHER

| NO | TEST ITEM | SPECICATION  | TEST CONDITION | RESULT | VERDICT |
|----|-----------|--|----------------|--------|---------|
| 1  | MTBF      | MIL-HDBK-217F,GB,25°C<br>TOTAL FAILURE RATE : 0.399<br>M.T.B.F : 2,507,065 HRS |                |        | P       |

| TEST RESULT | TESTER     | APPROVAL     |
|-------------|------------|--------------|
| PASS        | ALROY WANG | VINCENT ZENG |