



# Test Report : DPAN02A-05

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2W SIP 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        | SPECIFICATION         | TEST CONDITION                                 | RESULT                                 | VERDICT |
|----|------------------|-----------------------|--|--|---------|
| 1  | VOLTAGE ACCURACY | -1.5 % ~ +1.5 % (Max) | I/P:12VDC<br>O/P:FULL LOAD<br>Ta:25°C          | V1 +0.22%<br>V2 -0.02%                 | P       |
| 2  | RIPPLE & NOISE   | 75 mVp-p (Max)        | I/P:12VDC<br>O/P:FULL LOAD<br>Ta:25°C          | V1 11.3mV<br>V2 12.5mV                 | P       |
| 3  | LINE REGULATION  | -0.5% ~ +0.5% (Max)   | I/P:9VDC-18VDC<br>O/P:FULL LOAD<br>Ta:25°C     | V1 -0.02%~ +0.01%<br>V2 -0.06%~ +0.08% | P       |
| 4  | LOAD REGULATION  | -1.0% ~ +1.0% (Max)   | I/P:12VDC<br>O/P:10% LOAD-FULL LOAD<br>Ta:25°C | V1 -0.04%~ +0.04%<br>V2 -0.02%~ +0.02% | P       |

**INPUT FUNCTION TEST**

| NO | TEST ITEM  | SPECIFICATION                                    | TEST CONDITION                             | RESULT                                | VERDICT |
|----|------------|--|--|---------------------------------------|---------|
| 1  | EFFICIENCY | 79% (Typ)  | I/P:12VDC<br>O/P:FULL LOAD<br>Ta:25°C      | 80.3%                                 | P       |
| 2  | DC CURRENT | 211mA / FULL LOAD (Max)<br>31 mA / NO LOAD (Max) | I/P:12VDC<br>O/P:NO / FULL LOAD<br>Ta:25°C | 208mA / FULL LOAD<br>30.6mA / NO LOAD | P       |

**PROTECTION FUNCTION TEST**

| NO | TEST ITEM            | SPECIFICATION | TEST CONDITION                        | RESULT     | VERDICT |
|----|----------------------|---------------|---------------------------------------|------------|---------|
| 1  | OVER LOAD PROTECTION | YES           | I/P:12VDC<br>O/P:TESTING<br>Ta:25°C   | 184%       | P       |
| 2  | SHORT PROTECTION     | CONTINUOUS    | I/P:18VDC<br>O/P:FULL LOAD<br>Ta:25°C | CONTINUOUS | 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<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:12VDC O/P:FULL LOAD Ta=25°C<br>2. HIGH AMBIENT BURN-IN : 12HRS<br>I/P:12VDC O/P:FULL LOAD Ta=85°C   |  |           | P        |   |   |   |      |        |        |  |  |
|    |                              | <table border="1"> <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>31.7°C</td> <td>91.7°C</td> </tr> </tbody> </table> |  | NO        | Position | 1 | 2 | 1 | CASE | 31.7°C | 91.7°C |  |  |
| NO | Position                     | 1  | 2  |           |          |   |   |   |      |        |        |  |  |
| 1  | CASE                         | 31.7°C   | 91.7°C                                   |           |          |   |   |   |      |        |        |  |  |
| 2  | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOURS  | I/P:12VDC<br>O/P: FULL LOAD<br>Ta= -40°C | TEST : OK | P        |   |   |   |      |        |        |  |  |

**OTHER**

| NO | TEST ITEM | SPECICATION   | TEST CONDITION | RESULT | VERDICT |
|----|-----------|---|----------------|--------|---------|
| 1  | MTBF      | MIL-KDBK-217F NOTICE 1 PARTS COUNT<br>TOTAL FAILURE RATE : 0.319<br>M.T.B.F : 3134870 HRS |                |        | P       |

| TEST RESULT | TESTER      | APPROVAL     |
|-------------|-------------|--------------|
| PASS        | PETER CHENG | VINCENT ZENG |