



Test Report : DETN01L-12

1W SMD Package DC-DC Unregulated Converter

■ DESIGN VERIFY TEST

Output Function Test

Input Function Test

Protection Function Test

■ SAFETY TEST

Safety Test

■ RELIABILITY TEST

Environment Test

Other Test

DESIGN VERIFY TEST
OUTPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------------|-------------------|--|--|---------|
| 1 | VOLTAGE ACCURACY | ±2%(Max) | I/P:5VDC O/P:FULL LOAD Ta:25°C | V1 +0.22% V2 -0.21% | P |
| 2 | RIPPLE & NOISE | 75 mVp-p (Max) | I/P:5VDC O/P:FULL LOAD Ta:25°C | V1 63mV V2 65mV | P |
| 3 | LINE REGULATION | -12% ~ +12% (Max) | I/P:4.5VDC-5.5VDC O/P:FULL LOAD Ta:25°C | V1 -11.52% ~ +11.22% V2 -11.51% ~ +11.23% | P |
| 4 | LOAD REGULATION | -8% ~ +8% (Max) | I/P:5VDC O/P:MINI LOAD-FULL LOAD Ta:25°C | V1 -3.20% ~ +3.40% V2 -3.15% ~ +3.53% | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------|---|---|---------------------------------------|---------|
| 1 | EFFICIENCY | 78 % (Typ) | I/P:5VDC O/P:FULL LOAD Ta:25°C | 79.1% | P |
| 2 | DC CURRENT | 257 mA / FULL LOAD (Max) 28 mA / NO LOAD (Max) | I/P:5VDC O/P:NO / FULL LOAD Ta:25°C | 257mA / FULL LOAD 27.8mA / NO LOAD | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------------|-------------|---------------------------------|--------|---------|
| 1 | SHORT PROTECTION | < 0.5S MAX. | I/P:5VDC O/P:TEST Ta:25°C | 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 Ta:25°C | I/P-O/P: 0.002mA 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 : 8 HRS I/P:5VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 8 HRS I/P:5VDC 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>36.3°C</td> <td>95.1°C</td> </tr> </tbody> </table> | | NO | Position | 1 | 2 | 1 | CASE | 36.3°C | 95.1°C | | |
| NO | Position | 1 | 2 | | | | | | | | | | |
| 1 | CASE | 36.3°C | 95.1°C | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 2 HOURS | I/P:5VDC O/P: FULL LOAD Ta= -40°C | TEST : OK | P | | | | | | | | |

OTHER

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|-----------|--|----------------|--------|---------|
| 1 | MTBF | MIL-HDBK-217F,GB,25°C,Full Load TOTAL FAILURE RATE : 1.39600 M.T.B.F : 716331.87 HRS | | | P |

| TEST RESULT | TESTER | APPROVAL |
|-------------|--------|--------------|
| PASS | ARCHEN | VINCENT ZENG |