



Test Report : GD2-151805

2W SIP Package IGBT Sic Gate Driver Power DC-DC 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 | -5.0% ~ +5.0 % | I/P:15VDC O/P:FULL LOAD Ta:25°C | V1: -1.45% V2: +1.92% | P |
| 2 | RIPPLE & NOISE | 50 mVp-p (Max) | I/P:15VDC O/P:FULL LOAD Ta:25°C | V1: 22mV V2: 18mV | P |
| 3 | LINE REGULATION | -12% ~ +12% | I/P:13.5VDC~16.5VDC O/P:FULL LOAD Ta:25°C | V1: -10.28% ~ +10.29% V2: -10.71% ~ +10.83% | P |
| 4 | LOAD REGULATION | -5.0% ~ +5.0% | I/P:15VDC O/P:10% LOAD~FULL LOAD Ta:25°C | V1: -1.68% ~ +1.83% V2: -2.08% ~ +2.56% | P |

INPUT FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|---------------|---------------------------------------|--|---|---------|
| 1 | EFFICIENCY | 81% | I/P:15VDC O/P:FULL LOAD Ta:25°C | 81.32% | P |
| 2 | DC CURRENT | 172 mA / FULL LOAD 35 mA / NO LOAD | I/P:15VDC O/P:NO / FULL LOAD Ta:25°C | 167.9mA / FULL LOAD 26.6mA / NO LOAD | P |
| 3 | START UP TIME | 100ms max. | I/P:15VDC O/P:FULL LOAD Ta:25°C | V1: 12.0mS V2: 2.8mS | P |

PROTECTION FUNCTION TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|------------------|-------------|---|---------------------------|---------|
| 1 | SHORT PROTECTION | CONTINUOUS | I/P:16.5VDC O/P:FULL LOAD Ta:25°C | NO DAMAGE AUTO-RECOVER | P |

SAFETY TEST
SAFETY TEST

| NO | TEST ITEM | SPECICATION | TEST CONDITION | RESULT | VERDICT |
|----|----------------------|----------------------|---------------------------------|-------------------------------|---------|
| 1 | WITHSTAND VOLTAGE | I/P-O/P:6.2K VDC/min | I/P-O/P:6.2K 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 : 4HRS I/P:15VDC O/P:FULL LOAD Ta=25°C 2. HIGH AMBIENT BURN-IN : 4HRS I/P:15VDC O/P:FULL LOAD Ta=85°C 3. HIGH AMBIENT BURN-IN : 8HRS I/P:15VDC O/P:50% LOAD Ta=90°C | | | P | | | | | | | | | |
| | | <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>NO</th> <th>Position</th> <th>1</th> <th>2</th> <th>3</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CASE</td> <td>43.3°C</td> <td>101.3°C</td> <td>105.5°C</td> </tr> </tbody> </table> | | | | NO | Position | 1 | 2 | 3 | 1 | CASE | 43.3°C | 101.3°C |
| NO | Position | 1 | 2 | 3 | | | | | | | | | | |
| 1 | CASE | 43.3°C | 101.3°C | 105.5°C | | | | | | | | | | |
| 2 | LOW TEMPERATURE TURN ON TEST | TURN ON AFTER 4 HOURS | I/P:15VDC 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 TOTAL FAILURE RATE : 0.07153 M.T.B.F : 13,980K HRS | | | P |

| TEST RESULT | TESTER | APPROVAL |
|-------------|---------------------|--------------------|
| PASS | ARCHEN HSIAO | PETER CHENG |