



# Test Report : GD2-15203.5

---

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	-8.0% ~ +2.0 %	I/P:15VDC O/P:FULL LOAD Ta:25°C	V1: -2.81% V2: -2.23%	P
2	RIPPLE & NOISE	50 mVp-p (Max)	I/P:15VDC O/P:FULL LOAD Ta:25°C	V1: 26mV V2: 16mV	P
3	LINE REGULATION	-12% ~ +12%	I/P:13.5VDC~16.5VDC O/P:FULL LOAD Ta:25°C	V1: -10.26% ~ +10.29% V2: -10.99% ~ +11.16%	P
4	LOAD REGULATION	-5.0% ~ +5.0%	I/P:15VDC O/P:10% LOAD~FULL LOAD Ta:25°C	V1: -1.61% ~ +1.99% V2: -2.28% ~ +3.26%	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	81.13%	P
2	DC CURRENT	172 mA / FULL LOAD 35 mA / NO LOAD	I/P:15VDC O/P:NO / FULL LOAD Ta:25°C	166.5mA / FULL LOAD 25.8mA / NO LOAD	P
3	START UP TIME	100ms max.	I/P:15VDC O/P:FULL LOAD Ta:25°C	V1: 12.6mS 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			<b>P</b>									
		<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>43.4°C</td> <td>101.9°C</td> <td>106.2°C</td> </tr> </tbody> </table>				NO	Position	1	2	3	1	CASE	43.4°C	101.9°C
NO	Position	1	2	3										
1	CASE	43.4°C	101.9°C	106.2°C										
2	LOW TEMPERATURE TURN ON TEST	TURN ON AFTER 4 HOURS	I/P:15VDC O/P: FULL LOAD Ta= -40°C	TEST : OK	<b>P</b>									

**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			<b>P</b>

TEST RESULT	TESTER	APPROVAL
<b>PASS</b>	<b>ARCHEN HSIAO</b>	<b>PETER CHENG</b>