

H BRIDGE IGBT DRIVER MICRO MASTER

Excellent Plug & Play solution!!

Features

- Low Power dual channel driver
- 2X1 Watt Output Power
- $\pm 6A$ gate current, +15V/-10V
- Drive up to 1200V IGBT Module
- +15V/+24V (Opt.) Input Power supply
- Standard Electrical interface
- Soft Shutdown
- In Built Dead time Generation
- Switching frequency up to 50 KHz
- Approx. 200 nS delay time
- Primary/Sec. Supply under voltage lockout
- ASIC based driver solution
- Vce monitoring for short circuit protection
- Superior EMC

Benefits

- On board isolated DC-DC converter
- Interface for 13V...15 V logic level
- Common fault feedback signal to interface with controller
- Field configurable blocking time
- Safe isolation to IEC 61800-5-1, IEC-60664-1 & En50178, protection class II
- User Selectable Rg

Application

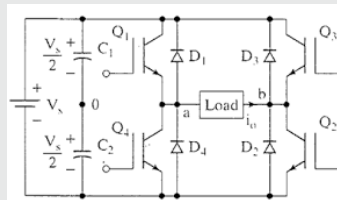


BALLAST



Industrial Drives
&
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DRIVES



CONVERTER - INVERTER



CORONA TRETAR



UPS



Home Power/
Appliances Battery Inverter Grid Supply

SOLAR INVERTER



MEDICAL-X RAY



INDUCTION EQUIPMENT

Recommended Operating condition

Power Supply & Monitoring	MIN	TYP	MAX
1. Supply Voltage Vcc to GND	: 14.5	15	15.5 V
2. Supply Current Icc (Without Load)	: 35 mA		
3. Under Voltage Monitor, Set Fault	: 11.3	12.0	12.7 V

Logical Inputs & Outputs

1. Input Bias Current	: 190 μ A
2. Interface Logic level	: 12 V 15.0 V logic level
3. Turn-on threshold	: 12 V
4. Turn off threshold	: 10.7 V
5. SOx output, failure Condition	: 0.7 V Max., I (SOx) < 20 mA total

Short-Circuit Protection

1. Vce-monitoring threshold	: 9.3 V (Internally Fix)
2. Available response time	: 4.5 μ Sec (User selectable R18, R19)
3. Minimum response time	: 4.5 μ Sec
4. Available blocking time	: 49 mSec (User Selectable R7)
5. Minimum blocking time	: 9 μ Sec

Timing Characteristic (Input to Output of Driver board)

1. Turn-on delay $t_{d(on)}$: 200 nSec
2. Turn-off delay $t_{d(off)}$: 250 nSec
3. Deadband	: 4 μ Sec

For detail timing information of driver core, refer part specific datasheet.

Protection Available on driver board

1. Primary/Secondary Under voltage monitoring.
2. Power supply reverse polarity protection.
3. Soft Shut down, For Over Voltage protection.
4. Vce monitoring for short circuit protection.
5. Schmitt trigger at the Input stage, highly immune to noise.
6. Gate clamping & Safe Torque operation.

Electrical Isolation

Test voltage (50 Hz/1 sec)

1. Primary to secondary side	: 4.0 KV
2. Secondary to secondary side	: 4.0 KV

This gate driver is suited for HiPot testing. Nevertheless, it is strongly recommended to limit the testing time to 1s slots. Excessive HiPot testing at voltages much higher than 850V_{AC(eff)} may lead to insulation degradation. No degradation has been observed over 1 min. testing at 2500V_{AC(eff)}. Each driver core production sample shipped has undergone 100% testing at the given value or higher for 1s.

Output Voltage / Current / Power

1. Turn-on voltage, V _{GHx}	: 15.0 V, any load condition
2. Turn-off voltage, V _{GLx}	: -10.2 V, No load
3. Turn-off voltage, V _{GLx}	: -8.4 V @ 1 W
4. Gate Peak Current I _{out}	: \pm 6 Amp
5. Internal Gate resistance	: 0.5 Ω
6. External Gate resistance	: 2.5 Ω , Minimum
7. Switching frequency F	: 50 KHz
8. Output Power	: 0.9 W, T _{amb} < 85 °C : 1.0 W, T _{amb} < 70 °C

Interfacing with Control Circuit

AUX_5 (Error Feedback) : Low to High (JP1- Pin 1 & 2) / High to Low (JP1- Pin 2 & 3)

LED Indication

Power ON: Green (Normally ON, Off during fault)
ERROR : RED (ON during Fault)

Environmental

Working temperature	: -40 to 105 °C
Storage temperature	: -40 to 90 °C


Mechanical Dimension

PCB	: 125 mm X 125 mm
Mounting Hole	: 115 mm X 115 mm
Enclosure	: Open Frame
Weight	: 0.3 Kg

Driving Capability

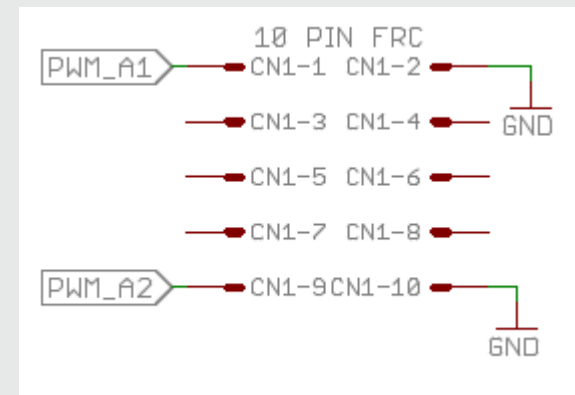
The 2SC0106T drives all usual IGBT modules up to 450 A /1200 V or 600A/600V. Driving power depends on switching frequency so in case of any doubt during selection process pl. contact our sales / technical representative.

ORDERING CODE - 220221053

H BRIDGE DRIVER	Description	Specify X from Table
	1W, 6A, 50KHz 1200V CLASS IGBT DRIVER 10-PIN FRC Electrical Interface	
		Default Gate Resistor: 10E Default Power Supply: +15 V

WIRING CONNECTION

10-PIN FRC CN1, CN2 Pin detail:



MSTB Pin detail:

