

FEATURES

- Low Power dual channel driver 2X2.4 Watt Output Power
- 10A Source & Sink gate current.
- +15V/-9V Drive up to 2100V DC IGBT Module
- Soft Turn off
- 4A Internal Active Miller clamp function
- 2.25-V to 5.5-V Input Supply Voltage
- 5.7 K Vrms isolation
- Switching frequency up to 50KHz
- Less than 130 ns propagation delay time
- Primary/Sec. Supply under voltage lockout
- Vce monitoring for short circuit protection
- 200 ns response time fast DESET protection
- Interlocking when both pulse high

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ADVANTAGE

- On board isolated DC-DC converter - No need of separate SMPS.
- Interface for 3.3V...5 V logic level - Direct compatible with any Controller.
- Common fault feedback signal to interface with controller - Avoid Extra component.
- Field configurable blocking time - Flexibility in your hand, use any make IGBT !!
- User Selectable Rg-on & off
- Dead Band Selectable.

APPLICATIONS

- Drives
- Ballast
- Converter – Inverter
- UPS
- Solar Inverter
- Medical X-Ray

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Recommended Power Supply

	MIN	TYP	MAX
• Power Supply & Monitoring			
• Supply Voltage Vcc to GND (V)	: 14.25	15	16.5
• Supply Current Icc (With Load)	: 100mA		

Logical Inputs & Outputs

• Interface Logic level	: 3.3 to 5.0 V
• Error output for Deset and Power Supply Failure.	Active Low (0V) for Error and Normal for High (5V 20ma) all Error are open Collector direct parallel multi Error.

Short-Circuit Protection

• Vce-monitoring threshold	: 9.2 V (Internally fix)
• Available response time	: 4.4 μ Sec (User selectable)
• Minimum response time	: 1.0 μ Sec
• Minimum blocking time	: 1.0 μ Sec

Timing Characteristic

• Turn-on delay t	: 185 ns
• Turn-off delay t	: 185 ns
• Output rise time t	: 35 ns MAX
• Output fall time t	: 37 ns MAX
• Transmission delay of fault state	: 330ns

Protection Available on Driver Board

- Primary/Secondary Under voltage monitoring.
- Power supply, short circuit & reverse polarity protection.
- Soft Shut down for Over Voltage protection.
- Vce monitoring for short circuit protection
- Schmitt trigger at the Input stage, highly susceptible to noise.
- Interlocking when both pulse high

Output Voltage / Current / Power

• Turn-on voltage, V	: 14.5- 15.5V, any load condition
• Turn-off voltage, V	: -7 TO - 9 V, No load
• Gate Peak Current Iout	: +10A source -10A sink
• Internal Gate resistance	: 0.0 Ω
• External Gate resistance	: 1.5 Ω -10 Ω
• Switching frequency F	: 50Khz
• Output Power	: 2.4 W @105°C
• Gate Average Current Iavg	: 100ma

Electrical Isolation

- Test voltage (50 Hz/60 sec)
- Primary to secondary side : 5.7 KV
 - Secondary to secondary side : 5.7 KV

Mechanical Dimension (Option 2)

PCB	: 87 X 67 mm
Mounting Hole	: 57 X 47 X4.2 mm
Panel Mounted	: Direct IGBT module mounting
Enclosure	: Open Frame
Weight	: 0.3 Kg
Layer	: 4 Layer

Environmental

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

Driving Capability : Any Make

All usual IGBT MODULE up to 1200A /1700V @ 10 KHZ.

Driving power depends on switching frequency so in case of any doubt during selection process please contact us.

Interfacing with Control Circuit

1. ERROR: High to Low (FLT)
2. Power supply monitoring High to Low. (Rdy)

LED Indication

Power ON: Green (Normally OFF, ON during Power supply fault)

Error : Red (ON DESAT/ IGBT Fault)

Interfacing with Control Circuit

U3-14- Pin input FRC Details:

2:- PWM_H	4 :- PWM_L	3 :- ERROR	8,9 :- +15V
10,11,12 :- GND	1,5,6,7,13,14 :- NOT USE		

OR

CON2-6 Pin Connector

1 :- +15V	4 :- PWM_H
2,5 :- GND	6 :- ERROR
3 :- PWM_L	

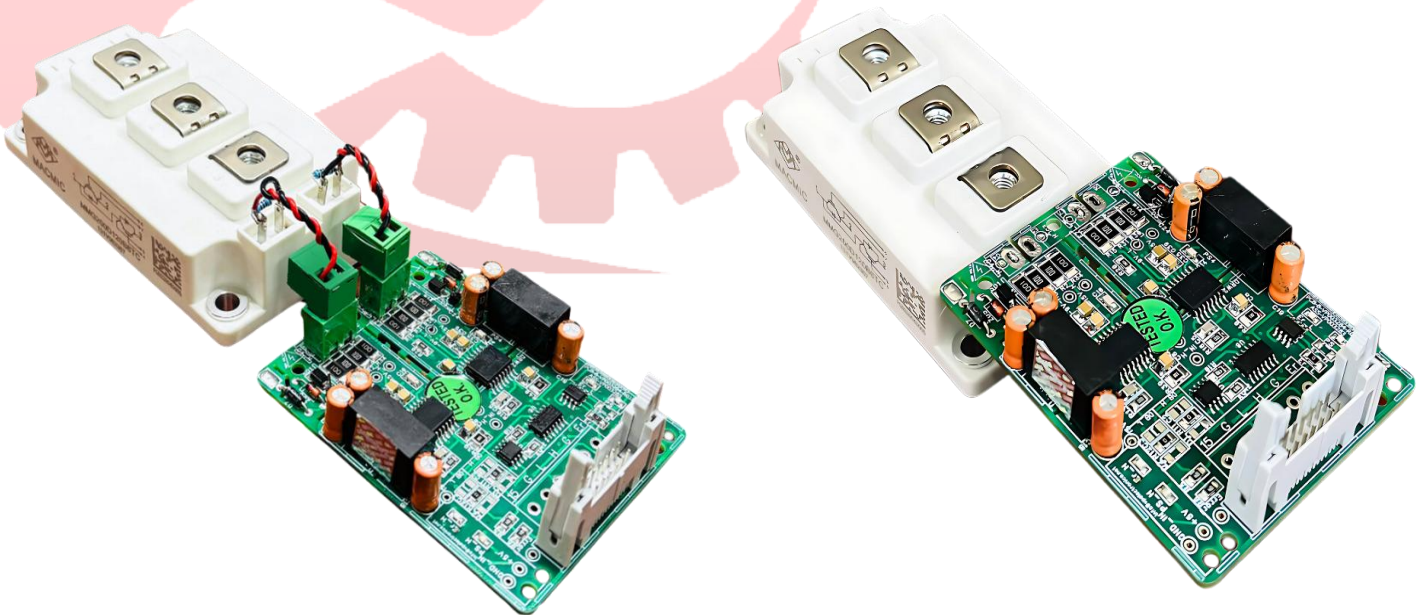
Sr.no	IGBT DRIVER	VP PART CODE	REMARKS
1	2CHDIG_PRO_F10	VP003283	INPUT 16 PIN FRC CONNECTOR
2	2CHDIG_PRO_C10	VP003366	INPUT 6PINX5.08MM CONNECTOR

Dead band Selection		
Sr.no	Cap_C2_C3_pf	Dead Band_usec
1	10	1.4
2	22	1.6
3	33	1.8
4	68	2
5	100	2.3
6	220	6
7	330	7.2
8	470	13.2

IGBT GATE DRIVER CURRENT CALCULATION

I_{peak}
 I_{avg}

$\Delta V / (R_g + R_{gint})$
 $Q_g * f_{sw}$



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