

## SINGLE CHANNEL

### SIC DRIVER



VP008194

#### BENEFITS

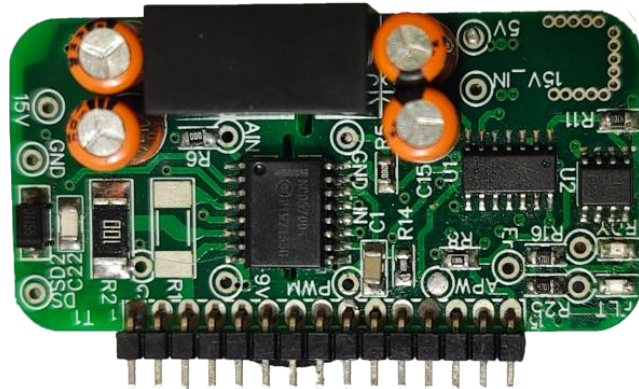
- On board isolated DC-DC converter - No need of separate SMPS.
- Interface for 3.3V...5V logic level- Direct compatible with any Controller.
- Common fault feedback signal to interface with controller - Avoid Extra component.
- Field configurable blocking time - Flexibility in your hand, use any make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

#### FEATURE

- Low Power Single channel driver 2.4 Watt Output Power.
- 2.5A source & 5A sink gate current.
- +15V/-5V Drive up to 2100V DC IGBT Module
- Short circuit clamping
- Active shut down
- 2A Internal Active Miller clamp function
- 2.25-V to 5.5-V Input Supply Voltage
- 5.7 KVRms isolation.
- Switching frequency up to 100 KHz
- 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

#### APPLICATIONS

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



Total Solution of Power Electronics


#### VP Electronics

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<p><b><u>Recommended Power Supply</u></b></p> <ul style="list-style-type: none"> <li>Power Supply &amp; Monitoring MIN TYP MAX</li> <li>Supply Voltage Vcc to GND : 14.5 15 15.5</li> <li>Supply Current Icc (Without Load) : 100mA</li> </ul>	<p><b><u>Mechanical Dimension (Option 2)</u></b></p> <p>PCB : 85 X 65 mm</p> <p>Mounting Hole : 53.5 X 28.5 X 2 mm</p> <p>Panel Mounted : Direct IGBT module mounting</p> <p>Enclosure : Open Frame</p> <p>Weight : 0.3 Kg</p> <p>Layer : 4 Layer</p>
<p><b><u>Logical Inputs &amp; Outputs</u></b></p> <ul style="list-style-type: none"> <li>Interface Logic level : 3.3 to 5.0 V</li> <li>Error output for Deset and Power supply failure : Active Low (0V) and Normal High(5V)</li> </ul>	<p><b><u>Environmental</u></b></p> <p>Working temperature : -40 to 105 °C</p> <p>Storage temperature : -40 to 90 °C</p>
<p><b><u>Short-Circuit Protection</u></b></p> <ul style="list-style-type: none"> <li>Vce-monitoring threshold : 9V (Internally fix)</li> <li>Available response time : 1µSec (User selectable)</li> <li>Minimum response time : 1.0 µSec</li> <li>Minimum blocking time : 1.0 µSec</li> </ul>	<p><b><u>Driving Capability :Any Make</u></b></p> <p>All usual SIC-MOSFET up to 200A /1700V .</p> <p>Driving power depends on switching frequency &amp; gate charge of SIC/MOSFET in case of any doubt during selection process pl. contact us.</p>
<p><b><u>Timing Characteristic</u></b></p> <ol style="list-style-type: none"> <li>Turn-on delay t : 185 ns</li> <li>Turn-off delay t : 185 ns</li> <li>Output rise time t : 35 ns MAX</li> <li>Output fall time t : 37 ns MAX</li> <li>Transmission delay of fault state : 330ns</li> </ol>	<p><b><u>Interfacing with Control Circuit</u></b></p> <ol style="list-style-type: none"> <li>ERROR : High to Low (FLT)</li> <li>Power supply monitoring High to Low. (RDY)</li> </ol>
<p><b><u>Protection Available on Driver Board</u></b></p> <ul style="list-style-type: none"> <li>Primary/Secondary Under voltage monitoring.</li> <li>Power supply short circuit &amp; reverse polarity protection.</li> <li>Soft Shut down for Over Voltage protection.</li> <li>Vce monitoring for short circuit protection.</li> <li>Schmitt trigger at the Input stage, highly susceptible to noise.</li> <li>Interlocking when both pulse high</li> </ul>	<p><b><u>LED Indication</u></b></p> <p>Power ON: Green (Normally OFF, ON during Power supply fault)</p> <p>ERROR : RED (ON during Under Voltage / DESAT/ IGBT Fault)</p>
<p><b><u>Electrical Isolation</u></b></p> <p>Test voltage (50 Hz/60 sec)</p> <ul style="list-style-type: none"> <li>Primary to secondary side : 5.7 KV</li> <li>Secondary to secondary side : 5.7 KV</li> </ul>	<p><b><u>Interfacing with Control Circuit</u></b></p> <p><b>STRIP 15 Pin Details:</b></p> <p>OUTPUT</p> <p>3 PWM 1 DESET</p> <p>4 GND 2,5,6,7,8,13 NOT USE</p> <p>INPUT</p> <p>15 PWM IN 14 ERROR</p> <p>9,10 GND IN 11,12 +15V POWER SUPPLY</p>
<p><b><u>Output Voltage / Current / Power</u></b></p> <ul style="list-style-type: none"> <li>Turn-on voltage, V : 14.5- 15.5V, any load condition</li> <li>Turn-off voltage, V : -4 TO -5V, Noload</li> <li>Gate Peak Current Iout : 2.5A source 5A sink</li> <li>Internal Gate resistance : 0.0Ω</li> <li>External Gate resistance : 1.5Ω-4.7Ω</li> <li>Switching frequency F : 100Khz</li> <li>Output Power : 2.4 W Tamb105°C</li> </ul>	<div data-bbox="842 1801 1510 1890">  <p><b>VP Electronics</b>  Address :- 53, Friends enclave , east block , sultan puri road,delhi :- 110086  Phone :- +91-11-25478313 , +91-11-25488313 , +91-11-25961617  Email :-info@vpelectronics.net Website:-www.vpelectronics.net</p> </div> <p>Total Solution of Power Electronics</p>