Bourns Announces the Release of the Insulated Gate Bipolar Transistor (IGBT) Discrete Solution

Model BID Series

Riverside, California – August 5, 2022 – Bourns, Inc., a leading manufacturer and supplier of electronic components, is pleased to introduce the Model BID Series Insulated Gate Bipolar Transistor (IGBT) Discrete Solution. By combining technology from a MOSFET gate and a bipolar transistor, the Bourns® IGBT Discrete BID Series creates a component designed for high voltage and high current applications. This device uses advanced Trench-Gate Field-Stop technology to provide greater control of the dynamic characteristics, which, in turn, results in a lower Collector-Emitter Saturation Voltage ($V_{CE(sat)}$) and fewer switching losses. In addition, due to the thermally efficient TO-252, TO-247 and TO-247N packages, the devices can provide a lower thermal resistance $R_{th(j-c)}$, making them suitable IGBT solutions for Switch-Mode Power Supplies (SMPS), Uninterruptible Power Sources (UPS), and Power Factor Correction (PFC) applications.

The material characteristics of the devices, their features and potential applications are provided below*.

<table>
<thead>
<tr>
<th>Model</th>
<th>Photo</th>
<th>Package</th>
<th>Feature</th>
<th>$V_{GES}$ (V)</th>
<th>$I_C$ @ $T=100 , ^\circ\text{C}$ (A)</th>
<th>Typ. $V_{CE(sat)}$ @ $I_C$, $V_{ge}=15 , V$ (V)</th>
<th>$I_F$ @ $T=100 , ^\circ\text{C}$ (A)</th>
<th>Operating Junction Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIDD05N60T</td>
<td><img src="image" alt="BIDD05N60T" /></td>
<td>TO-252</td>
<td>Medium Speed</td>
<td>600</td>
<td>5</td>
<td>1.5</td>
<td>—</td>
<td>-55 °C to +150 °C</td>
</tr>
<tr>
<td>BIDW20N60T</td>
<td><img src="image" alt="BIDW20N60T" /></td>
<td>TO-247</td>
<td>Medium Speed</td>
<td>600</td>
<td>20</td>
<td>1.7</td>
<td>20</td>
<td>-55 °C to +150 °C</td>
</tr>
<tr>
<td>BIDW30N60T</td>
<td><img src="image" alt="BIDW30N60T" /></td>
<td>TO-247</td>
<td>Medium Speed</td>
<td>600</td>
<td>30</td>
<td>1.65</td>
<td>30</td>
<td>-55 °C to +150 °C</td>
</tr>
<tr>
<td>BIDW50N65T</td>
<td><img src="image" alt="BIDW50N65T" /></td>
<td>TO-247</td>
<td>Medium Speed</td>
<td>650</td>
<td>50</td>
<td>1.65</td>
<td>50</td>
<td>-55 °C to +150 °C</td>
</tr>
<tr>
<td>BIDNW30N60H3</td>
<td><img src="image" alt="BIDNW30N60H3" /></td>
<td>TO-247N</td>
<td>High Speed</td>
<td>600</td>
<td>30</td>
<td>1.65</td>
<td>12</td>
<td>-55 °C to +150 °C</td>
</tr>
</tbody>
</table>

*T$_{C} = 25 \, ^\circ\text{C} \text{ Unless otherwise specified}
### Model BIDD05N60T

**Features**
- 600 V, 5 A, low Collector-Emitter Saturation Voltage ($V_{CE(sat)}$)
- Trench-Gate Field-Stop technology
- Optimized for conduction
- Robust
- RoHS compliant*

**Applications**
- SMPS
- UPS
- PFC

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### Model BIDW20N60T

**Features**
- 600 V, 20 A, low Collector-Emitter Saturation Voltage ($V_{CE(sat)}$)
- Trench-Gate Field-Stop technology
- Optimized for conduction
- Low switching loss
- RoHS compliant*

**Applications**
- SMPS
- UPS
- PFC
- Stepper motors

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### Model BIDW50N65T

**Features**
- 650 V, 50 A, low Collector-Emitter Saturation Voltage ($V_{CE(sat)}$)
- Trench-Gate Field-Stop technology
- Optimized for conduction
- RoHS compliant*

**Applications**
- SMPS
- UPS
- PFC
- Inverters

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### Model BIDW30N60T

**Features**
- 600 V, 30 A, low Collector-Emitter Saturation Voltage ($V_{CE(sat)}$)
- Trench-Gate Field-Stop technology
- Optimized for conduction
- RoHS compliant*

**Applications**
- SMPS
- UPS
- PFC
- Induction heating

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### Model BIDNW30N60H3

**Features**
- 600 V, 30 A, low Collector-Emitter Saturation Voltage ($V_{CE(sat)}$)
- Trench-Gate Field-Stop technology
- Low switching loss
- Fast switching
- RoHS compliant*

**Applications**
- SMPS
- UPS
- PFC
- Induction heating

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Product data sheets with detailed specifications can be viewed on the Bourns website at [www.bourns.com/products/IGBT](http://www.bourns.com/products/IGBT).

If you have questions or need additional information, please feel free to contact [Bourns Customer Service / Inside Sales](mailto:customerservice@bourns.com).

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