






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

Model BID Series

Riverside, California – TO BE RELEASED 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*.

Model	Photo	Package	Feature	V_{CES} (V)	I_C @ $T=100^\circ\text{C}$ (A)	Typ. $V_{CE(sat)}$ @ I_C , $V_{ge}=15\text{ V}$ (V)	I_F @ $T=100^\circ\text{C}$ (A)	Operating Junction Temperature
BIDD05N60T		TO-252	Medium Speed	600	5	1.5	—	-55 °C to +150 °C
BIDW20N60T		TO-247	Medium Speed	600	20	1.7	20	-55 °C to +150 °C
BIDW30N60T		TO-247	Medium Speed	600	30	1.65	30	-55 °C to +150 °C
BIDW50N65T		TO-247	Medium Speed	650	50	1.65	50	-55 °C to +150 °C
BIDNW30N60H3		TO-247N	High Speed	600	30	1.65	12	-55 °C to +150 °C

* $T_C = 25^\circ\text{C}$ Unless otherwise specified

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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

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

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

Model BIDW50N65T

Features

- 600 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

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

Product data sheets with detailed specifications can be viewed on the Bourns website at www.bourns.com.

If you have questions or need additional information, please feel free to contact Bourns Customer Service / Inside Sales.

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.