



Analog and Discrete  
Power Solutions

## Ultra-Low $V_{CE(sat)}$ NPN and PNP Bipolar Transistors from Diodes Incorporated Maximize Power Density and Efficiency in Compact Automotive Designs

**Plano, Texas – December 17, 2025** – Diodes Incorporated (Diodes) (Nasdaq: DIOD) today announces an expansion of its automotive-compliant\* bipolar transistor portfolio with the introduction of the [DXTN/P 78Q & 80Q series](#). These ultra-low  $V_{CE(sat)}$  NPN and PNP transistors deliver industry-leading conduction efficiency and thermal performance, optimized for demanding automotive power switching and control.

The twelve high-performance devices support a broad voltage range, making them suitable for 12V, 24V, and 48V automotive systems. They are ideal for gate driving MOSFETs and IGBTs, power line and load switching, low-dropout (LDO) voltage regulation, DC-DC conversion, and driving motors, solenoids, relays, and actuators. Rated for continuous operation up to +175°C, and offering high ESD robustness (HBM 4kV, CDM 1kV), they provide reliable operation in harsh automotive environments.

Housed in the ultra-compact PowerDI®3333-8 package (just 3.3mm x 3.3mm), these devices cut PCB footprint by up to 75% versus traditional SOT223, freeing space for additional functionality. A large underside heatsink delivers ultra-low thermal resistance ( $R_{\theta JL}$ ) of 4.2°C/W. The side-wall plateable (SWP) feature improves automated optical inspection (AOI) visibility and strengthens solder joints. This enhances quality assurance, reduces manual inspection, and supports efficient, reliable manufacturing.

Both series span  $BV_{CEO}$  ratings from 30V to 100V and deliver robust current handling. The DXTN/P 80Q series provides extra headroom for demanding designs, with continuous ratings up to 10A and peak pulse capability of 20A. Ultra-low saturation voltage (just 17mV at 1A) and an on-state resistance as low as 12mΩ minimize conduction losses, enabling cooler operation and higher efficiency. This helps designers cut conduction losses by up to 50% versus previous generations, reducing heat and easing thermal management.

The [DXTN/P 78Q series](#) is now available from between \$0.19 and \$0.21, and the [DXTN/P 80Q](#) is available from between \$0.20 and \$0.22; both in 6,000-piece quantities. Standard compliance versions, the [DXTN/P 78 & 80 series](#), are also available and suitable for industrial and commercial applications.

**About Diodes Incorporated**

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, delivers high-quality semiconductor products to the world's leading companies in the automotive, industrial, computing, consumer electronics, and communications markets. We leverage our expanded product portfolio of analog and discrete power solutions combined with leading-edge packaging technology to meet customers' needs. Our broad range of application-specific products and solutions-focused sales, coupled with global operations including engineering, testing, manufacturing, and customer service, enable us to be a premier provider for high-volume, high-growth markets. For more information, visit [www.diodes.com](http://www.diodes.com).

*\*Automotive-compliant - AEC qualified, manufactured in facilities certified to IATF 16949, supporting PPAP documents.*

*PowerDI® is a registered trademark of Diodes Incorporated in the United States and other countries.*

*The Diodes logo is a registered trademark of Diodes Incorporated in the United States and other countries.*

*All other trademarks are the property of their respective owners.*

*© 2025 Diodes Incorporated. All Rights Reserved.*

**Company Contact:**

Gurmeet Dhaliwal  
Vice President, Corporate Marketing & Investor Relations  
Diodes Incorporated  
+1 408-232-9003  
[Contact Us](#)