



60V-Rated Synchronous Buck Converters from Diodes Incorporated Bring Enhanced Efficiency to Automotive PoL Applications

Plano, Texas – March 9, 2023 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) has introduced two new synchronous buck converters. Targeted at automotive point-of-load (PoL) applications, the DIODES [AP66200Q](#) and DIODES [AP66300Q](#) cover a wide input voltage range – from 3.8V to 60V. This allows 12V-, 24V-, and 48V-based automotive systems to all be addressed. Through their integrated power MOSFETs, these devices deliver high-efficiency step-down conversion in vehicle powertrain, telematics, infotainment, and lighting systems.

Thanks to their low quiescent current (I_Q) of 40 μ A, the AP66200Q and AP66300Q meet the <100 μ A standby requirements associated with many automotive applications. They are easily configured to operate in either pulse frequency modulation (PFM) or pulse width modulation (PWM) modes. When in PFM mode, improved efficiency will be achieved at light loads. Operation in PWM mode will result in low ripple across all loads.

Both devices have adjustable switching frequency capabilities (up to 2.5MHz) and can be synchronized to avoid beat frequency issues. Engineers have the flexibility to choose between high-efficiency operation or a smaller system design. Their low on-state resistance ($R_{DS(ON)}$) values and enhanced efficiency modes enable a substantial reduction in internal power dissipation. The soft-start pin is programmable to reduce inrush current and can be employed for tracking multiple output voltages.

The AP66200Q and AP66300Q are AEC-Q100 Grade 1 qualified, manufactured in IATF 16949 certified facilities, and support PPAP documentation. They are each supplied in compact 16-pin U-QFN4040-16/SWP (Type UXB) packages and are available at \$1.30 and \$1.50 for the [AP66200Q](#) and [AP66300Q](#) respectively, in 10,000 unit quantities.

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 discrete, analog, and mixed-signal products and leading-edge packaging technology to meet customers' needs. Our broad range of application-specific solutions and solutions-focused sales, coupled with worldwide operations of 32 sites, including engineering, testing, manufacturing, and customer service, enables us to be a premier provider for high-volume, high-growth markets. For more information visit www.diodes.com.

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