



High Efficiency Low Voltage 3A Buck Converter from Diodes Incorporated Targets High Power Density Automotive Designs

Plano, Texas – May 11, 2022 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) has introduced the automotive-compliant DIODES™ [AP61300Q](#) and DIODES™ [AP61302Q](#) synchronous buck converters. These 3A-rated devices have a wide input voltage range of 2.4V to 5.5V, and address the need for automotive point-of-loads (POLs) that are more streamlined and exhibit increased efficiency levels. They are optimized for use in vehicles' telematics, ADAS, power and infotainment systems, as well as instrumentation clusters.

Incorporated into each of these buck converters is a 70mΩ high-side power MOSFET and a 50mΩ low-side power MOSFET which together deliver high-efficiency step-down DC-DC conversion. With fast switching speeds supported, much smaller accompanying passives can be specified, thereby reducing the overall bill-of-materials (BOM) and saving space.

Depending on the load conditions, the AP61300Q and AP61302Q can be configured to pulse frequency modulation (PFM) or pulse width modulation (PWM) operating modes (using the enable pin). Their quiescent current (I_Q) of 19μA, when in PFM mode, allows them to maintain elevated efficiencies even in light load situations. Furthermore, their low drop-out (LDO) mode permits output voltage regulation to be maintained when the input voltage comes close to the V_{OUT} voltage.

Due to the constant on-time (COT) control functionality that the AP61300Q and AP61302Q both feature, rapid transient response, easy loop stabilization, and low output voltage ripple are all attained, with only minimal external components needed. As a result, much less PCB area needs to be allocated and overall production costs are reduced.

Supplied in SOT563 packages, the [AP61300Q](#) and [AP61302Q](#) are AEC-Q100 Grade 1 qualified, PPAP capable, and manufactured in IATF 16949 certified facilities. These devices are available at \$0.19 in 1000 piece 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 consumer electronics, computing, communications, industrial, and automotive 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 31 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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Company Contact:

Diodes Incorporated
Emily Yang
SVP, Worldwide Sales and Marketing
P: 972-987-3900
[Contact Us](#)

Investor Relations Contact:

Shelton Group
Leanne K. Sievers
President
P: 949-224-3874
E: lsievers@sheltongroup.com