

Press Information

Power Supplies

TDK introduces rugged 60 and 80 Amp fast response ORing modules with efficiencies up to 99.5 %

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TDK Corporation (TSE:6762) introduces the TDK-Lambda i1R ORing FET modules, capable of operating at 60 or 80 A with a maximum input voltage of 60 Vdc. These ORing modules are designed to replace traditional diodes in applications that require ORing functionality for power supply redundancy or parallel operation. The i1R series uses MOSFET-based circuitry to provide a superior level of performance while reducing reverse current transients.

Applications for the i1R modules include communications, test and measurement equipment, plus harsh environment industrial and robotics requiring a high degree of shock and vibration. While the i1R series was designed to complement other TDK-Lambda solutions, including the i7A and i7C non-isolated converters, GQA and HQA industrial isolated DC-DC converters for high-shock and vibration environments, and RGF differential mode filter modules, its flexible architecture allows it to be deployed alongside other power solutions.

The i1R series has a fast 500 ns (typ) turn-off response, blocking reverse current transients during fault conditions for better protection. The product has a typical low on-resistance of 2.5 and 1.5 mΩ, reducing power losses and waste heat, simplifying the thermal design. The product's shielded metal package size is a compact 1 x 1" (26.3 x 26.3 mm), saving valuable board space and supporting efficient cooling. For added convenience and simplicity, the series operates without the need for any external components.

Main applications

- Communications, test and measurement, harsh environment industrial and robotics requiring a high degree of shock and vibration

Main features and benefits

- 99.5% efficiency
- Compact size
- Fast turn-off during fault conditions
- Replaces traditional diodes

Type		i1R60060A-000	i1R30080A-000
Nominal input voltage	Vdc	5 – 60	3.3 - 30

Output current	A	60	80
Output power	W	3600	2400
Efficiency	%	Up to 99.5	
Maximum Case Temperature	°C	Up to 120	
Size (W x D x H)	mm	26.3 x 26.3 x 10.1	
Safety certifications	CE & UKCA marks		

About TDK Corporation

TDK Corporation (TSE:6762) is a global technology company and innovation leader in the electronics industry, based in Tokyo, Japan. With the tagline “In Everything, Better” TDK aims to realize a better future across all aspects of life, industry, and society. For over 90 years, TDK has shaped the world from within; from the pioneering ferrite cores to cassette tapes that defined an era, to powering the digital age with advanced components, sensors, and batteries, leading the way towards a more sustainable future. United by TDK Venture Spirit, a start-up mentality built on visions, courage and mutual trust, TDK’s passionate team members around the globe pursue better—for ourselves, customers, partners, and the world. Today, the state-of-the-art technologies of TDK are in everything, from industrial applications, energy systems, electric vehicles, to smartphones and gaming, at the core of modern life. TDK’s comprehensive, innovative-driven portfolio includes cutting-edge passive components, sensors and sensor systems, power supplies, lithium-ion and solid-state batteries, magnetic heads, AI and enterprise software solutions, and more—featuring numerous market-leading products. These are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics, TDK-Lambda, TDK SenseEI, and ATL. Positioning the AI ecosystem as a key strategic area, TDK leverages its global network across the automotive, information and communication technology, and industrial equipment sectors to expand its business in a wide range of fields. In fiscal 2025, TDK posted total sales of USD 14.4 billion and employed about 105,000 people worldwide.

About TDK-Lambda Corporation

TDK-Lambda Corporation is a trusted, innovative leader and global supplier of highly reliable power conversion products for industrial and medical equipment worldwide.

TDK-Lambda Corporation is aligned for fast responses to any customer need with R&D, manufacturing, sales and service locations in five key geographic regions, namely Japan, EMEA, Americas, China and ASEAN. For more details, please pay a visit to: www.jp.lambda.tdk.com/en/

Further information on the full i1R series can be found at <https://product.tdk.com/en/power/i1r>

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