



Vishay Intertechnology Industrial-Grade TRANSZORB® and Automotive Grade PAR® TVS Deliver Peak Pulse Power of 600 W in DFN3820A Package

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Featuring Compact 3.8 mm by 2.0 mm Footprint, Low 0.88 mm Profile, and Wettable Flanks, Space-Saving Devices Offer Operating Temperatures to +185 °C

MALVERN, Pa., April 10, 2024 (GLOBE NEWSWIRE) -- Vishay Intertechnology, Inc. (NYSE: VSH) today introduced four new series of surface-mount industrial-grade TRANSZORB® and Automotive Grade PAR® transient voltage suppressors (TVS) in the low profile DFN3820A package with wettable flanks. Providing space-saving solutions for automotive, computer, consumer, and industrial applications, the [6DFNxxA](#), [6DFNxxxCA](#), [T6NxxA](#), and [T6NxxxCA](#) offer peak pulse power of 600 W at 10/1000 μ s and low leakage current down to 1 μ A.

The first package in Vishay's new Power DFN family, the DFN3820A features a compact 3.8 mm by 2.0 mm footprint and an extremely low typical height of 0.88 mm, allowing the Vishay General Semiconductor TVS to make more efficient use of PCB space. Footprint-compatible with the SMP (DO-220AA) package, the DFN3820A is 85 % smaller than the SMB (DO-214AA) and 42 % smaller than the SlimSMAW (DO-221AD), but it keeps peak pulse power dissipation with a 10/1000 μ s waveform at 600 W.

The devices released today are designed to protect sensitive electronic equipment against voltage transients induced by inductive load switching and lightning. The 6DFNxxA and 6DFNxxxCA TRANSZORB TVS will be used for signal line protection in server power modules, digital media controllers, and AV signal extenders for computer and consumer applications, in addition to industrial robot control boards, process / flow control instruments, and automation systems.

AEC-Q101 qualified and offering high temperature operation to +185 °C, the T6NxxA and T6NxxxCA PAR TVS are intended for automotive load dump protection. Typical applications will include advanced driver assistance (ADAS), battery management (BMS), electric power steering (EPS), and infotainment systems; central control units; on-board chargers (OBC); DC/DC converters and traction inverters; and electrical motor drives.

The TVS offer excellent clamping capability with a maximum clamping voltage from 16.7 V to 70.1 V for the 6DFNxxA and T6NxxA, and 16.7 V to 137 V for the 6DFNxxxCA and T6NxxxCA. The wettable flanks of their DFN3820A package allow for automatic optical inspection (AOI), eliminating the need for an X-ray inspection. Ideal for automated placement, the rectifiers offer a MSL moisture sensitivity level of 1, per J-STD-020, LF maximum peak of 260 °C. The devices are RoHS-compliant and halogen-free, and their matte tin-plated leads meet the JESD 201 class 2 whisker test.

Device Specification Table:

Series	6DFNxxA	6DFNxxxCA	T6NxxA	T6NxxxCA
Automotive Grade	No	No	Yes	Yes
V _{BR} (V)	12 to 51	12 to 100	12 to 51	12 to 100
V _{WM} (V)	10.2 to 43.6	10.2 to 85.5	10.2 to 43.6	10.2 to 85.5
Max. reverse leakage at V _{WM} (A)	1.0 to 2.0			
P _{PPM} (10/1000 μ s) (W)	600			
Max. clamping voltage (V)	16.7 to 70.1	16.7 to 137	16.7 to 70.1	16.7 to 137
T _J max. (°C)	175	175	185	185
Polarity	Unidirectional	Bidirectional	Unidirectional	Bidirectional
Package	DFN3820A			
Circuit configuration	Single			

Samples and production quantities of the new TVS in the DFN3820A package are available now, with lead times of 12 weeks.

Vishay manufactures one of the world's largest portfolios of discrete semiconductors and passive electronic components that are essential to innovative designs in the automotive, industrial, computing, consumer, telecommunications, military, aerospace, and medical markets. Serving customers worldwide, Vishay is **The DNA of tech.**® Vishay Intertechnology, Inc. is a Fortune 1,000 Company listed on the NYSE (VSH). More on Vishay at www.vishay.com.

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Links to product datasheets:

<http://www.vishay.com/ppg298464> (6DFN12A through 6DFN51A)
<http://www.vishay.com/ppg298490> (6DFN12CA through 6DFN100CA)
<http://www.vishay.com/ppg298432> (T6N12A through T6N51A)
<http://www.vishay.com/ppg298489> (T6N12CA through T6N100CA)

Link to product photo:

<https://www.flickr.com/photos/vishay/albums/72177720316089353>

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