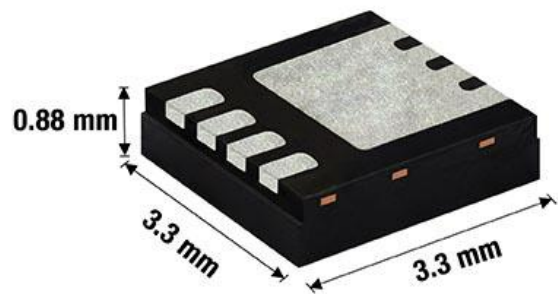


Space-Saving 600 V Standard and 60 V to 200 V TMBS[®] Rectifiers Provide Improved Thermal Performance and Efficiency, Deliver High Current Ratings to 9 A in DFN33A Package With Low 0.88 mm Profile and Wettable Flanks

Product Benefits:

- High current ratings up to:
 - 6 A for standard rectifiers
 - 9 A for TMBS[®] rectifiers
- Offered in 3.3 mm by 3.3 mm DFN33A package with extremely low typical height of 0.88 mm
 - Makes more efficient use of PCB space
 - Wettable flanks allow for automatic optical inspection (AOI), eliminating the need for an X-ray inspection
- Wide range of voltage options from 60 V to 200 V for TMBS[®] and up to 600 V for standard rectifiers
- High temperature operation up to +175 °C
- Exceptionally low forward voltage drop and low leakage current enhance design efficiency
- Ideal for automated placement
- MSL moisture sensitivity level of 1, per J-STD-020, LF maximum peak of 260 °C
- RoHS-compliant and halogen-free
- Matte tin-plated leads meet the JESD 201 class 2 whisker test
- Available in Automotive Grade, AEC-Q101 qualified versions



Market Applications:

- Low voltage, high frequency inverters, DC/DC converters, freewheeling diodes, and polarity and rail to rail protection in hot swap circuits for baseband antennas and power over Ethernet (PoE) for switches, routers, and optical network equipment

The News:

Vishay Intertechnology introduces 27 standard and Trench MOS Barrier Schottky (TMBS[®]) surface-mount rectifiers in the low profile DFN33A package with wettable flanks. Providing space-saving, high efficiency solutions for commercial, industrial, telecom, and automotive applications, the standard devices are the industry's first in this package size and provide current ratings up to 6 A, while the TMBS devices deliver industry-best current ratings up to 9 A.

- Compared to the conventional SMB (DO-214AA) and eSMP[®] series SMPA (DO-220AA), the DFN33A package is 44 % and 20 % smaller, respectively
- The devices' low profile is 2.6x thinner than the SMB (DO-214AA) and SMC, and 7 % thinner than the SMPA (DO-220AA)
- The rectifiers' optimized copper mass design and advanced die placement technology allow for superior thermal performance that enables operation at higher current ratings



The Key Specifications:

Part #	Type	Rev. voltage (V)	$I_{F(AV)}$ (A)	V_F at I_F (V)	I_{FSM} (A)	T_J max. (°C)
SE40N3D	Standard	200	4	0.84	70	+175
SE40N3G	Standard	400	4	0.84	70	+175
SE40N3J	Standard	600	4	0.84	70	+175
SE60N3D	Standard	200	6	0.88	80	+175
SE60N3G	Standard	400	6	0.88	80	+175
SE60N3J	Standard	600	6	0.88	80	+175
V5N3103	TMBS	100	5	0.43	100	+150
V5N3202	TMBS	200	5	0.58	100	+175
V5N3L63	TMBS	60	5	0.34	100	+150
V5N3M103	TMBS	100	5	0.45	100	+175
V5N3M153	TMBS	150	5	0.54	100	+175
V5N3M63	TMBS	60	5	0.4	100	+175
V6N3103	TMBS	100	6	0.45	100	+150
V6N3M103	TMBS	100	6	0.48	100	+175
V7N3103	TMBS	100	7	0.45	120	+150
V7N3L63	TMBS	60	7	0.37	120	+150
V7N3M103	TMBS	100	7	0.49	120	+175
V7N3M153	TMBS	150	7	0.56	120	+175
V7N3M63	TMBS	60	7	0.43	120	+175
V8N3170	TMBS	170	8	0.62	100	+175
V8N3M103S	TMBS	100	8	0.52	100	+175
V9N3103	TMBS	100	9	0.43	150	+150
V9N3202	TMBS	200	9	0.6	150	+175
V9N3L63	TMBS	60	9	0.36	150	+150
V9N3M103	TMBS	100	9	0.47	150	+175
V9N3M153	TMBS	150	9	0.56	150	+175
V9N3M63	TMBS	60	9	0.42	150	+175

Note: Base P/N-M3 for commercial grade, base P/NHM3 for AEC-Q101 qualified and Automotive Grade

Availability:

Samples and production quantities of the new standard and TMBS rectifiers in the DFN33A package are available now, with lead times of eight weeks.

To access the product datasheets on the Vishay Website, go to

[Standard rectifiers](#)

[TMBS rectifiers](#)

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