

Standard and TMBS® Rectifiers in DFN33A

Improved Thermal Performance and Efficiency, High Current Ratings to 9 A



ADVANTAGE

Space-saving devices with low 0.88 mm profile. Wettable flanks allow for automatic optical inspection (AOI) and eliminate the need for an X-ray inspection.

KEY PRODUCT FEATURES

- ✓ High current ratings up to: 6 A (standard) and 9 A TMBS®
- ✓ DFN33A package dimensions: 3.3 mm x 3.3 mm x 0.88 mm
- ✓ Wide range of voltage options: 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



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MARKETS AND APPLICATIONS



CONNECTIVITY

- Telecom infrastructure
- Telecom mobile devices



CONSUMER

- Entertainment and appliances
- Health and care



MOBILITY

- Automotive electrification and intelligence
- Transportation



ENERGY SECTOR

- Generation and exploration
- Distribution and management



INDUSTRIAL

- Automation and infrastructure
- Drives and tools



COMPUTER

- Computer peripherals



ADDITIONAL BENEFITS

- Compared to the conventional SMB (DO-214AA) and eSMP[®] series SMPA (DO-220AA), the DFN33A package is 44 % and 20 % smaller, respectively
- Devices are available in Automotive Grade and AEC-Q101 qualified versions
- 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

Device Specifications - Trench MOS Barrier Schottky (TMBS[®]) Rectifiers

Part Number	$I_{F(AV)}$ (A)	Reverse Voltage (V)	V_F at I_F (V)	I_{FSM} (A)	T_J Max. (°C)
V5N3L63	5	60	0.34	100	150
V5N3M63	5	60	0.4	100	175
V5N3103	5	100	0.43	100	150
V5N3M103	5	100	0.45	100	175
V5N3M153	5	150	0.54	100	175
V5N3202	5	200	0.58	100	175
V6N3103	6	100	0.45	100	150
V6N3M103	6	100	0.48	100	175
V7N3L63	7	60	0.37	120	150
V7N3M63	7	60	0.43	120	175
V7N3103	7	100	0.45	120	150
V7N3M103	7	100	0.49	120	175
V7N3M153	7	150	0.56	120	175
V8N3M103S	8	100	0.52	100	175
V8N3170	8	170	0.62	100	175
V9N3L63	9	60	0.36	150	150
V9N3M63	9	60	0.42	150	175
V9N3103	9	100	0.43	150	150
V9N3M103	9	100	0.47	150	175
V9N3M153	9	150	0.56	150	175
V9N3202	9	200	0.6	150	175

Device Specifications - Standard Rectifiers

Part Number	$I_{F(AV)}$ (A)	Reverse Voltage (V)	V_F at I_F (V)	I_{FSM} (A)	T_J Max. (°C)
SE40N3D	4	200	0.84	70	175
SE40N3G	4	400	0.84	70	175
SE40N3J	4	600	0.84	70	175
SE60N3D	6	200	0.88	80	175
SE60N3G	6	400	0.88	80	175
SE60N3J	6	600	0.88	80	175