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MUR180E, MUR1100E

SWITCHMODE Power Rectifiers

Ultrafast "E" Series with High Reverse Energy Capability

These state–of–the–art devices are designed for use in switching power supplies, inverters and as free wheeling diodes.

Features

- 10 mjoules Avalanche Energy Guaranteed
- Excellent Protection Against Voltage Transients in Switching Inductive Load Circuits
- Ultrafast 75 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction
- Reverse Voltage to 1000 V
- These are Pb–Free Devices*

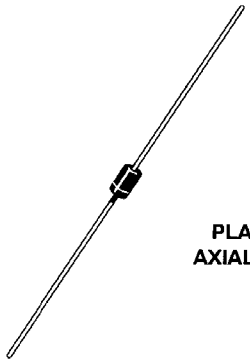
Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 0.4 Gram (Approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped in Plastic Bags; 1,000 per Bag
- Available Tape and Reel; 5,000 per Reel, by Adding a "RL" Suffix to the Part Number
- Polarity: Cathode Indicated by Polarity Band

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage MUR180E MUR1100E	V_{RRM} V_{RWM} V_R	 800 1000	V
Average Rectified Forward Current (Note 1) (Square Wave Mounting Method #3 Per Note 3)	$I_{F(AV)}$	1.0 @ T_A = 95°C	A
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	35	A
Operating Junction Temperature and Storage Temperature Range	T_J, T_{stg}	−65 to +175	°C

ULTRAFAST RECTIFIERS
1.0 AMPERES, 800–1000 VOLTS



PLASTIC AXIAL LEAD

MARKING DIAGRAM

A = Assembly Location
MUR1x0E = Device Code
x 8 or 10
Y = Year
WW = Work Week

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Maximum Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	See Note 3	°C/W

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Maximum Instantaneous Forward Voltage (Note 2) (i_F = 1.0 A, T_J = 150°C) (i_F = 1.0 A, T_J = 25°C)	v_F	 1.50 1.75	V
Maximum Instantaneous Reverse Current (Note 2) (Rated dc Voltage, T_J = 100°C) (Rated dc Voltage, T_J = 25°C)	i_R	 600 10	μA
Maximum Reverse Recovery Time (I_F = 1.0 A, di/dt = 50 Amp/μs) (I_F = 0.5 A, i_R = 1.0 Amp, I_{REC} = 0.25 A)	t_{rr}	 100 75	ns
Maximum Forward Recovery Time (I_F = 1.0 A, di/dt = 100 Amp/μs, Recovery to 1.0 V)	t_{fr}	75	ns
Controlled Avalanche Energy (See Test Circuit in Figure 6)	W_{AVAL}	10	mJ
Typical Peak Reverse Recovery Current (I_F = 1.0 A, di/dt = 50 A/μs)	I_{RM}	1.7	A

2. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.