

SWITCHMODE™ Power Rectifiers

... designed for use in switching power supplies, inverters and as free wheeling diodes, these state-of-the-art devices have the following features:

- Ultrafast 25, 50 and 75 Nanosecond Recovery Times
- 175°C Operating Junction Temperature
- Low Forward Voltage
- Low Leakage Current
- High Temperature Glass Passivated Junction
- Reverse Voltage to 600 Volts

Mechanical Characteristics:

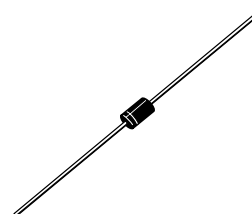
- Case: Epoxy, Molded
- Weight: 0.4 gram (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 220°C Max. for 10 Seconds, 1/16" from case
- Shipped in plastic bags, 1000 per bag
- Available Tape and Reeled, 5000 per reel, by adding a "RL" suffix to the part number
- Polarity: Cathode Indicated by Polarity Band
- Marking: U120, U140, U160



MUR120
MUR140
MUR160

MUR120, MUR140 and MUR160 are
Motorola Preferred Devices

ULTRAFAST RECTIFIERS
1.0 AMPERE
200-400-600 VOLTS



CASE 59-04
PLASTIC

MAXIMUM RATINGS

Rating	Symbol	MUR			Unit
		120	140	160	
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	200	400	600	Volts
Average Rectified Forward Current (Square Wave Mounting Method #3 Per Note 1)	$I_F(AV)$	1.0 @ $T_A = 130^{\circ}C$	1.0 @ $T_A = 120^{\circ}C$		Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I_{FSM}	35			Amps
Operating Junction Temperature and Storage Temperature	T_J, T_{stg}	− 65 to +175			$^{\circ}C$

THERMAL CHARACTERISTICS

Maximum Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	See Note 1	°C/W
---	-----------------	------------	------

ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1) ($I_F = 1.0$ Amp, $T_J = 150^\circ\text{C}$) ($I_F = 1.0$ Amp, $T_J = 25^\circ\text{C}$)	V_F	0.710 0.875	1.05 1.25	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_J = 150^\circ\text{C}$) (Rated dc Voltage, $T_J = 25^\circ\text{C}$)	I_R	50 2.0	150 5.0	μA
Maximum Reverse Recovery Time ($I_F = 1.0$ Amp, $di/dt = 50$ Amp/μs) ($I_F = 0.5$ Amp, $I_R = 1.0$ Amp, $I_{REC} = 0.25$ A)	t_{rr}	35 25	75 50	ns
Maximum Forward Recovery Time ($I_F = 1.0$ A, $di/dt = 100$ A/μs, I_{REC} to 1.0 V)	t_{fr}	25	50	ns

(1) Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

SWITCHMODE is a trademark of Motorola, Inc.

Preferred devices are Motorola recommended choices for future use and best overall value.

