MUR3020
MUR3030
MUR3040

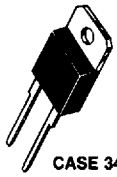
MUR3020 and MUR3040 are Motorola Preferred Devices

SWITCHMODE Power Rectifiers

ULTRAFAST RECTIFIERS
30 AMPERES
200–400 VOLTS

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

- Ultrafast 100 Nanosecond Recovery Time
- 175°C Operating Junction Temperature
- State-of-the-Art Single TO-218 Atlas Package
- High Voltage Capability to 400 Volts
- Low Forward Voltage Drop
- High Temperature Glass Passivated Junction



CASE 340E-01

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MAXIMUM RATINGS

Rating		Symbol	Max	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	MUR3020 MUR3030 MUR3040	V_{RRM} V_{RWM} V_R	200 300 400	Volts
Average Rectified Forward Current T_C = 70°C		$I_{F(AV)}$	30	Amps
Peak Repetitive Forward Current (Rated V_R Square Wave 20 kHz) T_C = 150°C		I_{FRM}	30	Amps
Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz)		I_{FSM}	300	Amps
Operating Junction Temperature and Storage Temperature		T_J, T_{stg}	−65 to +175	°C

THERMAL CHARACTERISTICS

Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.0	°C/W

ELECTRICAL CHARACTERISTICS

Instantaneous Forward Voltage (I_F = 30 Amp, T_C = 100°C) (I_F = 30 Amp, T_C = 25°C)	v_F	 1.4 1.5	Volts
Instantaneous Reverse Current (Rated dc Voltage, T_C = 100°C) (Rated dc Voltage, T_C = 25°C)	I_R	 6.0 35	 mA μA
Reverse Recovery Time (I_F = 1.0 Amp dI/dt = 15 Amp/μs	t_{rr}	100	ns

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TYPICAL ELECTRICAL CHARACTERISTICS

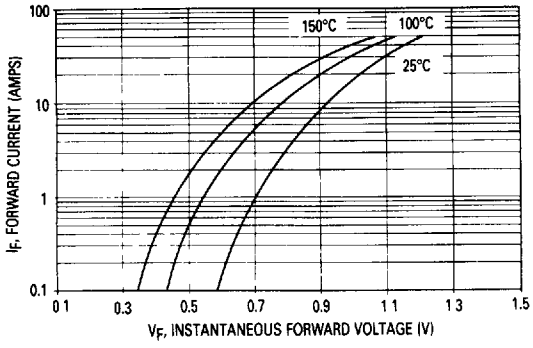

Figure 1. Typical Forward Voltage

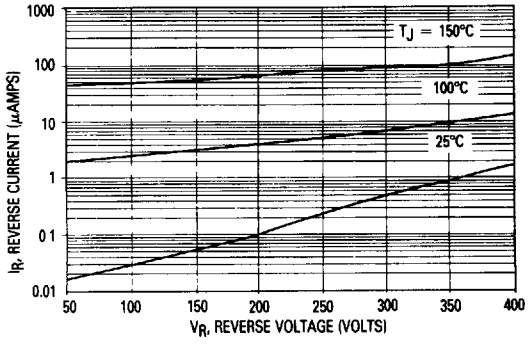

Figure 2. Typical Reverse Current

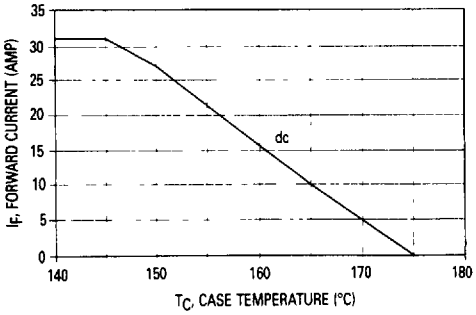

Figure 3. Current Derating, Case

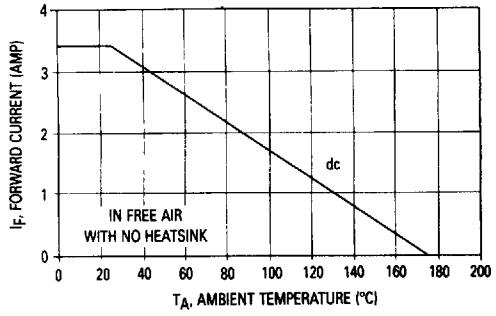

Figure 4. Current Derating, Ambient

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