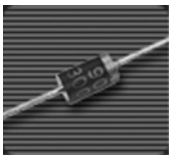
MUR420

Ultrafast Plastic Rectifier

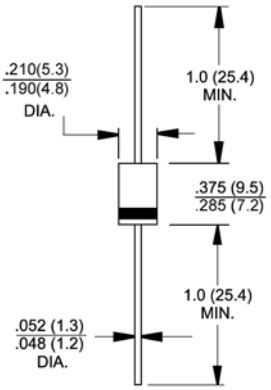
Reverse Voltage 200 Volts Forward Current 4.0 Amperes

Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as a free wheeling diode
- Ultrafast recovery time for high efficiency
- Glass passivated junction
- High temperature soldering guaranteed: 250°C/10seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3Kg) tension



DO-201AD



Dimensions in inches and (millimeters)

Mechanical Data

- Cases: JEDEC DO-201AD, molded plastic body over passivated chip
- Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.045 ounce, 1.2 grams

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	MUR420	Units
Maximum repetitive peak reverse voltage	V_{RRM}	200	Volts
Working peak reverse voltage	V_{RWM}	200	Volts
Maximum DC blocking voltage	V_{DC}	400	Volts
Maximum average forward rectified current at T_A=80°C (See figure 1)	$I_{F(AV)}$	4.0	Amps
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	125.0	Amps
Maximum instantaneous forward voltage (Note 1) at 3.0A, T_J=150°C at 3.0A, T_J=25°C at 4.0A, T_J=25°C	V_F	0.710 0.875 0.890	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1) T_J=25°C T_J=150°C	I_R	5.0 150	uA uA
Maximum reverse recovery time at I_F=0.5A, I_R=1.0A, I_{rr}=0.25A	t_{rr}	25	nS
Maximum reverse recovery time at I_F=1.0A, di/dt=50A/us, V_R=30V, I_{rr}=10% I_{RM}	t_{rr}	35	nS
Maximum forward recovery time at I_F=1.0A, di/dt=100A/us, recovery to 1.0V	t_{Fr}	25	nS
Typical thermal resistance junction to ambient (Note 2)	$R_{\theta JA}$	28	°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Notes: 1. Pulse test: t_p=300us, duty cycle ≤ 2%

2. Lead length = 1/2" on P.C. Board with 1.2" x 1.2" copper surface

RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

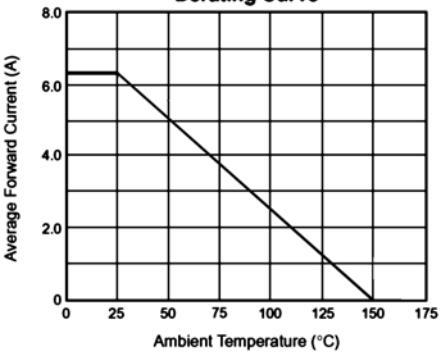


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

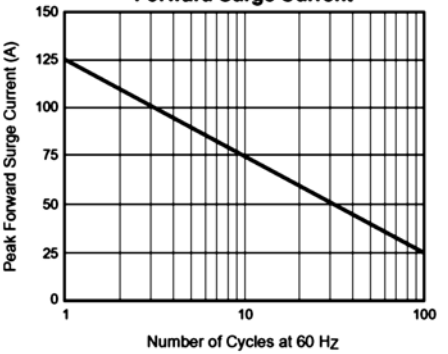


Fig. 3 – Typical Instantaneous Forward Characteristics

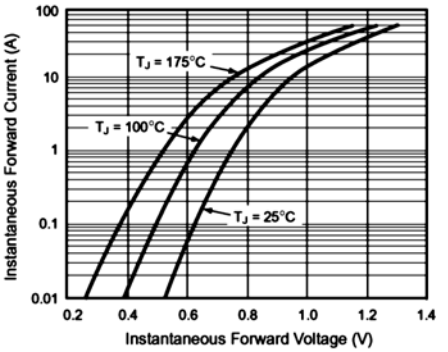


Fig. 4 – Typical Reverse Leakage Characteristics

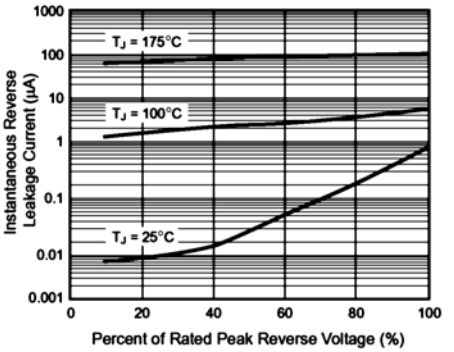


Fig. 5 – Typical Junction Capacitance