



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

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



Dimensions in inches and (millimeters)

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 $T_A=80^\circ\text{C}$ (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)	V_F	at 3.0A, $T_J=150^\circ\text{C}$ at 3.0A, $T_J=25^\circ\text{C}$ at 4.0A, $T_J=25^\circ\text{C}$	0.710 0.875 0.890	Volts		
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)		I_R	$T_J=25^\circ\text{C}$ $T_J=150^\circ\text{C}$		5.0 150	μA
Maximum reverse recovery time at $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_T=0.25\text{A}$			t_{rr}		25	
Maximum reverse recovery time at $I_F=1.0\text{A}$, $di/dt=50\text{A}/\mu\text{s}$, $V_R=30\text{V}$, $I_T=10\% I_{RM}$	t_{rr}		35	nS		
Maximum forward recovery time at $I_F=1.0\text{A}$, $di/dt=100\text{A}/\mu\text{s}$, recovery to 1.0V	t_{fr}		25	nS		
Typical thermal resistance junction to ambient (Note 2)	$R_{\theta JA}$	28	$^\circ\text{C}/\text{W}$			
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$			

- Notes:**
1. Pulse test: $t_p=300\mu\text{s}$, duty cycle $\leq 2\%$
 2. Lead length = 1/2" on P.C. Board with 1.2" x 1.2" copper surface

RATINGS AND CHARACTERISTIC CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

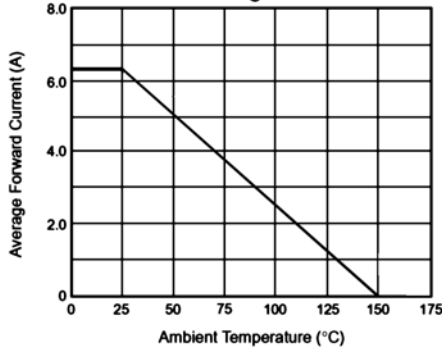


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

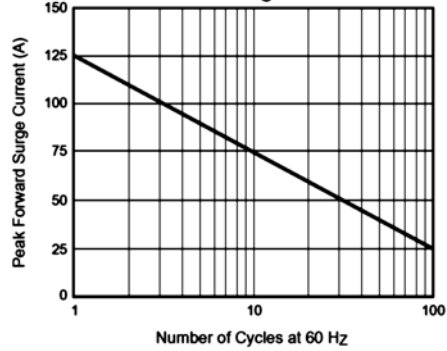


Fig. 3 – Typical Instantaneous Forward Characteristics

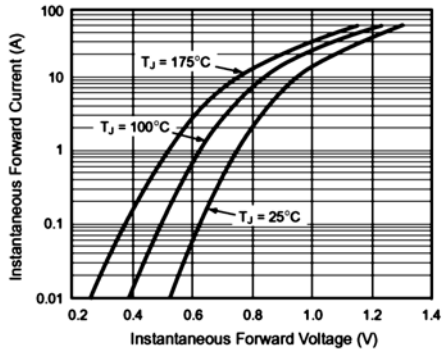


Fig. 4 – Typical Reverse Leakage Characteristics

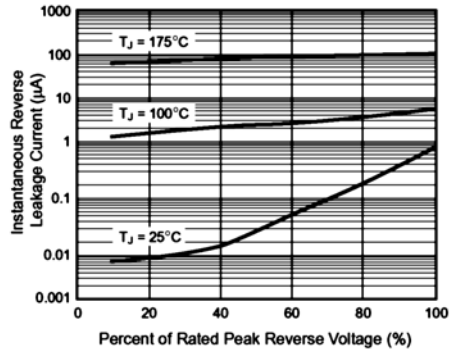


Fig. 5 – Typical Junction Capacitance

