



MUR420 THRU MUR460

SUPER FAST RECOVERY SILICON RECTIFIER

Reverse Voltage - 200 to 600 Volts Forward Current - 4.0 Ampere

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Super fast switching for high efficiency
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

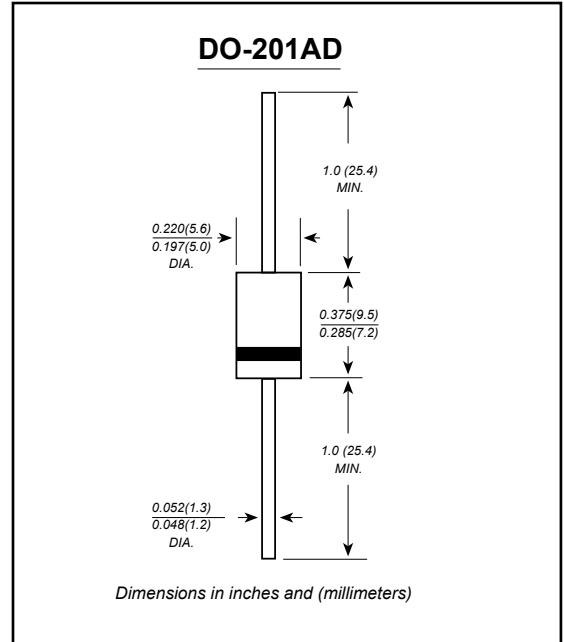
Case: JEDEC DO-201AD molded plastic body

Terminals: Plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.04 ounce, 1.10 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

Type Number	Symbol	MUR420	MUR440	MUR460	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	200	400	600	V
Maximum RMS Voltage	V_{RMS}	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	200	400	600	V
Maximum Average Forward Rectified Current .375" (9.5mm) Lead Length (See Fig. 1)	$I_{(AV)}$	4.0			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	125	70		A
Maximum Instantaneous Forward Voltage @ 4.0A	V_F	0.89	1.28		V
Maximum DC Reverse Current @ $T_C=25^\circ C$ at Rated DC Blocking Voltage @ $T_C=125^\circ C$ (Note 4)	I_R	5.0 150	10 250		μA μA
Maximum Reverse Recovery Time (Note 1)	T_{RR}	25	50		nS
Typical Junction Capacitance (Note 2) $T_J = 25^\circ C$ (Fig. 5)	C_j	65			pF
Maximum Forward Recovery Time TFR ($I_F=1.0A$, $di/dt = 100A/\mu s$, Rev. to 1.0V)	T_{FR}	25	50		nS
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	28			$^\circ C/W$
Operating Temperature Range	T_J	-65 to +150			$^\circ C$
Storage Temperature Range	T_{STG}	-65 to +150			$^\circ C$

Note: 1. Reverse recovery condition $I_F=0.5A$, $I_R=1.0A$, $I_{rr}=0.25A$

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted



MUR420 THRU MUR460

RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

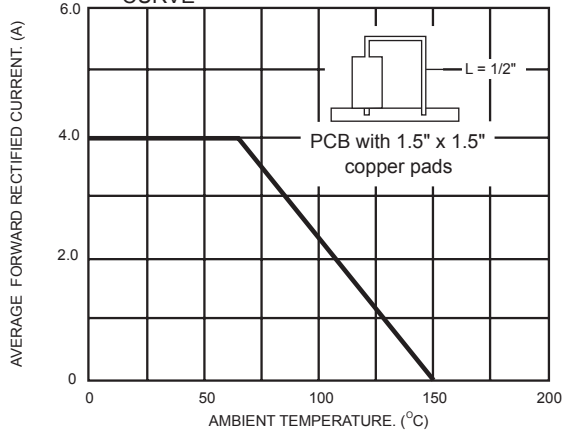


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

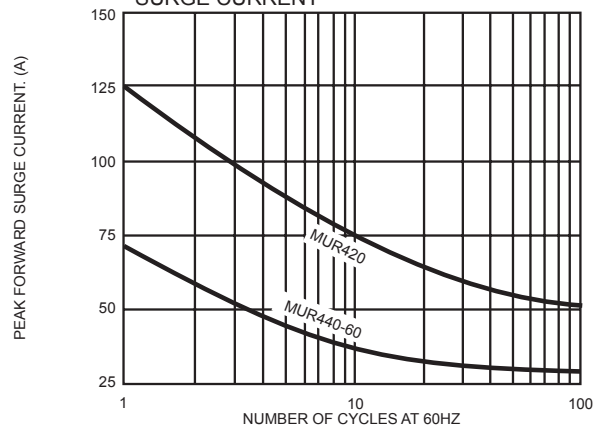


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

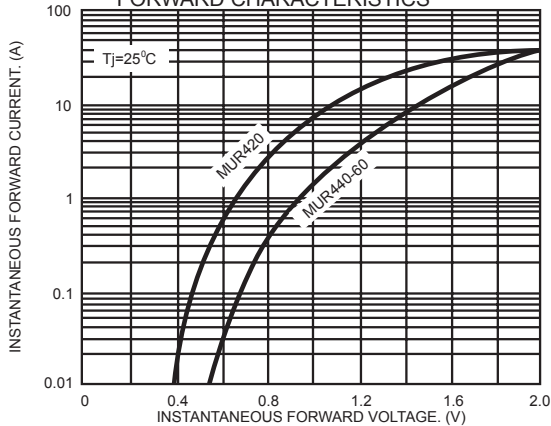


FIG.4- TYPICAL REVERSE CHARACTERISTICS

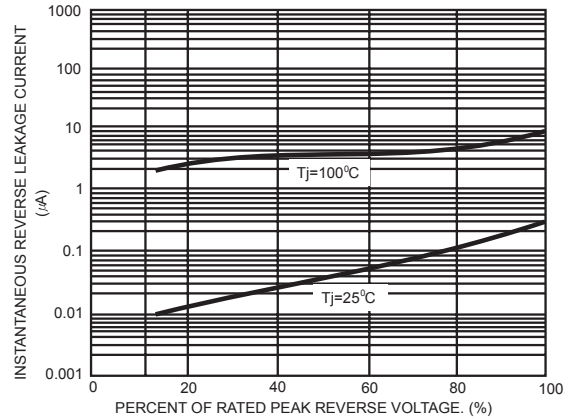


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

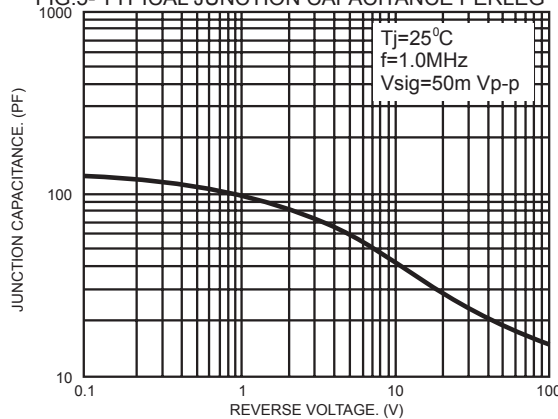
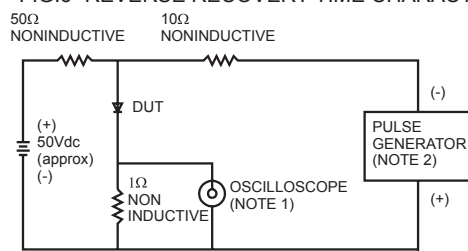


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance= 1 megohm 22pf
2. Rise Time=10ns max. Source Impedance= 50 ohms

