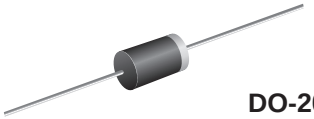
MUR420

New Product

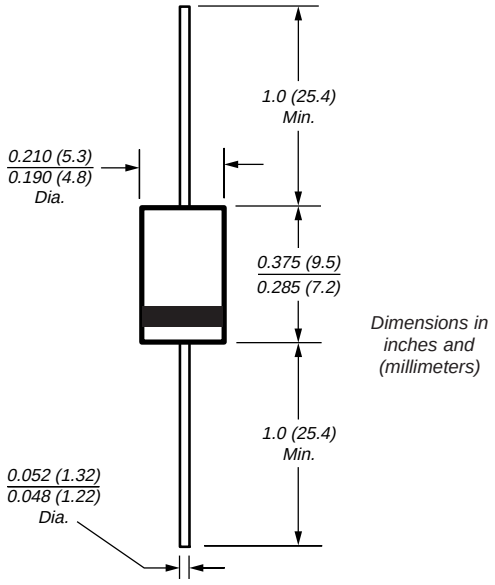
Vishay Semiconductors
formerly General Semiconductor

Ultrafast Plastic Rectifier

Reverse Voltage 200V
Forward Current 4.0A



DO-201AD



Features

- Plastic package has Underwriters Laboratories Flammability Classification 94V-0
- Ideally suited for use in very high frequency switching power supplies, inverters and as free wheeling diodes
- Ultrafast recovery time for high efficiency
- Glass passivated junction
- 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 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 oz., 1.2 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	200	V
Working peak reverse voltage	V_{RWM}	200	V
Maximum DC blocking voltage	V_{DC}	200	V
Maximum average forward rectified current at T_A = 80°C (See figure 1)	$I_{F(AV)}$	4.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150	A
Typical thermal resistance junction to ambient (1)	$R_{\Theta JA}$	28	°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +175°C	°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter		Symbol	Value	Unit
Maximum instantaneous forward voltage (2)	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	V
Maximum instantaneous reverse current at rated DC blocking voltage (2)	T_J=25°C T_J=150°C	I_R	5.0 150	µA
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/µs, V_R=30V, I_{rr}=10% I_{RM}		t_{rr}	35	ns
Maximum forward recovery time I_F=1.0A, di/dt=100A/µs, Rec. to 1.0V		t_{fr}	25	ns

Notes: (1) Lead length = 1/2" on P.C. board with 1/2" x1/2" copper surface
(2) Pulse test: t_p=300µs, duty cycle ≤ 2%

Ratings and Characteristic Curves

Fig. 1 – Forward Current Derating Curve

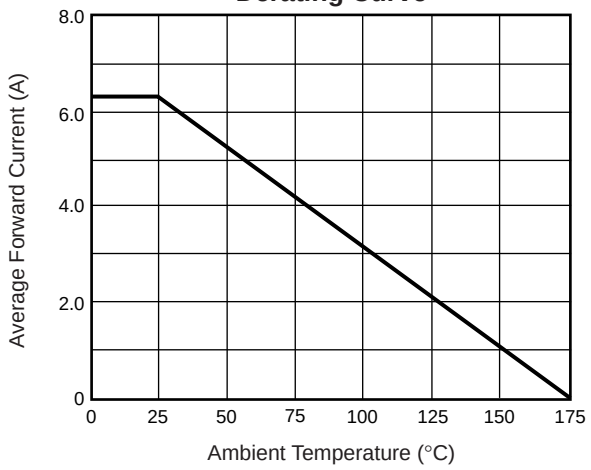


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

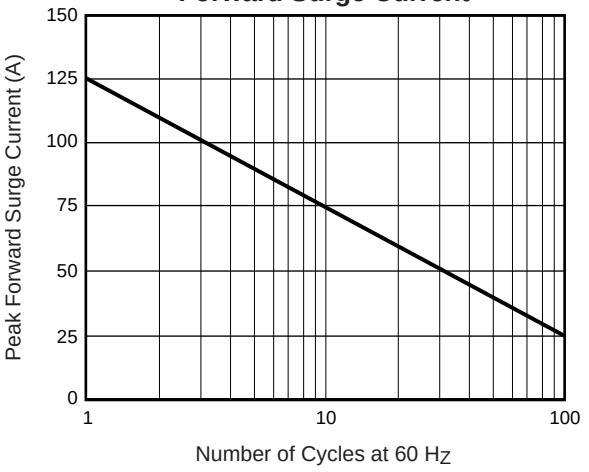


Fig. 3 – Typical Instantaneous Forward Characteristics

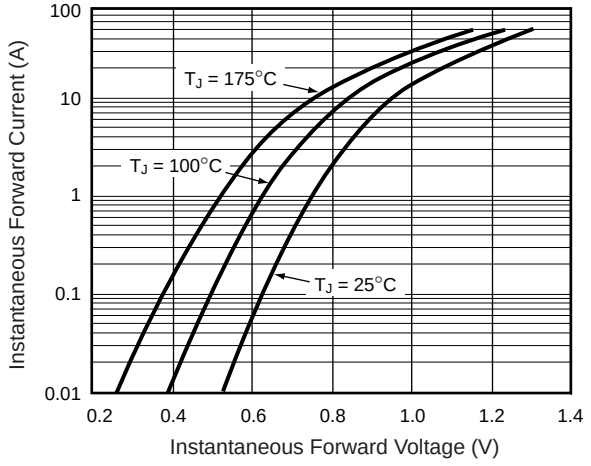


Fig. 4 – Typical Reverse Leakage Characteristics

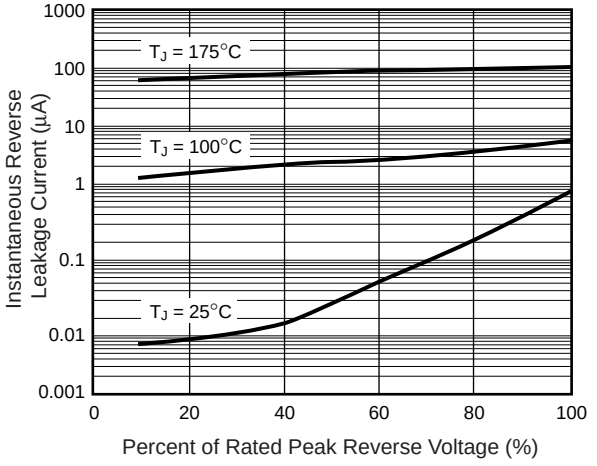


Fig. 5 – Typical Junction Capacitance