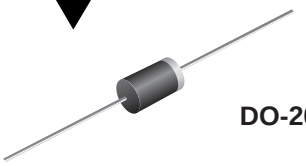
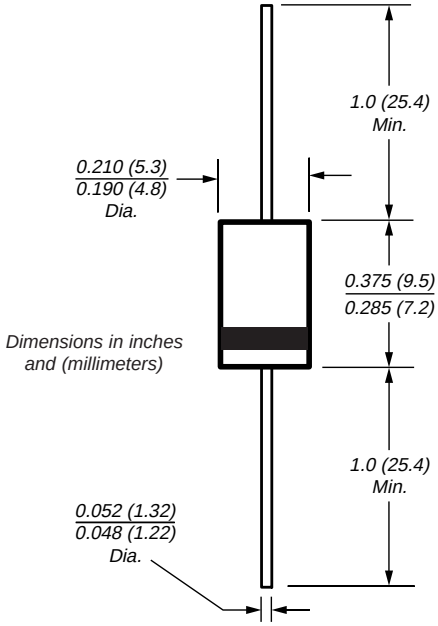
New Product

Vishay Semiconductors
formerly General Semiconductor

Ultrafast Plastic Rectifiers



DO-201AD



Reverse Voltage 400 to 600V
Forward Current 4.0A

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
- Excellent high temperature switching
- 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	MUR440	MUR460	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	400	600	V
Working peak reverse voltage	V_{RWM}	400	600	V
Maximum DC blocking voltage	V_{DC}	400	600	V
Maximum average forward rectified current (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(2)	$R_{\theta JA}$	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	MUR440	MUR460	Unit
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	1.05 1.25 1.28		V
Maximum instantaneous reverse current at rated DC blocking voltage(1)	T_J = 25°C T_J = 150°C	I_R	10 250		µA
Max. reverse recovery time at I_F = 0.5A, I_R = 1.0A, I_{rr} = 0.25A		t_{rr}	50		ns
Maximum reverse recovery time at, I_F = 1.0A, di/dt = 50A/µs, V_R = 30V, I_{rr} = 10% I_{RM}		t_{rr}	75		ns
Maximum forward recovery time (I_F = 1.0A, di/dt = 100A/µs, Rec. to 1.0V)		t_{fr}	50		ns

Notes:
(1) Pulse test: t_p = 300µs, duty cycle ≤ 2%
(2) Lead length = 1/2" on P.C. board with 1.5" x1.5" copper surface

Ratings and Characteristic Curves (T_A = 25°C unless otherwise noted)

Fig. 1 – Forward Current Derating Curve

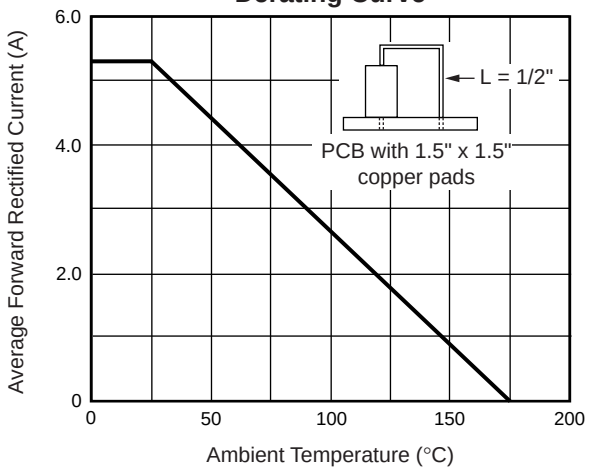


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

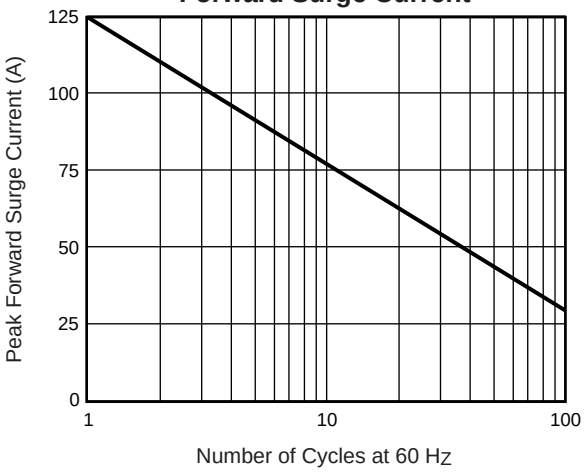


Fig. 3 – Typical Instantaneous Forward Characteristics

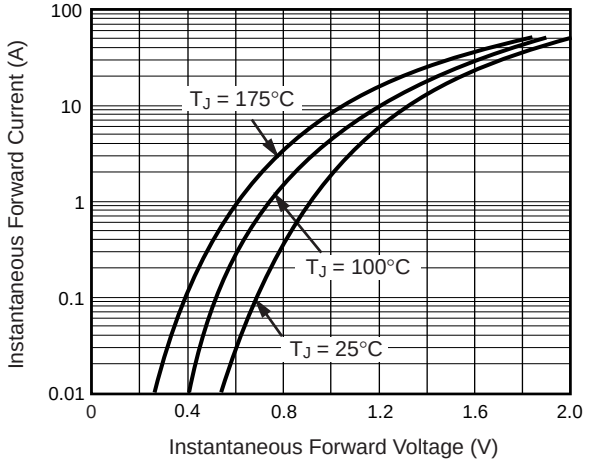


Fig. 4 – Typical Reverse Characteristics

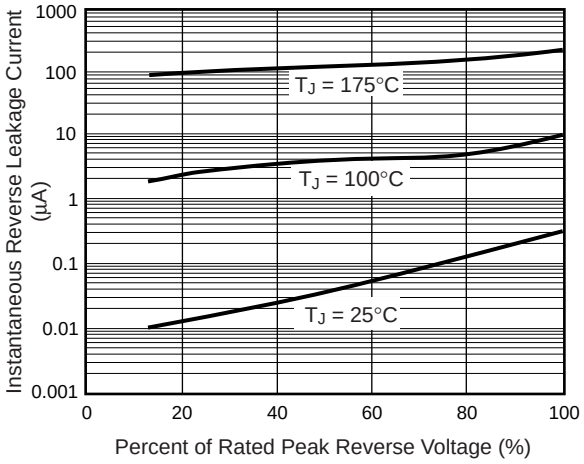


Fig. 5 – Typical Junction Capacitance per Leg