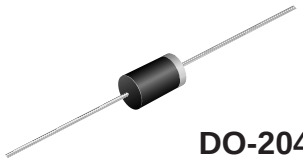
GENERAL SEMICONDUCTOR®

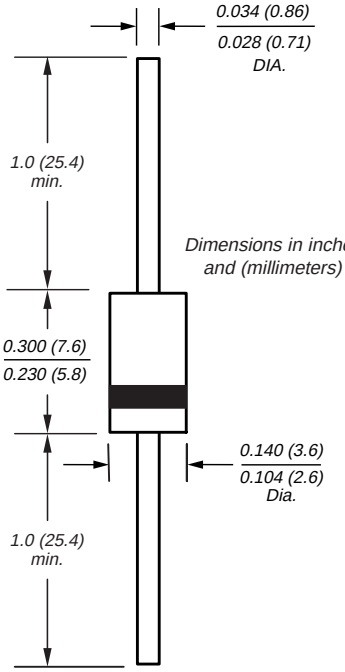
MUR120

Ultrafast Plastic Rectifier

Reverse Voltage 200V
Forward Current 1.0A
Reverse Recovery Time 25ns



DO-204AC (DO-15)



New Product

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
- Excellent high temperature switching
- Glass passivated junction

Mechanical Data

Case: JEDEC DO-204AC, molded plastic body over passivated chip

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

High temperature soldering guaranteed: 250°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.015 ounce, 0.4 gram

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MUR120	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 = 130°C	$I_{F(AV)}$	1.0	A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	35	A
Typical Thermal Resistance Junction to Ambient (2)	$R_{\Theta JA}$	27	°C/W
Operating and storage temperature range	T_J, T_{STG}	–65 to +175	°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage (1) at	1.0A, T_J = 25°C 1.0A, T_J = 150°C	V_F	0.875 0.710	V
Maximum instantaneous reverse current at rated DC blocking voltage (1)	T_J = 25°C T_J = 150°C	I_R	2.0 50	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 at I_F = 1.0A, di/dt = 100A/µs, I_{rec} to 1.0V		t_{fr}	25	ns

Notes: (1) Pulse test: t_p = 300µs, duty cycle ≤ 2%
(2) Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface

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

Fig. 1 – Forward Current Derating Curve

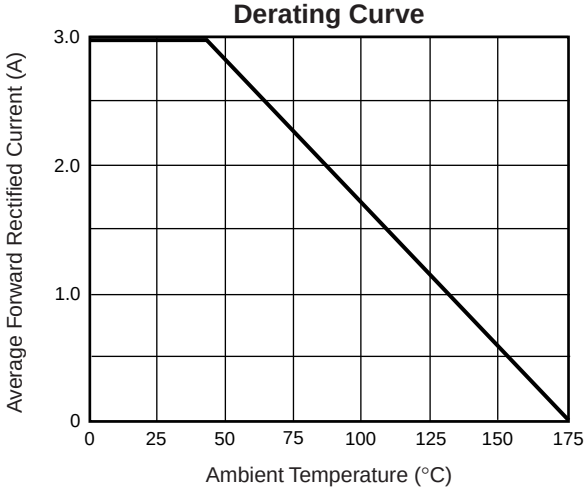


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

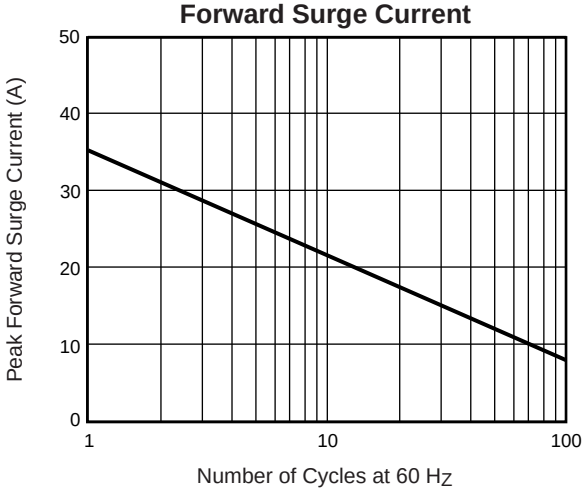


Fig. 3 – Typical Instantaneous Forward Characteristics (MUR160)

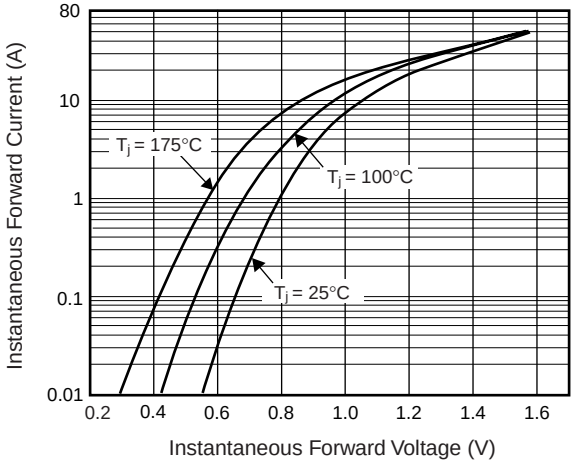


Fig. 4 – Typical Reverse Leakage Characteristics (MUR160)

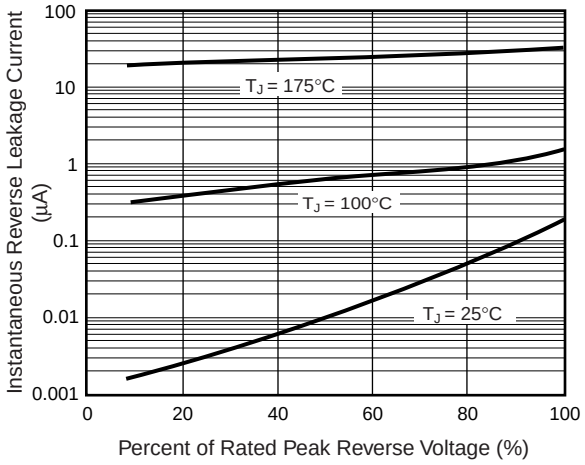


Fig. 5 – Typical Junction Capacitance