



New Product

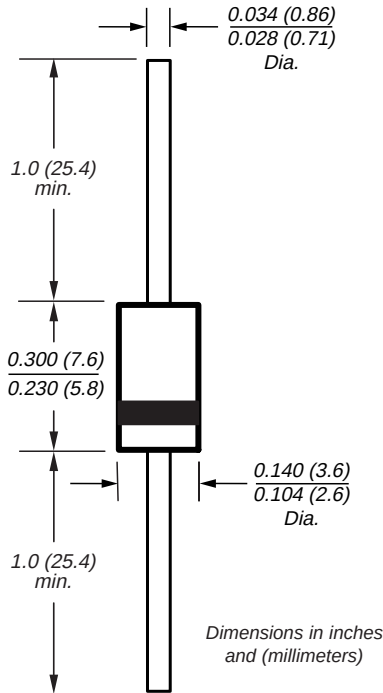
MUR140 and MUR160

Vishay Semiconductors
formerly General Semiconductor

Ultrafast Plastic Rectifier

Reverse Voltage 400 to 600V
Forward Current 1.0A
Reverse Recovery Time 50ns

DO-204AC (DO-15)



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/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

Mechanical Data

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

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

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.015 oz., 0.4 g

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MUR140	MUR160	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 at T _A = 120°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 _{θJA}	50		°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.

Maximum instantaneous forward voltage ⁽¹⁾	at I _F = 1.0A, T _J = 25°C at I _F = 1.0A, T _J = 150°C	V _F	1.25 1.05	V
Maximum instantaneous reverse current at rated DC blocking voltage ⁽¹⁾	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}	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 at I _F = 1.0A, di/dt = 100A/μs, recovery to 1.0V		t _{fr}	50	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 ($T_A = 25^\circ\text{C}$ unless otherwise specified)

Fig. 1 – Forward Current Derating Curve

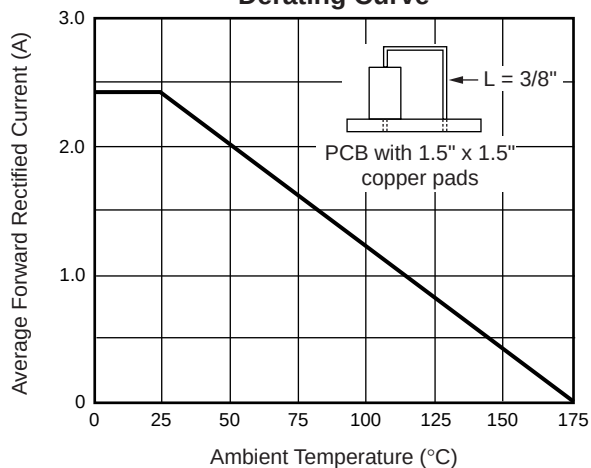


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

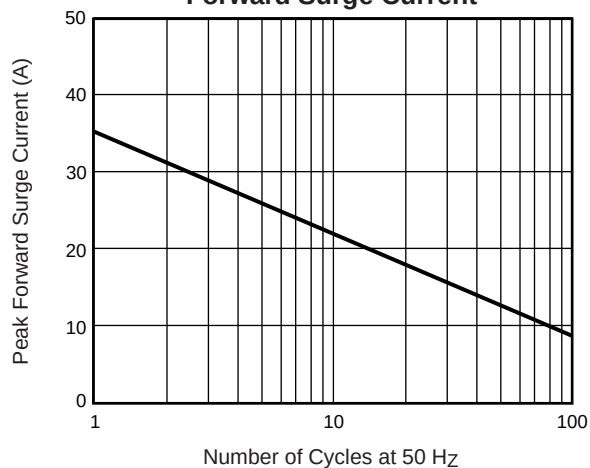


Fig. 3 – Typical Instantaneous Forward Characteristics

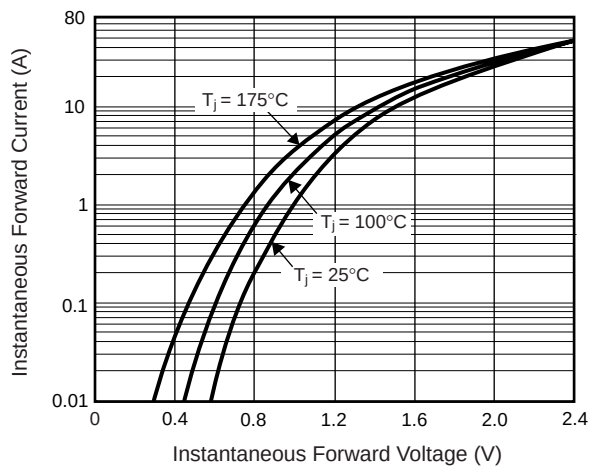


Fig. 4 – Typical Reverse Leakage Characteristics

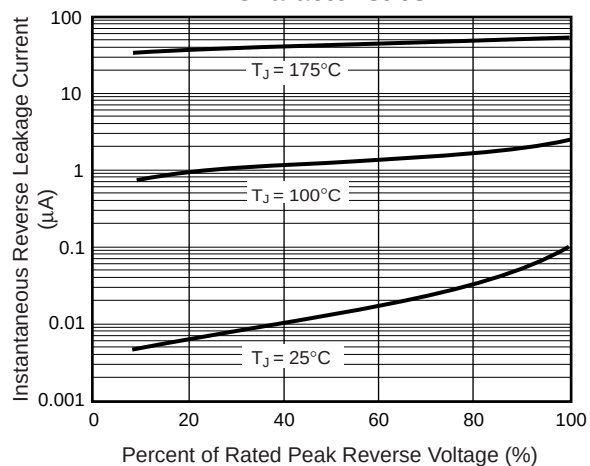


Fig. 5 – Typical Junction Capacitance

