



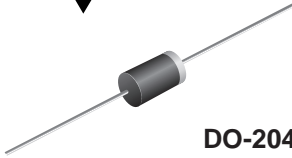
New Product

# MUR140 and MUR160

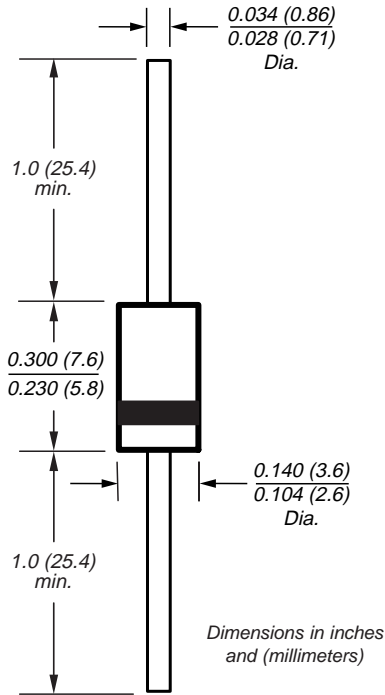
Vishay Semiconductors  
formerly General Semiconductor

## 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 <sub>RRM</sub>	400	600	V
Working peak reverse voltage	V <sub>RWM</sub>	400	600	V
Maximum DC blocking voltage	V <sub>DC</sub>	400	600	V
Maximum average forward rectified current at T <sub>A</sub> = 120°C	I <sub>F(AV)</sub>	1.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	35		A
Typical thermal resistance junction to ambient <sup>(2)</sup>	R <sub>θJA</sub>	50		°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175°C		°C

### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Maximum instantaneous forward voltage <sup>(1)</sup>	at I <sub>F</sub> = 1.0A, T <sub>J</sub> = 25°C at I <sub>F</sub> = 1.0A, T <sub>J</sub> = 150°C	V <sub>F</sub>	1.25 1.05	V
Maximum instantaneous reverse current at rated DC blocking voltage <sup>(1)</sup>	T <sub>J</sub> = 25°C T <sub>J</sub> = 150°C	I <sub>R</sub>	5.0 150	μA
Maximum reverse recovery time at I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>rr</sub> =0.25A		t <sub>rr</sub>	50	ns
Maximum reverse recovery time at, I <sub>F</sub> = 1.0A, di/dt = 50A/μs, V <sub>R</sub> = 30V, I <sub>rr</sub> = 10% I <sub>RM</sub>		t <sub>rr</sub>	75	ns
Maximum forward recovery time at I <sub>F</sub> = 1.0A, di/dt = 100A/μs, recovery to 1.0V		t <sub>fr</sub>	50	ns

**Notes:** (1) Pulse test: t<sub>p</sub> = 300μs, duty cycle ≤ 2%

(2) Lead length = 3/8" on P.C. Board with 1.5" x 1.5" copper surface

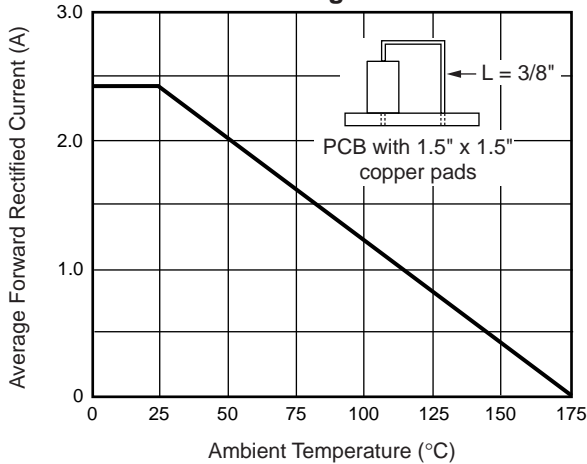
# MUR140 and MUR160



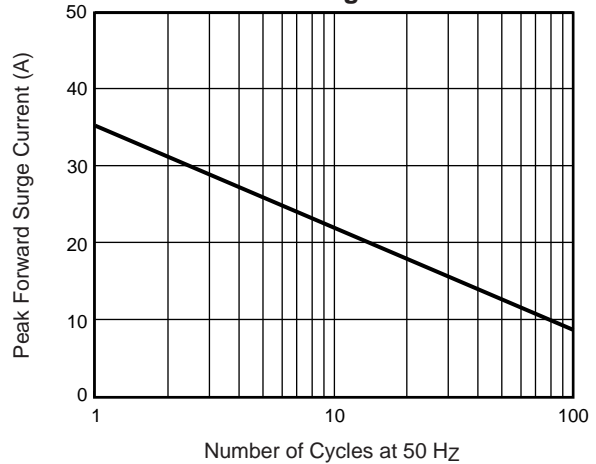
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## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise specified)

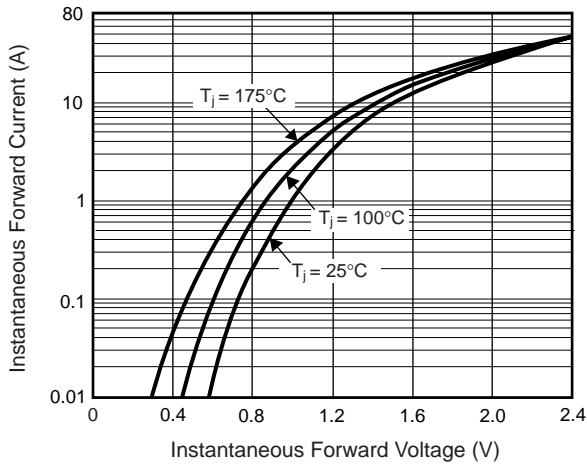
**Fig. 1 – Forward Current Derating Curve**



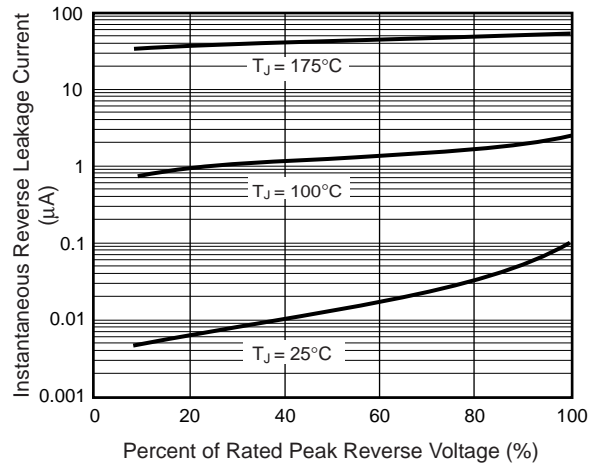
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**

