

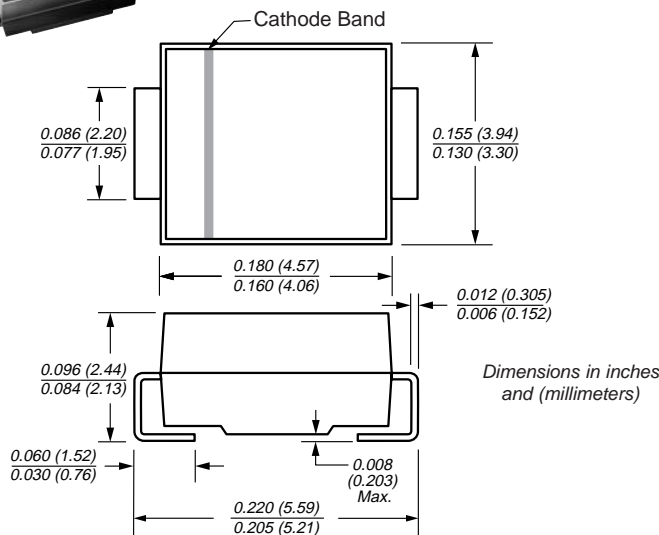


### Ultrafast Plastic Rectifier

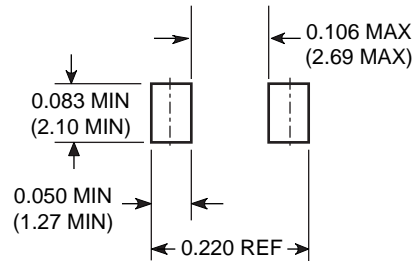
Reverse Voltage 400 to 600V  
Forward Current 1.0A  
Reverse Recovery Time 50ns



DO-214AA (SMB)



### Mounting Pad Layout



### 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
- For surface mount applications • Glass passivated junction
- High temperature soldering guaranteed: 250°C/10 seconds on terminals

### Mechanical Data

**Case:** JEDEC DO-214AA molded plastic body  
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Weight:** 0.003 oz., 0.093 g  
**Packaging Codes/Options:**  
 5/3.2K per 13" reel (12mm tape)  
 2/750 EA per 7" reel (12mm tape)

### Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	MURS140	MURS160	Unit
Device Marking Codes		MG	MJ	
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 $T_L = 150^\circ\text{C}$ See figure 1 $T_L = 125^\circ\text{C}$	$I_{F(AV)}$	1.0 2.0		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	$R_{\theta JL}$	13		°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 (Note 1)	at $I_F = 1.0\text{A}, T_J = 25^\circ\text{C}$ at $I_F = 1.0\text{A}, T_J = 150^\circ\text{C}$	$V_F$	1.25 1.05	V
Maximum instantaneous reverse current at rated DC blocking voltage (Note 1)	$T_J = 25^\circ\text{C}$ $T_J = 150^\circ\text{C}$	$I_R$	5.0 150	$\mu\text{A}$
Maximum reverse recovery time at $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$		$t_{rr}$	50	ns
Maximum reverse recovery time at, $I_F = 1.0\text{A}, di/dt = 50\text{A}/\mu\text{s}, V_R = 30\text{V}, I_{rr} = 10\% I_{RM}$		$t_{rr}$	75	ns
Maximum forward recovery time at $I_F = 1.0\text{A}, di/dt = 100\text{A}/\mu\text{s},$ recovery to 1.0V		$t_{fr}$	50	ns

Notes: (1) Pulse test:  $t_p = 300\mu\text{s}$ , duty cycle  $\leq 2\%$

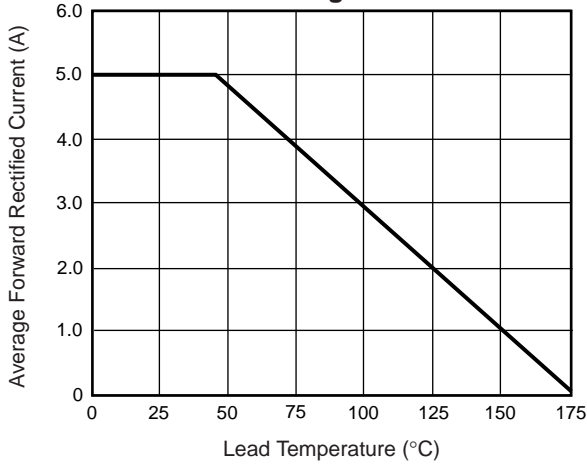
# MURS140 and MURS160



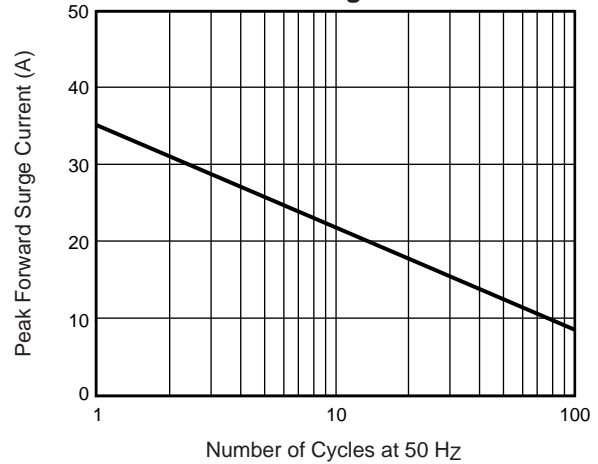
Vishay Semiconductors  
formerly General Semiconductor

## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise specified)

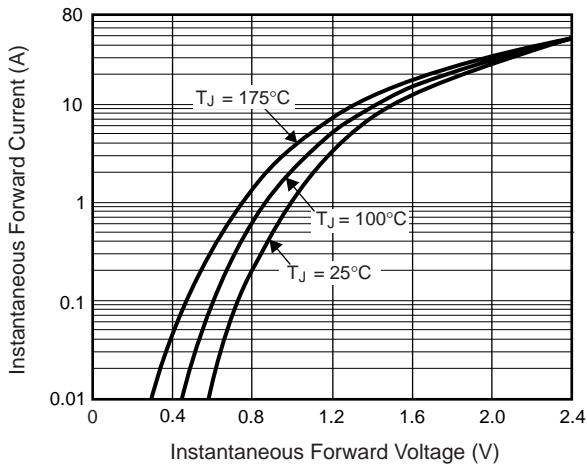
**Fig. 1 – Forward Current Derating Curve**



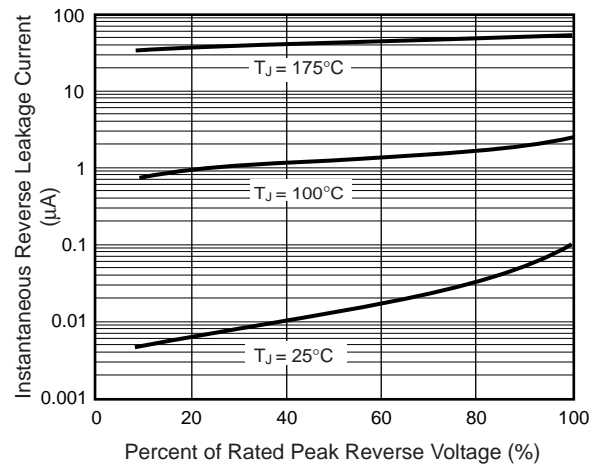
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



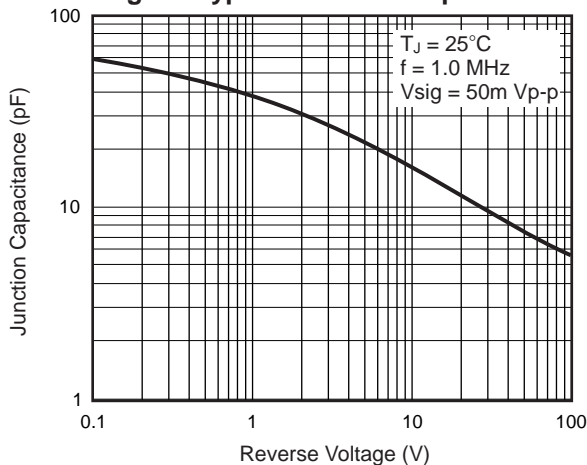
**Fig. 3 – Typical Instantaneous Forward Characteristics**



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



**Fig. 5 – Typical Junction Capacitance**



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