

## Product Summary (@T<sub>A</sub> = +25°C)

V <sub>RRM</sub> (V)	I <sub>O</sub> (A)	V <sub>F</sub> (V)	I <sub>R</sub> (μA)	t <sub>RR</sub> (ns)
600	3	1.25	5	50

## Description and Applications

The super-fast recovery time of the MURS360B makes it suitable for boost diode in discontinuous or critical mode power factor corrections. The device is also intended for use as a free-wheeling diode in power supplies and other power switching applications.

## Features and Benefits

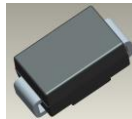
- Glass Passivated Die Construction
- Super-Fast Recovery Time for High Efficiency
- Surge Overload Rating to 100A Peak
- Ideally Suited for Automated Assembly
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **For automotive applications requiring specific change control (i.e. parts qualified to AEC-Q100/101/200, PPAP capable, and manufactured in IATF 16949 certified facilities), please [contact us](#) or your local Diodes representative.**

<https://www.diodes.com/quality/product-definitions/>

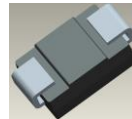
## Mechanical Data

- Case: SMB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208②③
- Polarity: Cathode Band or Cathode Notch
- Weight: 0.1046 grams (Approximate)

### SMB



Top View



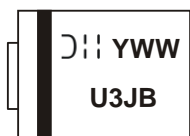
Bottom View

## Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
MURS360B-13-F	Commercial	SMB	3,000/Tape & Reel

- Notes:
1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
  2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
  3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
  4. For packaging details, go to our website at <https://www.diodes.com/design/support/packaging/diodes-packaging/>.

## Marking Information



U3JB = Product Type Marking Code  
 U3JB = Manufacturers' Code Marking  
 YWW = Date Code Marking  
 Y = Last Digit of Year (ex: 0 for 2020)  
 WW = Week Code (01 to 52)

**Maximum Ratings** (@  $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 6)	$V_{RRM}$ $V_{RWM}$ $V_R$	600	V
RMS Reverse Voltage	$V_{R(RMS)}$	417	V
Average Rectified Output Current @ $T_C = +130^\circ\text{C}$	$I_O$	3.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	100	A
Single Pulse Avalanche Energy L = 15mH	$E_{AS}$	10.8	mJ

**Thermal Characteristics**

Characteristic	Symbol	Value	Unit
Typical Thermal Resistance, Junction to Air (Note 5)	$R_{\theta JA}$	47	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Case (Note 5)	$R_{\theta JC}$	12	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance, Junction to Lead (Note 5)	$R_{\theta JL}$	26	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +175	$^\circ\text{C}$

**Electrical Characteristics** (@  $T_A = +25^\circ\text{C}$ , unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 6)	$V_{(BR)R}$	600	—	—	V	$I_R = 5\mu\text{A}$
Forward Voltage	$V_F$	—	1.02	1.25	V	$I_F = 3\text{A}, T_A = +25^\circ\text{C}$
Leakage Current (Note 6)	$I_R$	—	0.1 35	5 150	$\mu\text{A}$	$V_R = 600\text{V}, T_A = +25^\circ\text{C}$ $V_R = 600\text{V}, T_A = +150^\circ\text{C}$
Reverse Recovery Time	$t_{RR}$	—	—	50	ns	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{RR} = 0.25\text{A}$
Total Capacitance	$C_T$	—	45	—	pF	$V_R = 4\text{V}, f = 1.0\text{MHz}$

Notes: 5. Unit mounted on glass epoxy substrate 1oz/ft 12mm x 12mm copper pad.  
6. Short duration pulse test used to minimize self-heating effect.

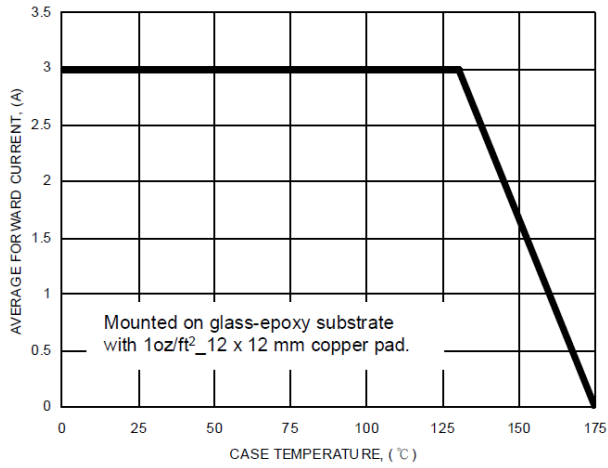


Figure 1. Forward Current Derating

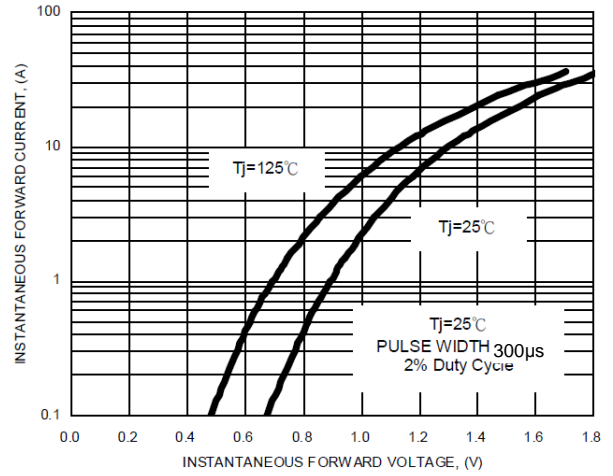


Figure 2. Typical Forward Characteristic

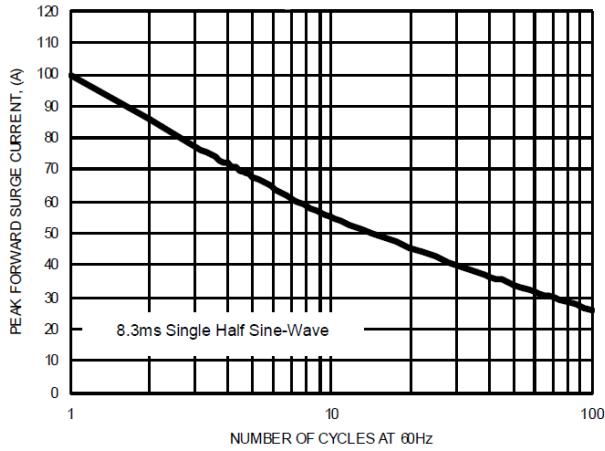


Figure 3. Maximum Non-Repetitive Surge Current

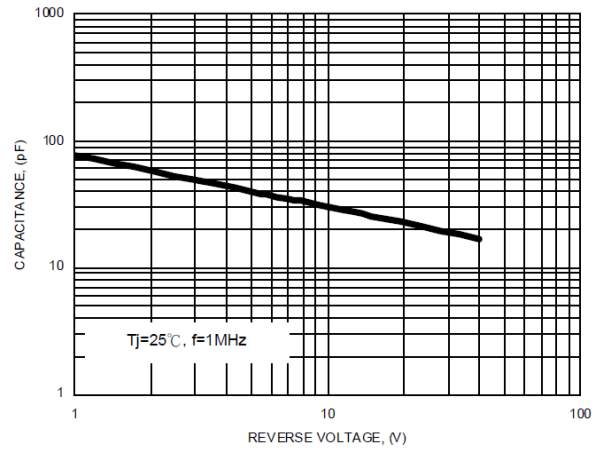


Figure 4. Typical Total Capacitance

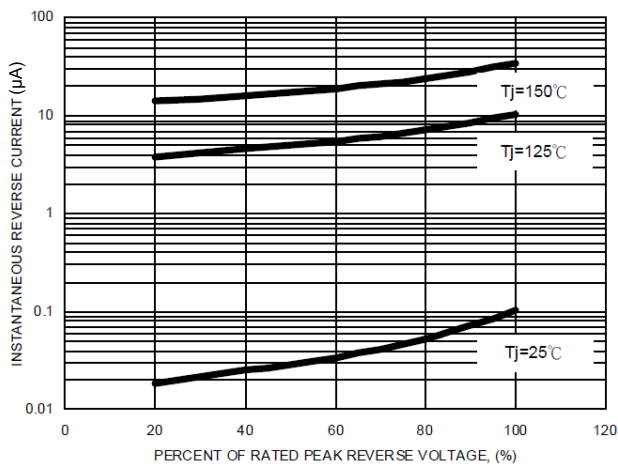
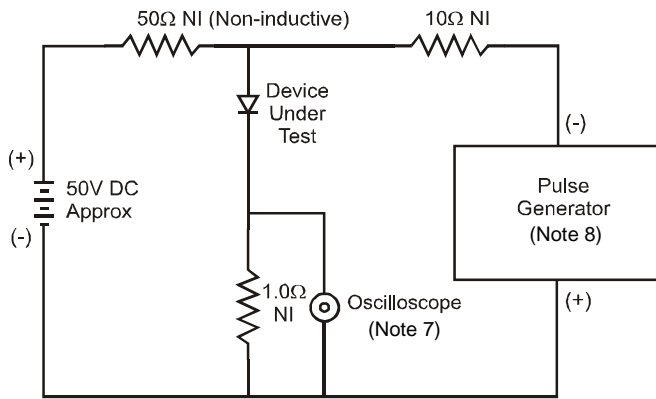
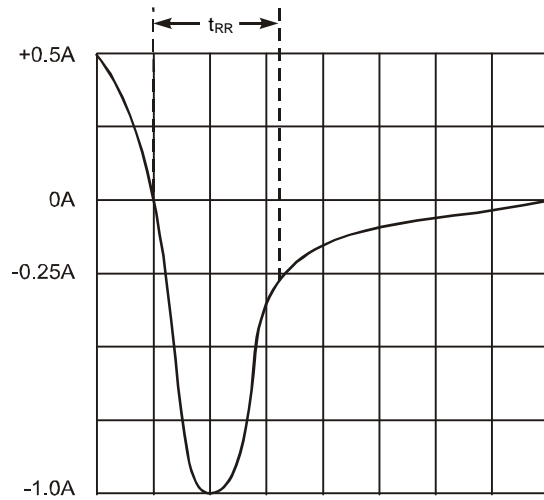


Figure 5. Typical Reverse Characteristics



- Notes:
- 7. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  - 8. Rise Time = 10ns max. Input Impedance = 50Ω.



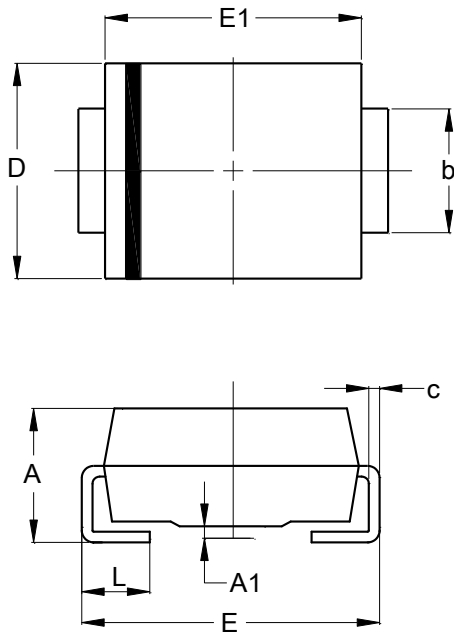
Set time base for 50/100 ns/cm

Figure 6. Reverse Recovery Time Characteristic and Test Circuit

**Package Outline Dimensions**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SMB**

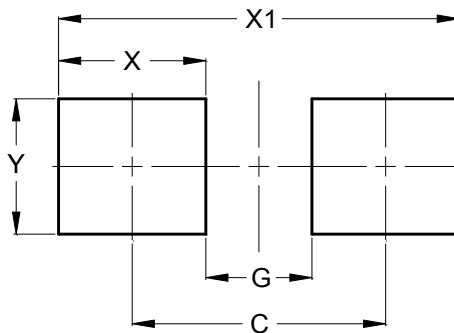


SMB		
Dim	Min	Max
A	2.00	2.50
A1	0.05	0.20
b	1.96	2.21
c	0.15	0.31
D	3.30	3.94
E	5.00	5.59
E1	4.06	4.57
L	0.76	1.52
All Dimensions in mm		

**Suggested Pad Layout**

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

**SMB**



Dimensions	Value (in mm)
C	4.30
G	1.80
X	2.50
X1	6.80
Y	2.30

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