

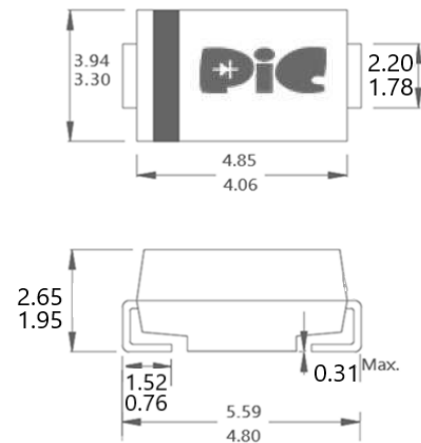
### Features

- Very Low VF 1.25V Max. @1.0A
- Ideally Suited for Automatic Assembly
- Glass Passivated Die Construction
- Surge Overload Rating to 30A Peak
- Low Power Loss
- Super-Fast Recovery Time
- Ideally Suited for Use in High Frequency SMPS, Inverters and As Free Wheeling Diodes

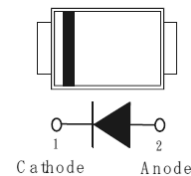
### Mechanical Data

- Case: JEDEC SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750 Method 2026
- Polarity: Cathode Band
- Marking: Type Number

### SMB



Dimensions in inches and millimeters



### Maximum Ratings (TA=25°C unless otherwise noted)

Rating at 25°C ambient temperature unless otherwise specified. Single phase half wave 60Hz, resistive or inductive load. For capacitive load current derate by 20%.

Parameter	Symbol	MURS160	UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	600	V
Working Peak Reverse Voltage	$V_{RWM}$		
DC Blocking Voltage	$V_R$		
RMS Reverse Voltage	$V_{RMS}$	420	V
Average Rectified Output Current @ $T_L = 110^\circ\text{C}$	$I_O$	1.0	A
Peak Forward Surge Current 8.3ms single half sine - wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30	A
Forward Voltage per diode @ $I_F = 1.0\text{A}$	$V_{FM}$	1.25	V
Peak Reverse Current @ $T_J = 25^\circ\text{C}$	$I_{RM}$	5.0	$\mu\text{A}$
At Rated DC Blocking Voltage @ $T_J = 150^\circ\text{C}$		150	
Reverse Recovery Time (NOTE 1)	$T_{rr}$	50	nS
Typ. Junction Capacitance (NOTE 2)	$C_J$	8	pF
Thermal Resistance, Junction to Ambient (NOTE 3)	$R_{\theta J-A}$	75	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction to Ambient (NOTE 3)	$R_{\theta J-C}$	25	
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

### Notes

- (1) Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{RR} = 0.25\text{A}$
- (2) Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
- (3) Measured on PCB with 5.0mm x 5.0mm x 0.013mm thick copper pads

### Rating and Characteristics Curves

Fig. 1 Forward Current Derating Curve

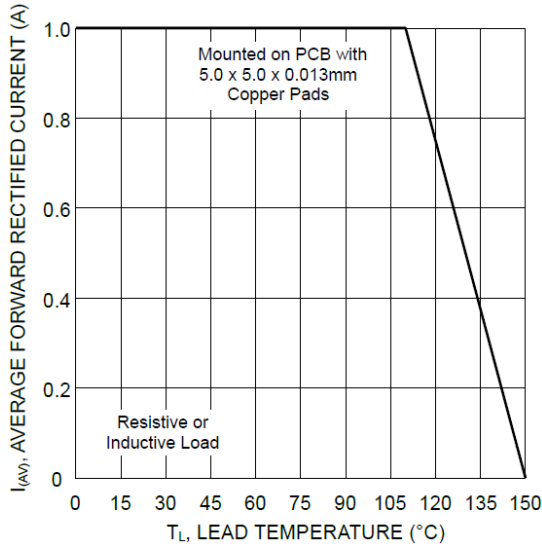


Fig. 2. Typ. Forward Characteristics

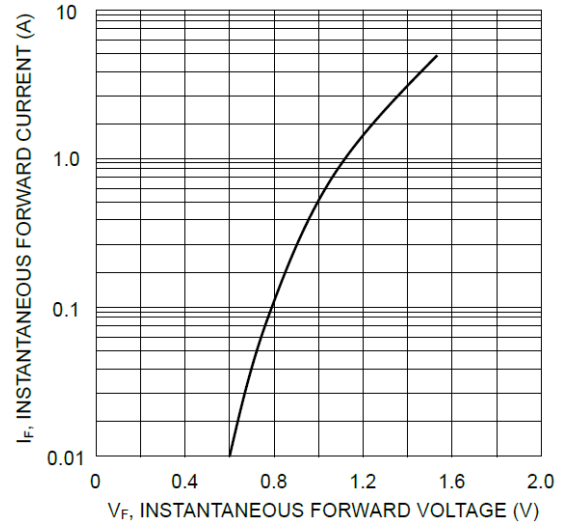


Fig. 3 Forward Surge Current Derating Curve

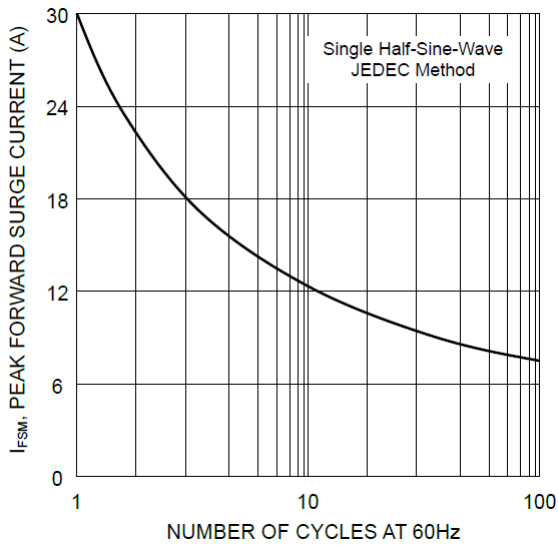
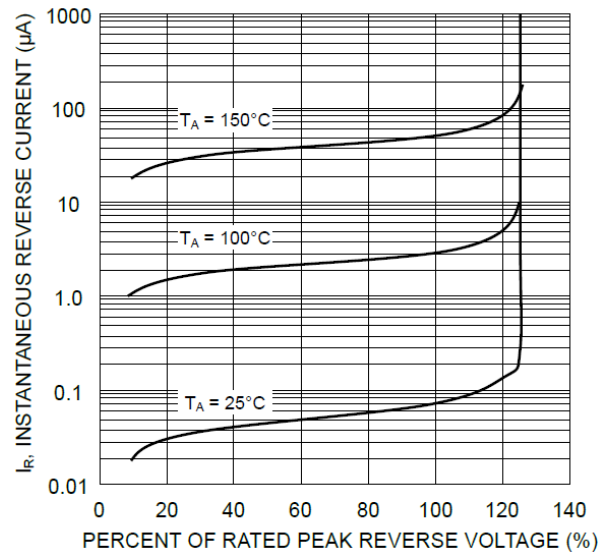
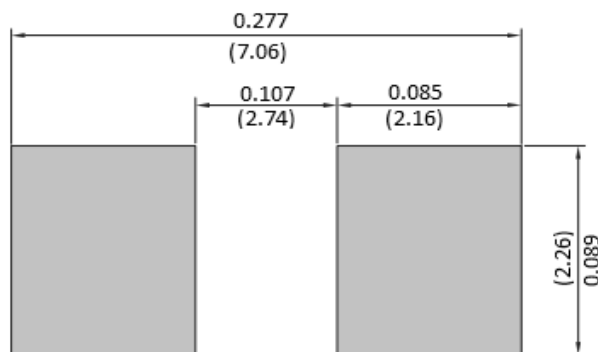


Fig. 4 Typ. Reverse Characteristics



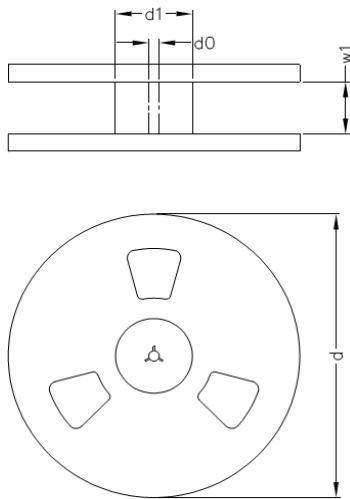
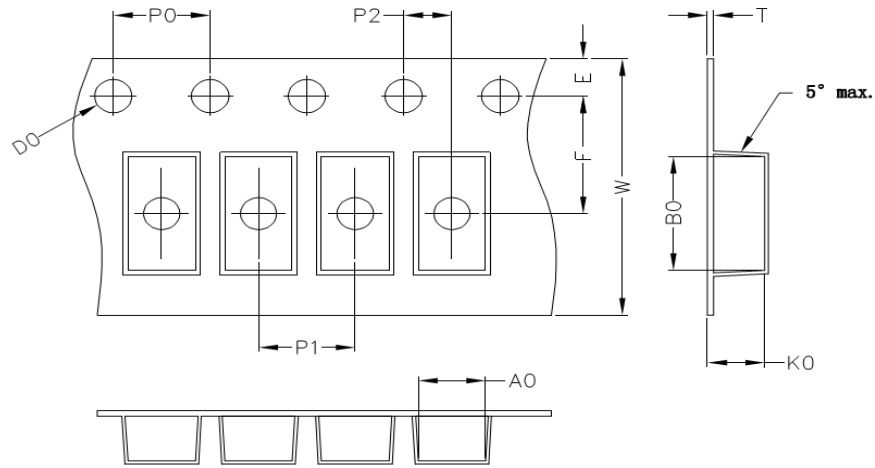
### Suggested Pad Layout



Unit: inch (mm)

### Packaging Specifications

Package	A0 (mm)	B0 (mm)	K0 (mm)	D0 (mm)	E (mm)	F (mm)	P0 (mm)	P1 (mm)	P2 (mm)	T (mm)	W (mm)
SMA	2.8±0.1	5.33±0.1	2.36±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	4.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMB	3.8±0.1	5.40±0.1	2.45±0.1	1.55±0.1	1.75±0.1	5.50±0.1	4.0±0.1	8.0±0.01	2±0.1	0.25±0.1	9.4±0.1
SMC	6.05±0.1	8.31±0.1	2.54±0.1	1.55±0.1	1.75±0.1	7.50±0.1	4.0±0.1	8.0±0.05	2±0.1	0.25±0.1	12±0.1



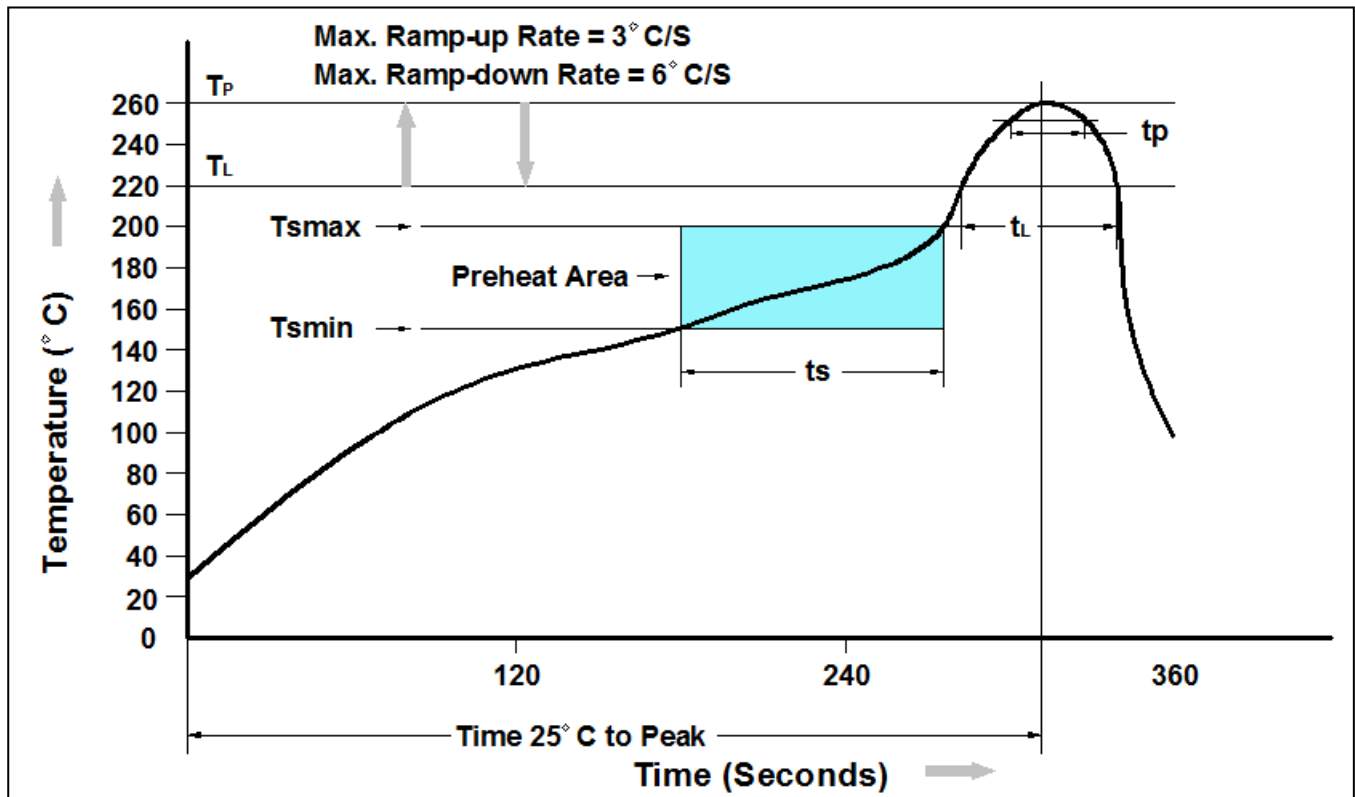
Package	D1 (mm)	D0 (mm)	W1 (mm)	D (mm)
SMA	75	13.5	13.5	330
SMB	75	13.5	13.5	330
SMC	75	13.5	17.0	330

NOTE : The tolerance of reel is ±2mm

### Ordering Information

Part Number	Description	Quantity
MURS160	SMB Reel	3000 pcs

Recommend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T Amin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (T Amin to Tsmax)	60-120 seconds
Average Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

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