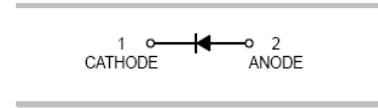




### FEATURES

- Low power loss, high efficiency
- Ideal for automated placement
- High temperature soldering: 250 °C/10 seconds at terminals



### APPLICATIONS

- For surface mounted applications



**SOD-123**

### ORDERING INFORMATION

Type No.	Marking	Package Code
MBRX0540	B4	SOD-123

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	symbol	Value	Unit
Peak repetitive Peak reverse voltage Working Peak Reverse voltage DC Reverse Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	40	V
Maximum average forward rectified current at rated $V_R$ @ $V_C=115^\circ\text{C}$	$I_{F(AV)}$	0.5	A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_L=25^\circ\text{C}$	$I_{FSM}$	5.5	A
Typical thermal resistance (NOTE 1)	$R_{\theta JA}$	206	$^\circ\text{C/W}$
Typical thermal resistance (NOTE 2)	$R_{\theta JL}$	118	$^\circ\text{C/W}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$
Operating Junction Temperature	$T_J$	-55 to +150	$^\circ\text{C}$

- NOTES: 1. Thermal resistance junction to ambient  
2. Thermal resistance junction to lead



## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	MIN	MAX	UNIT	Test Condition
Forward voltage	$V_F$	-	0.51 0.46 0.62 0.61	V	$I_F=0.5A, T_j=25^\circ C$ $I_F=0.5A, T_j=100^\circ C$ $I_F=1A, T_j=25^\circ C$ $I_F=1A, T_j=100^\circ C$
Reverse voltage leakage current	$I_{RM}$	-	20 5.0 10	$\mu A$ mA $\mu A$	$V_R=40V, T_j=25^\circ C$ $V_R=40V, T_j=100^\circ C$ $V_R=20V, T_j=25^\circ C$

NOTES: 3. Pulse test:300  $\mu s$  pulse width,1% duty cycle.

## TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

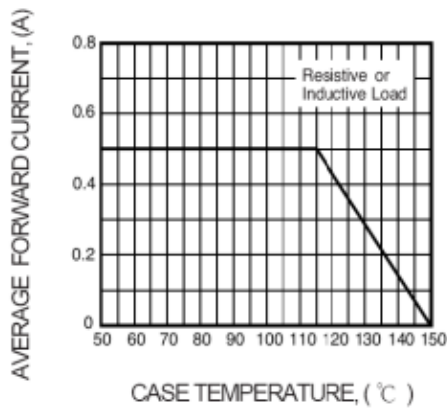


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

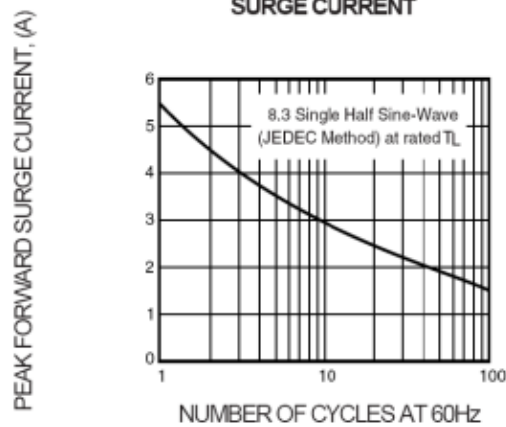


FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

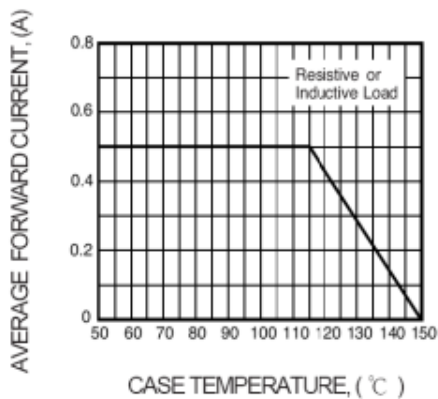
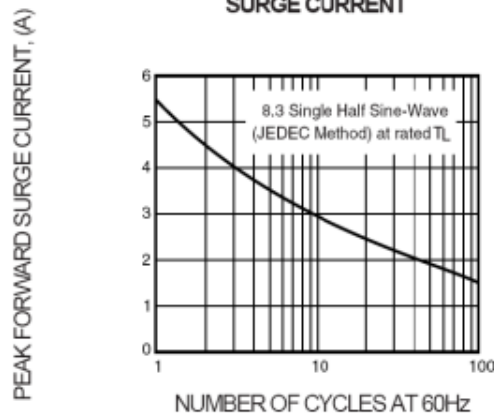
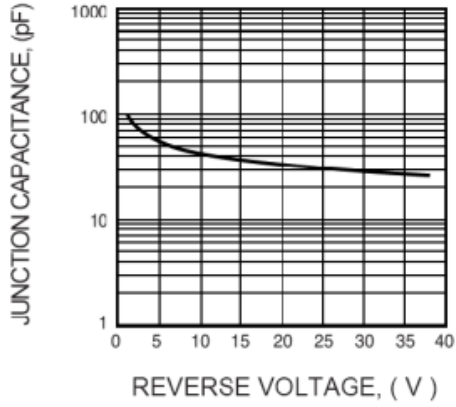


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT





**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



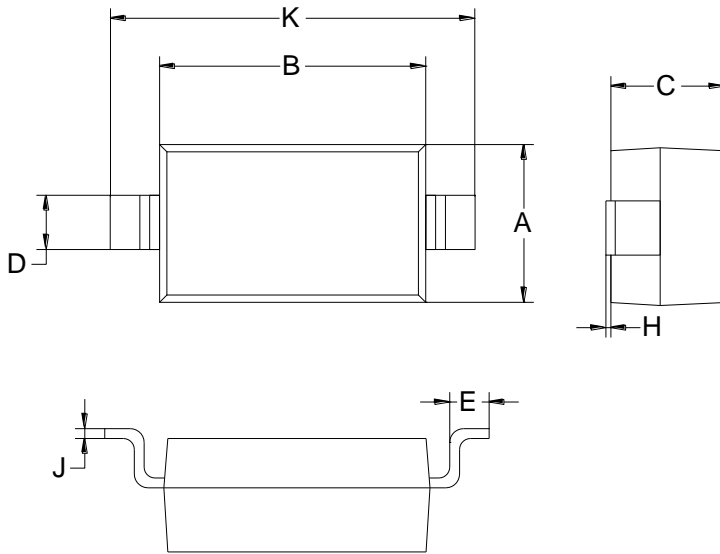
10



## PACKAGE OUTLINE

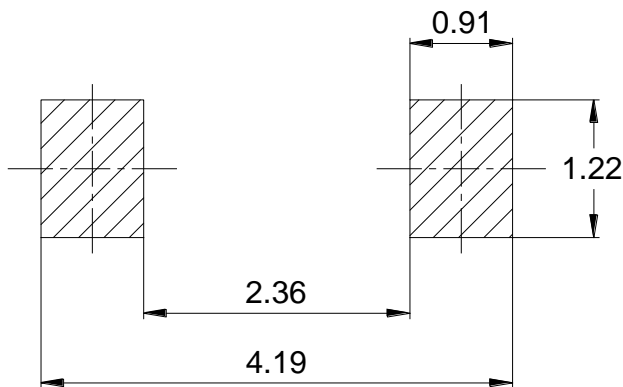
Plastic surface mounted package

SOD-123



SOD-123		
Dim	Min	Max
A	1.45	1.75
B	2.55	2.85
C	1.00	1.30
D	0.50	0.60
E	0.25	0.45
H	0.02	0.10
J	0.05	0.15
K	3.55	3.85
All Dimensions in mm		

## SOLDERING FOOTPRINT



Unit: mm

## PACKAGE INFORMATION

Device	Package	Shipping
MBRX0540	SOD-123	3000 pcs / Tape & Reel