

## Features

- Halogen Free. "Green" Device (Note 1)
- Low Power Loss, High Efficiency
- High Surge Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value				Unit
		SMD14PB	SMD16PB	SMD110PB	SMD120PB	
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	60	100	200	V
Working Peak Reverse Voltage	$V_{RWM}$					
DC Blocking Voltage	$V_R$					
RMS Reverse Voltage	$V_{RMS}$	28	42	70	140	V
Average Rectified Forward Current	$I_{F(AV)}$	1				A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	$I_{FSM}$	30				A
Current Squared Time @ $1ms \leq t \leq 8.3ms$	$I^2t$	3.735				A <sup>2</sup> s

## Marking Code

Part Number	Marking Code
SMD14PB	14
SMD16PB	16
SMD110PB	110
SMD120PB	120

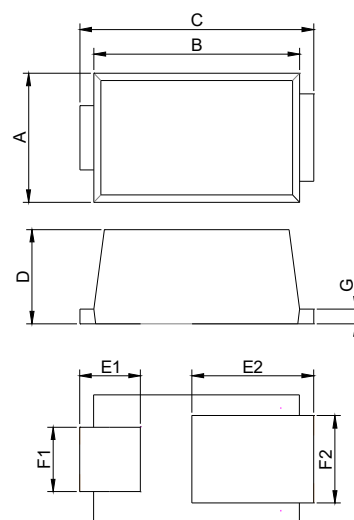
## Internal Structure

Pin	Description	Simplified Outline	Graphic Symbol
1	Cathode	<p>XX = Marking Code</p>	
2	Anode		

- Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High temperature solder exemption applied, see EU directive annex 7a.

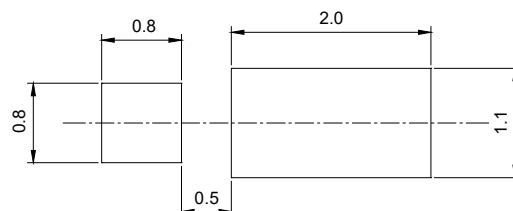
**1 Amp**  
**40 to 800 Volts**

## SOD-323HE-B



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.047	0.055	1.20	1.40	
B	0.083	0.091	2.10	2.30	
C	0.091	0.106	2.30	2.70	
D	0.035	0.039	0.90	1.00	
E1	0.022	0.030	0.55	0.75	
E2	0.043	0.059	1.10	1.50	
F1	0.022	0.030	0.55	0.75	
F2	0.031	0.039	0.78	0.98	
G	0.005	0.011	0.12	0.27	

## Suggested Solder Pad Layout(mm)



## Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
$T_J$	Operating Junction Temperature Range	SMD14PB	-55		125	°C
$T_J$	Operating Junction Temperature Range	SMD16PB ~ SMD120PB	-55		150	°C
$T_{stg}$	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Ambient	Note 1		130		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Lead	Note 1		30		°C/W

Note:

1. Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B with 5mm\*5mm copper pad areas.  $R_{th(J-L)}$  is measured at the terminal of cathode band.

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage SMD14PB SMD16PB SMD110PB SMD120PB	$V_F$	$I_F=1A; T_J=25^{\circ}C$			0.50 0.70 0.85 0.90	V
Reverse Current SMD14PB ~ SMD16PB SMD110PB ~ SMD120PB	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$ at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			0.1 20 0.01 5	mA
Junction Capacitance SMD14PB SMD16PB SMD110PB SMD120PB	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		50 40 30 20		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

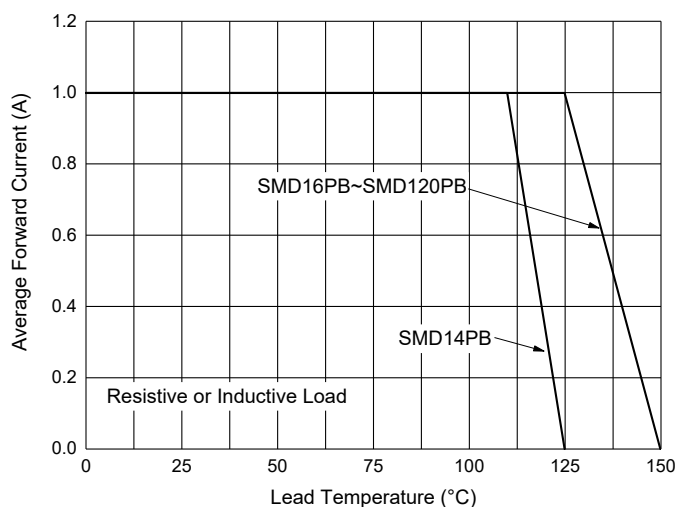


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

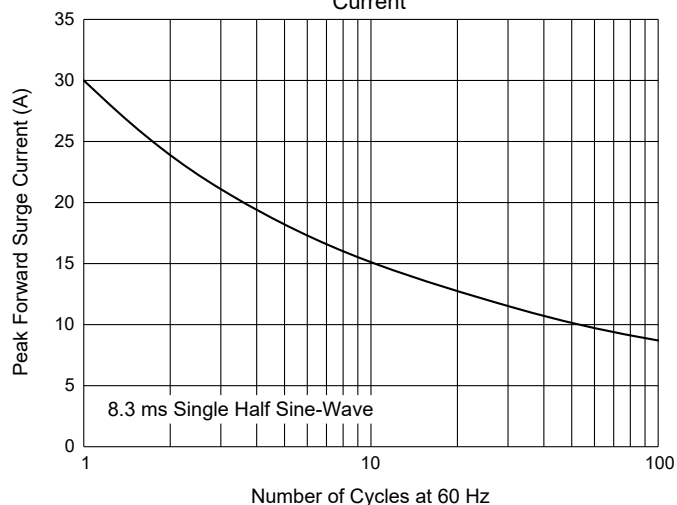


Fig. 3 - Typical Forward Characteristics

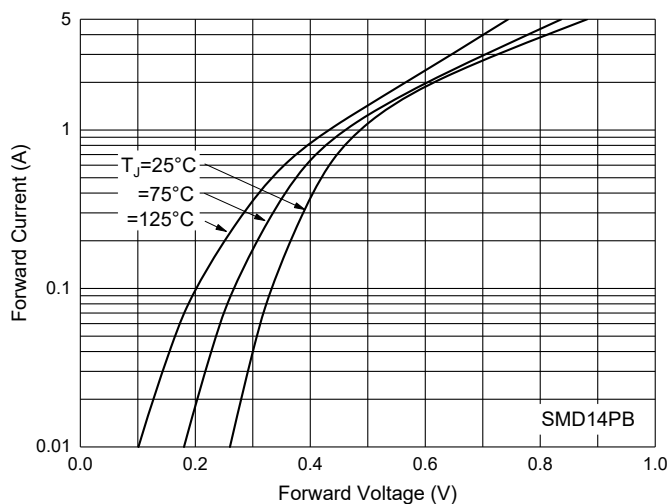


Fig. 4 - Typical Reverse Leakage Characteristics

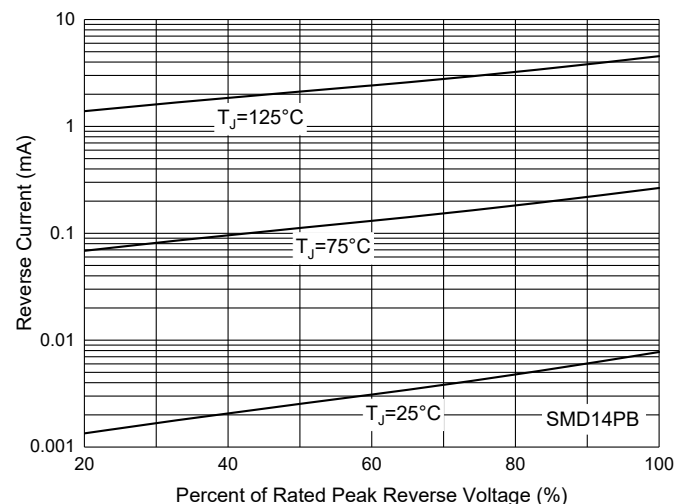


Fig. 5 - Typical Forward Characteristics

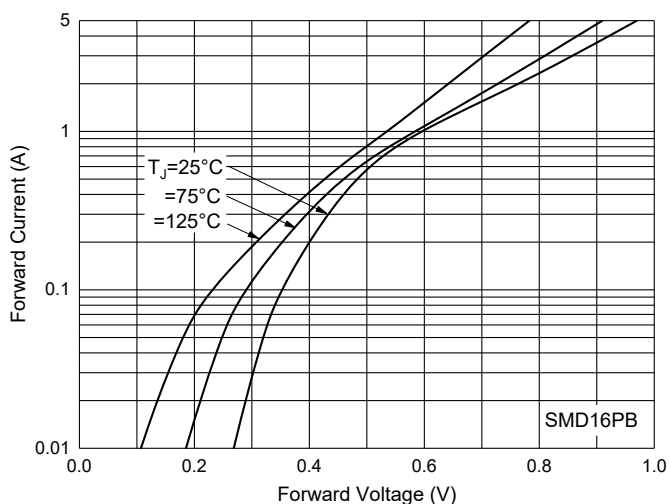
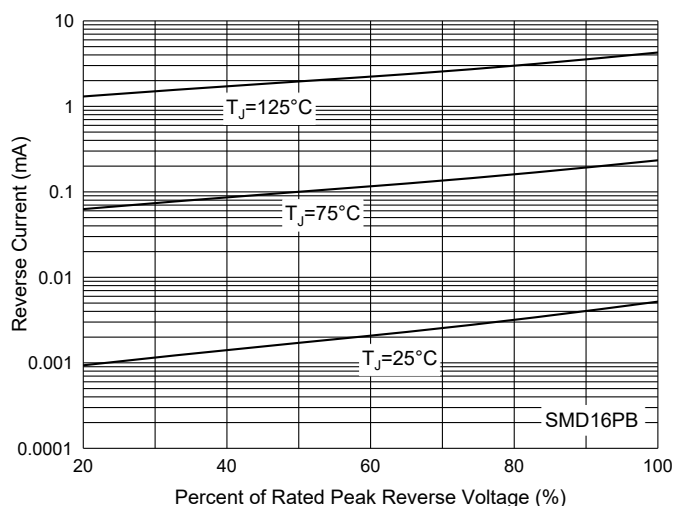


Fig. 6 - Typical Reverse Leakage Characteristics



## Curve Characteristics

Fig. 7 - Typical Forward Characteristics

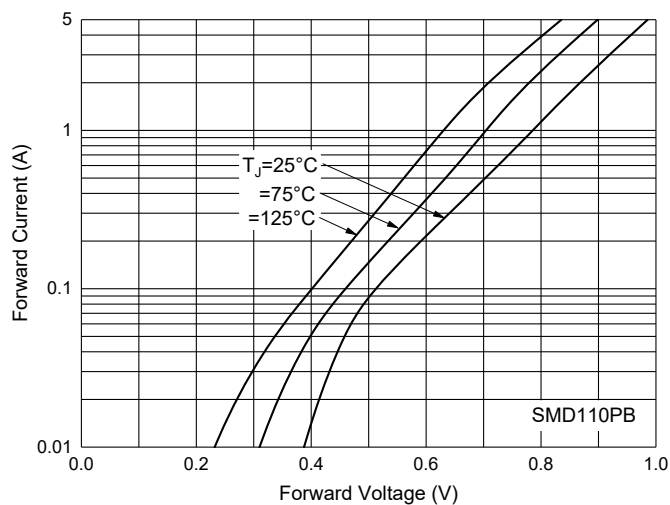


Fig. 8 - Typical Reverse Leakage Characteristics

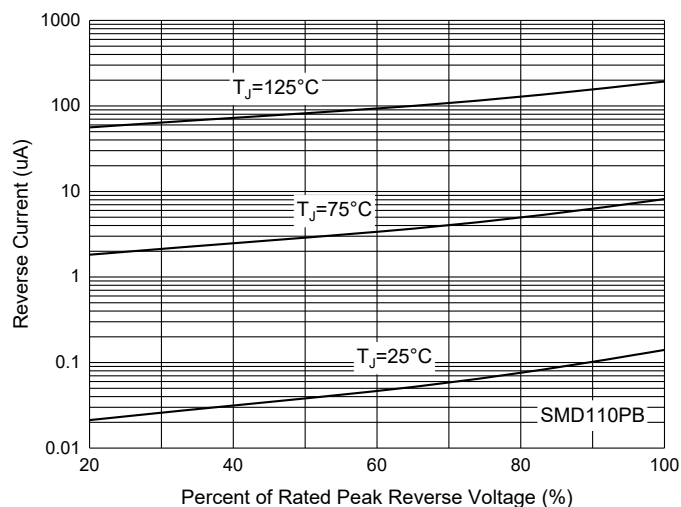


Fig. 9 - Typical Forward Characteristics

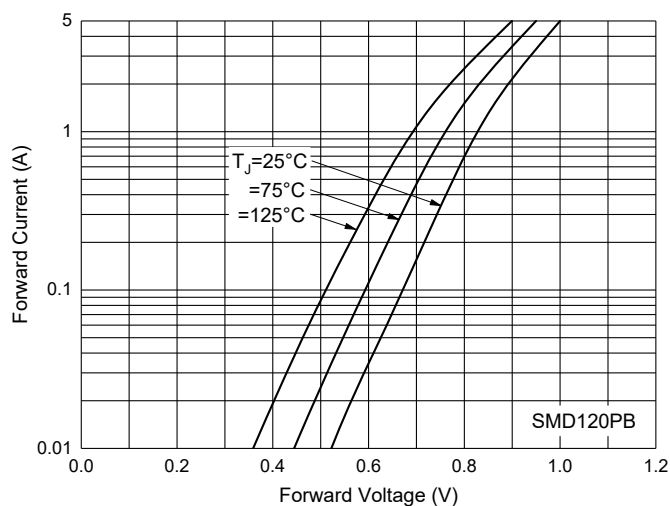


Fig. 10 - Typical Reverse Leakage Characteristics

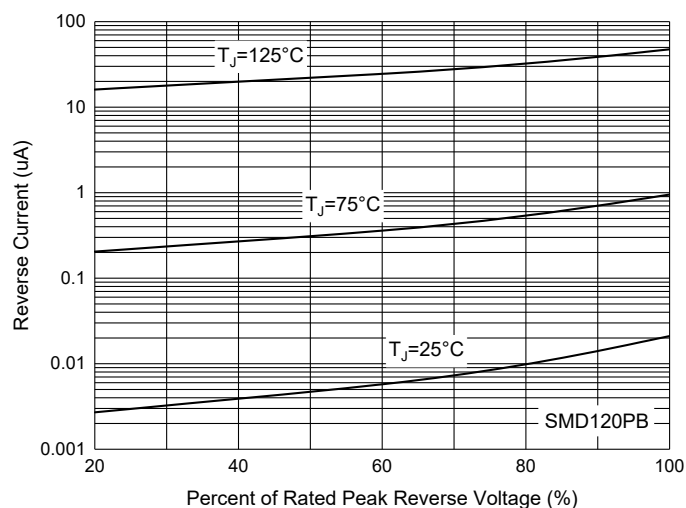


Fig. 11 - Typical Capacitance Characteristics

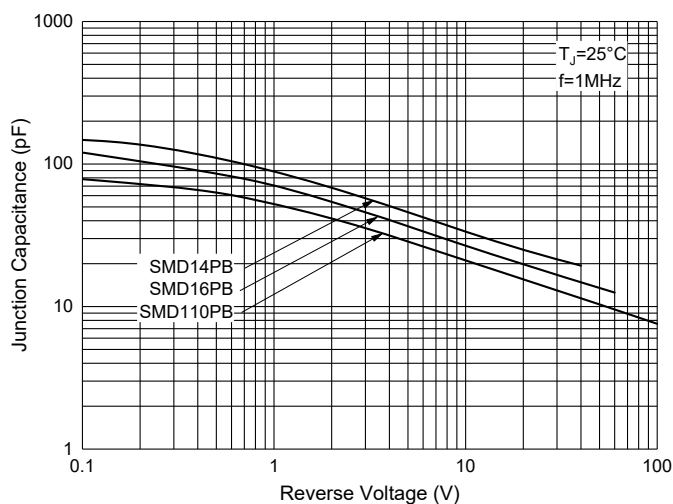
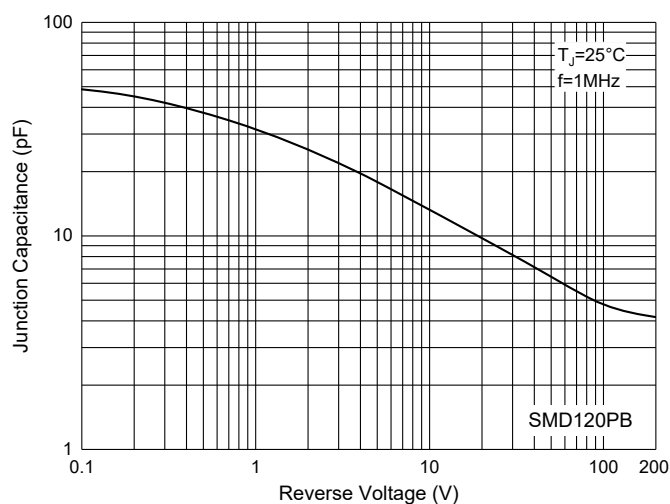


Fig. 12 - Typical Capacitance Characteristics



## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:2.5Kpcs/Reel

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