

### ► Features

- $V_R$  20V/30V/40V
- $I_{F(AV)}$  500mA
- For use in low voltage, high frequency inverters
- Free wheeling, and polanty protection applications

### ► Applications

The device is a single rectifier offering low VF and excellent high temperature stability.

### ► Mechanical Data

- Case: SOD-123
- Molding compound meets UL 94V-0 flammability rating, RoHS-compliant, halogen-free
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode line denotes the cathode end

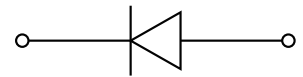
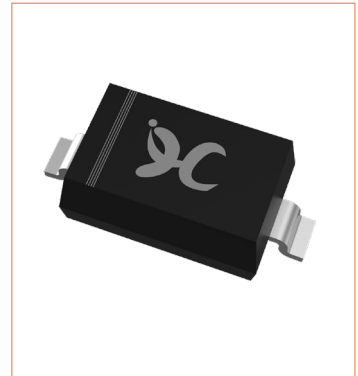
### ► Maximum Ratings (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	B0520W	B0530W	B0540W
Maximum repetitive peak reverse voltage	$V_{RRM}$	V	20	30	40
Maximum RMS Voltage	$V_{RMS}$	V	14	21	28
Maximum DC blocking Voltage	$V_{DC}$	V	20	30	40
Maximum average forward rectified current	$I_{F(AV)}$	mA	500		
Non-repetitive Peak Forward Surge Current @ t=8.3ms Half-sine wave	$I_{FSM}$	A	5.5		
Power Dissipation	$P_d$	mW	500		
Storage temperature	$T_{stg}$	°C	-50 ~+150		
Junction temperature	$T_j$	°C	-50 ~+125		
Typical Thermal Resistance	$R_{\theta J-A}$	°C /W	200		

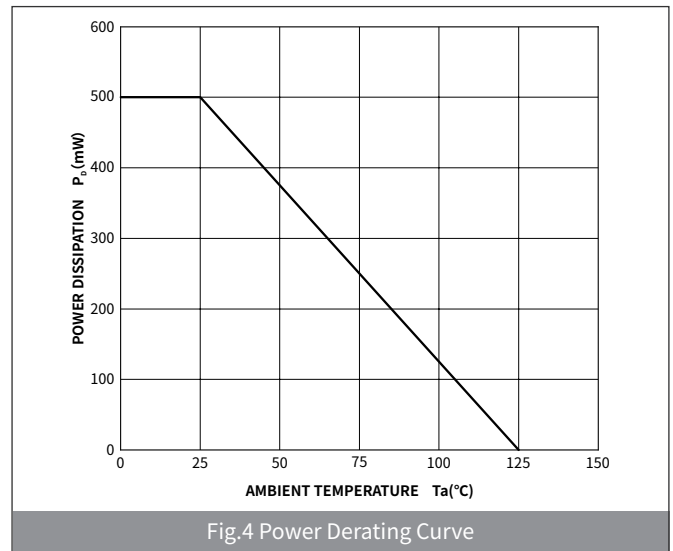
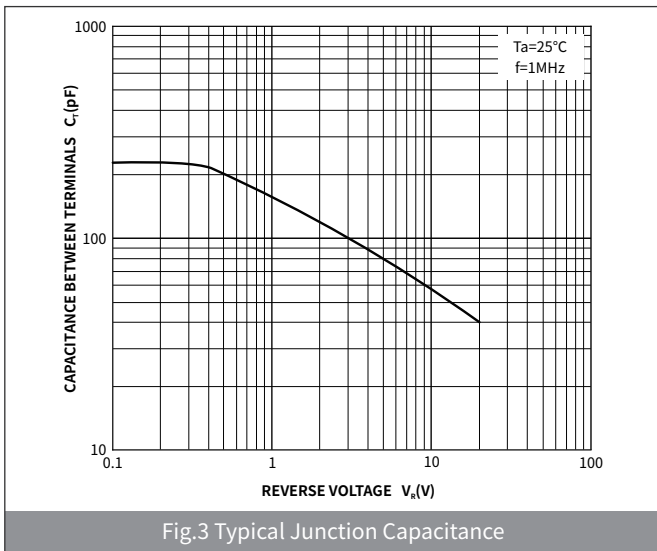
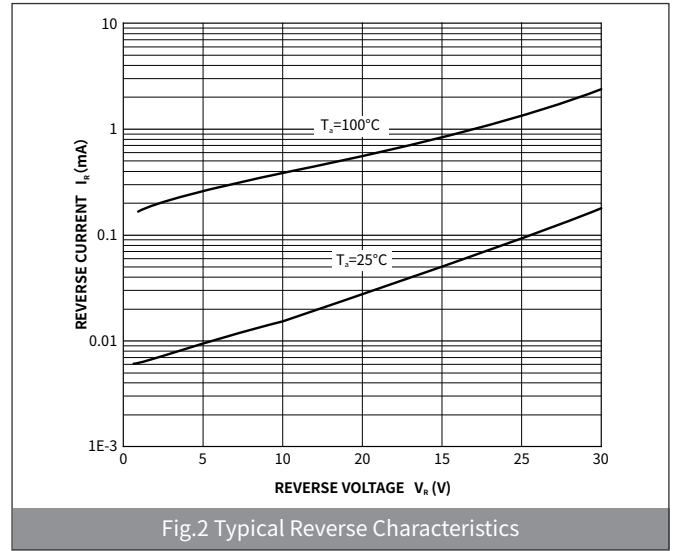
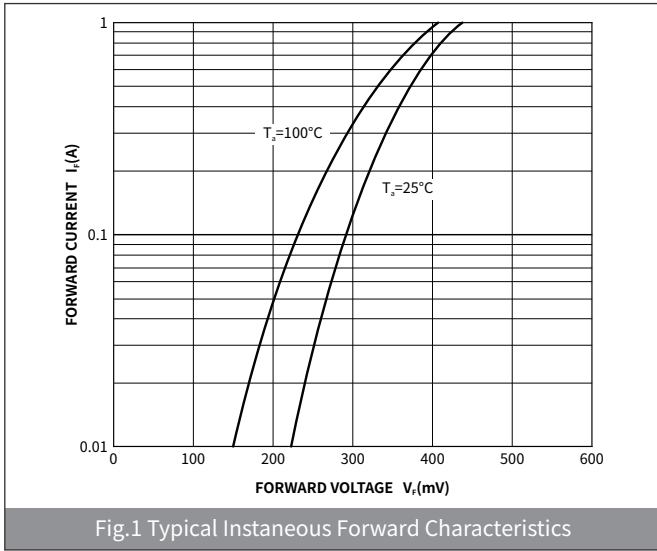
### ► Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	TEST CONDITIONS	SYMBOL	UNIT	B0520W	B0530W	B0540W
Maximum instantaneous forward voltage	$I_F=0.1A$	$V_{F1}$	V	0.330	0.375	—
	$I_F=0.5A$	$V_{F2}$		0.385	0.430	0.510
	$I_F=1.0A$	$V_{F3}$		—	—	0.620
Maximum reverse current	$V_R=10V$	$I_R$	mA	0.075	—	—
	$V_R=15V$			—	0.02	—
	$V_R=20V$			0.25	—	0.01
	$V_R=30V$			—	0.13	—
	$V_R=40V$			—	—	0.02
Capacitance between terminals	$V_R=0V, f=1MHz$	$C_T$	pF	—	—	170

### SOD-123



► **Ratings And Characteristics Curves** ( $T_a=25^\circ\text{C}$  Unless otherwise specified)



### Ordering Information

PACKAGE	PACKAGE CODE	UNIT WEIGHT(g)	REEL(pcs)	BOX(pcs)	CARTON(pcs)	DELIVERY MODE
SOD-123	R1	0.012	3000	30000	120000	7"

### Package Outline Dimensions (SOD-123)

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.55	3.85	0.140	0.152
B	2.55	2.85	0.100	0.112
C	1.40	1.80	0.055	0.071
D	0.95	1.35	0.140	0.152
E	0.51	0.71	0.037	0.053
F	-	0.15	-	0.006
G	0.15	0.45	0.006	0.008
H	0.08	0.25	0.003	0.010
$\theta$	-	8°	-	8°

### Suggested Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
J	0.91	-	0.036	-
K	-	2.36	-	0.092
M	1.22	-	0.048	-