

Features

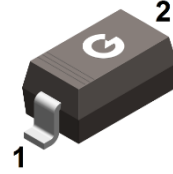
- High efficiency
- Low power loss
- Ideal for automated placement
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOD-123
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte Tin-Plated Leads, Solderability-per MIL-STD-202, Method 208

Cathode Anode
1 2



SOD-123

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MBRX0540	SOD-123	3000 pcs / Tape & Reel	B4

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V _{RRM}	40	V
Working Peak Reverse voltage	V _{RWM}	40	V
DC Reverse Voltage	V _R	40	V
Maximum Average Forward Output Current	I _{F(AV)}	0.5	A
Peak Forward Surge Current (8.3ms single half sine-wave)	I _{FSM}	10	A
Operating junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C
Power Dissipation (T _A = 25°C)	P _D	0.5	W

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction-to-Air *1	R _{θJA}	-	206	230	°C/W
Thermal Resistance Junction-to-Case *1	R _{θJC}	-	118	130	°C/W
Thermal Resistance Junction-to-Lead *1	R _{θJL}	-	144	160	°C/W

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R = 1\text{mA}$	40	-	-	V
Forward Voltage	V_F	$I_F = 0.5\text{A}, T_J = 25^\circ\text{C}$	-	-	0.51	V
		$I_F = 0.5\text{A}, T_J = 100^\circ\text{C}$	-	-	0.46	V
		$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	-	-	0.62	V
		$I_F = 1\text{A}, T_J = 100^\circ\text{C}$	-	-	0.61	V
Maximum Peak Reverse Current	I_R	$V_R = 20\text{V}, T_J = 25^\circ\text{C}$	-	-	2	μA
		$V_R = 40\text{V}, T_J = 25^\circ\text{C}$	-	-	5	μA
		$V_R = 40\text{V}, T_J = 100^\circ\text{C}$	-	-	1	mA
Junction Capacitance	C_J	$V_R = 4\text{V}, f = 1\text{MHz}$	-	40	-	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

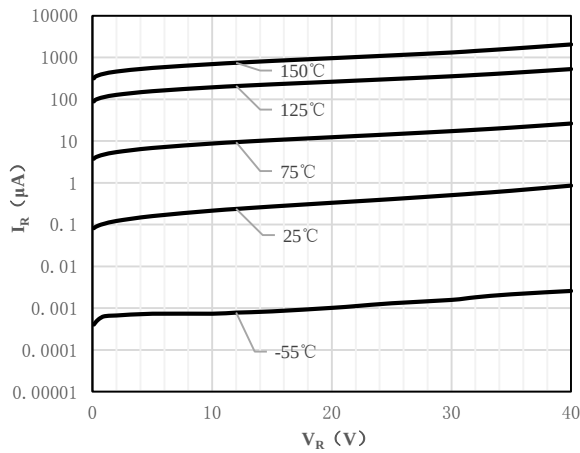


Fig 1 Typical Reverse Characteristic

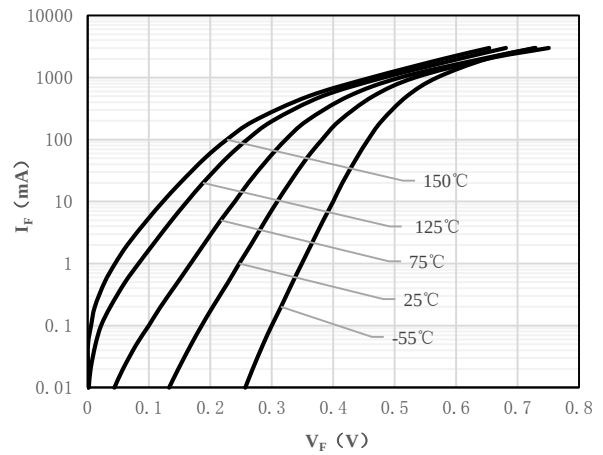


Fig 2 Typical Forward Characteristics

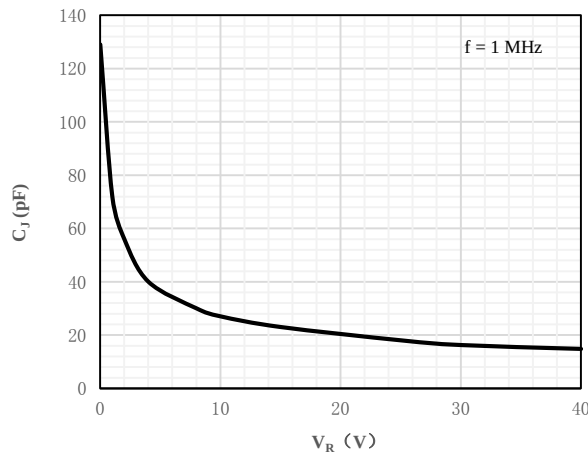


Fig 3 Capacitance Characteristics

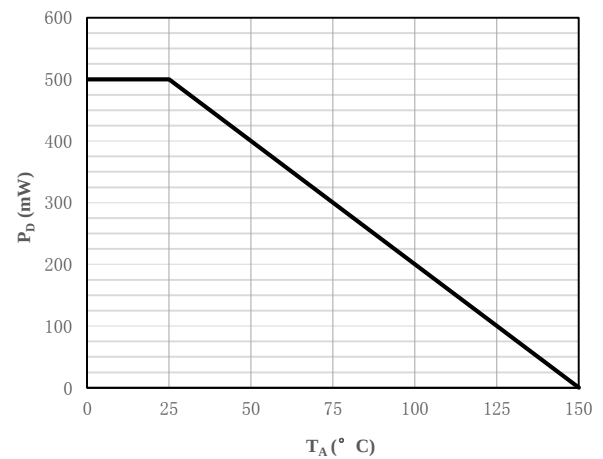
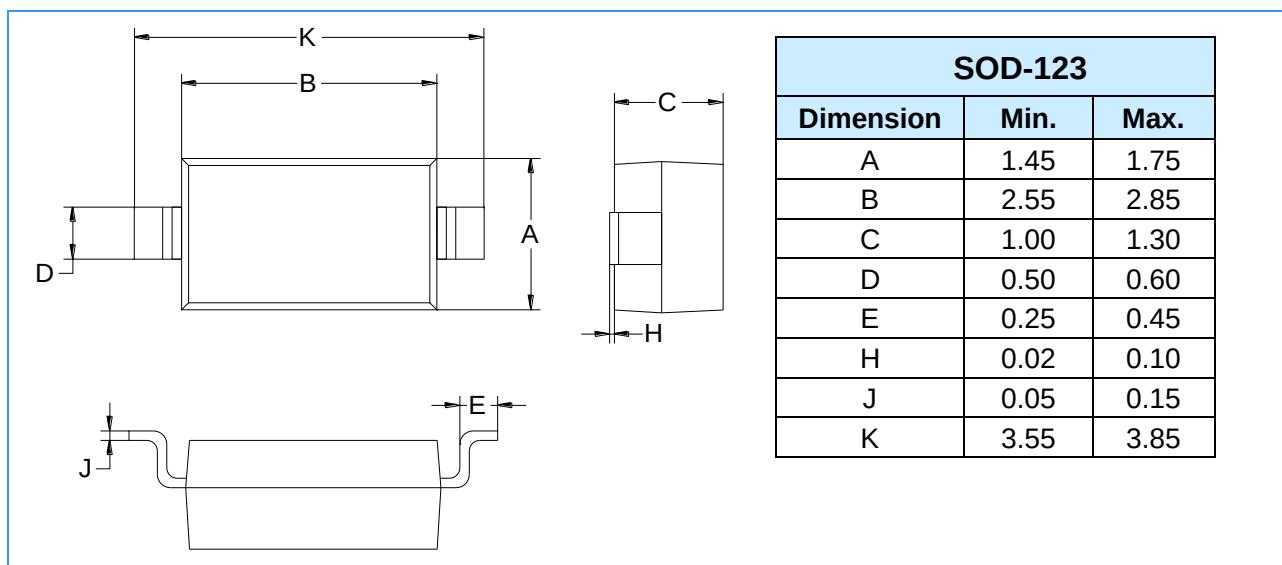


Fig 4 Power Derating Curve

Package Outline Dimensions (Unit: mm)



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