

**Silicon Epitaxial Planar Switching Diode**

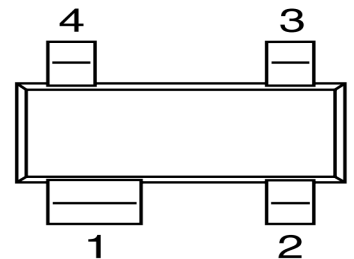
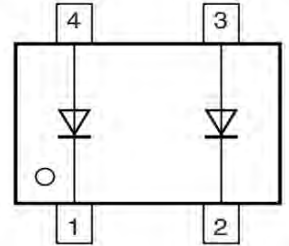
**Features and benefits**

- \* High switching speed:  $t_{rr}$  4 ns
- \* Reverse voltage:  $V_R$  80 V
- \* Repetitive peak reverse voltage:  $V_{RM}$  100V
- \* Repetitive peak forward current:  $I_{FRM}$  500 mA
- \* small SMD package

**Applications**

- \* High-speed switching in e.g. surface-mounted circuits

**Marking : JT**



**SOT143**

**Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )**

Parameter	Symbol	Value	Unit
Peak Reverse Voltage	$V_{RM}$	100	V
Reverse Voltage	$V_R$	80	V
Average Rectified Forward Current	$I_{F(AV)}$	215	mA
Forward Continuous Current	$I_{FM}$	500	mA
Non-Repetitive Peak Forward Surge Current (at $t = 1 \mu\text{s}$ )	$I_{FSM}$	4	A
Power Dissipation	$P_d$	400	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 65 to + 150	$^\circ\text{C}$



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### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
Forward Voltage at $I_F = 5\text{ mA}$ at $I_F = 10\text{ mA}$ at $I_F = 100\text{ mA}$ at $I_F = 150\text{ mA}$	$V_F$	0.62 - - -	0.72 0.855 1 1.25	V
Reverse Leakage Current at $V_R = 80\text{ V}$ at $V_R = 20\text{ V}$ at $V_R = 75\text{ V}, T_J = 150^\circ\text{C}$ at $V_R = 25\text{ V}, T_J = 150^\circ\text{C}$	$I_R$	- - - -	1000 30 50 30	nA nA $\mu\text{A}$ $\mu\text{A}$
Reverse Breakdown Voltage at $I_R = 100\text{ }\mu\text{A}$	$V_{(BR)R}$	80	-	V
Total Capacitance at $V_R = 0.5\text{ V}, f = 1\text{ MHz}$	$C_{\text{tot}}$	-	4	pF
Reverse Recovery Time at $I_F = I_R = 10\text{ mA}, I_{rr} = 0.1 \times I_R, R_L = 100\text{ }\Omega$	$t_{rr}$	-	4	ns

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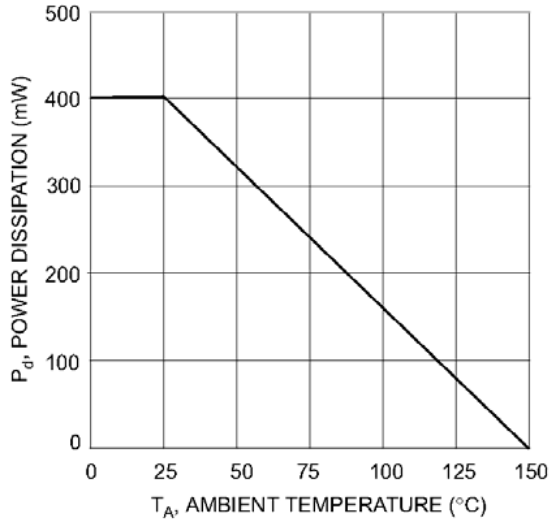


Fig. 1 Power Derating Curve

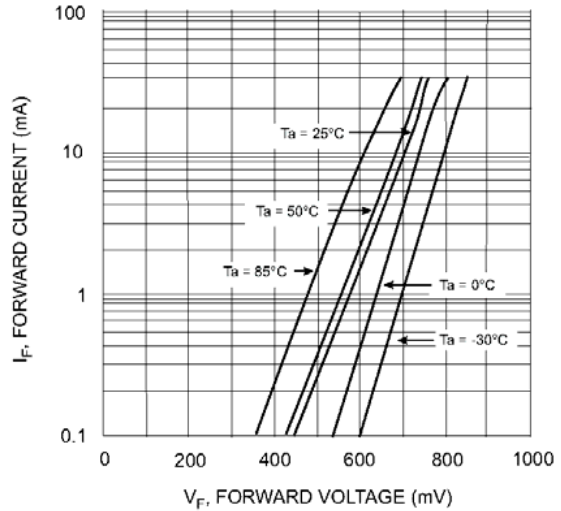


Fig. 2 Typical Forward Characteristics

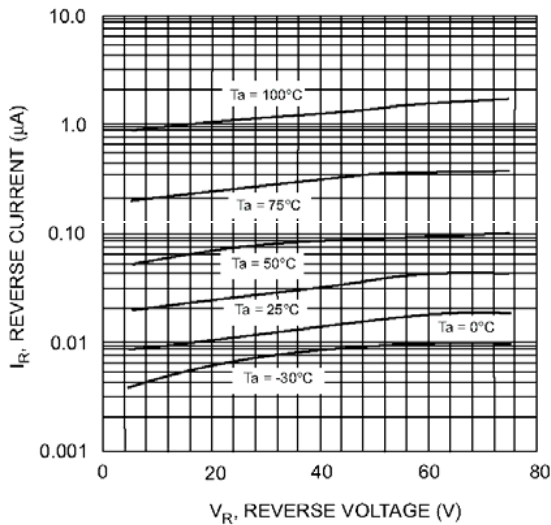


Fig. 3 Typical Reverse Characteristics

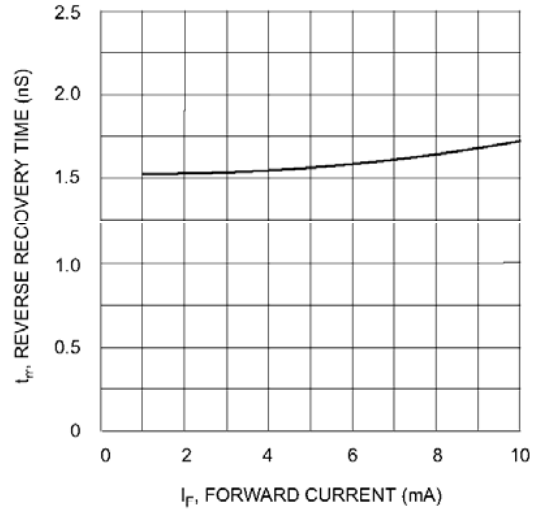


Fig. 4 Reverse Recovery Time vs. Forward Current

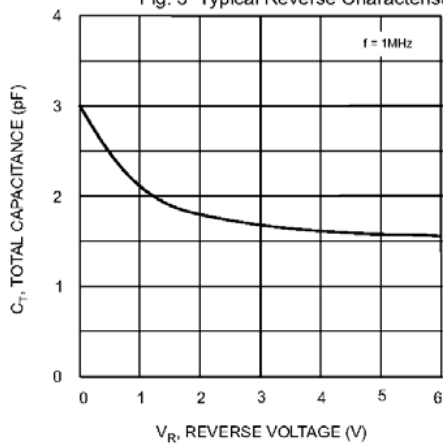


Fig. 5 Total Capacitance vs. Reverse Voltage

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### Package Outline

Plastic surface mounted package

SOT-143

