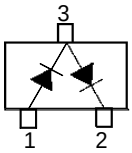
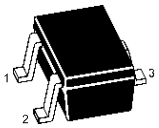
Silicon Epitaxial Planar Switching Diode





SOT-323 Plastic Package

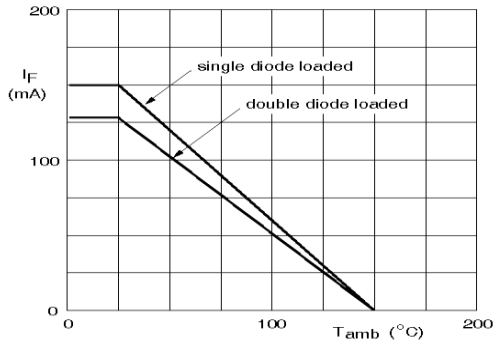
Marking Code: **A7**

Absolute Maximum Ratings (T_a = 25 °C)

Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltage		V_{RRM}	85	V
Reverse Voltage		V_R	75	V
Continuous Forward Current	Single Diode Load Double Diode Load	I_F	150 130	mA
Repetitive Peak Forward Current		I_{FRM}	500	mA
Non-Repetitive Peak Forward Surge Current	at t = 1 µs at t = 1 ms at t = 1 s	I_{FSM}	4 1 0.5	A
Total Power Dissipation		P_{tot}	200	mW
Thermal Resistance from Junction to Ambient		$R_{\theta JA}$	625	°C/W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	- 55 to + 150	°C

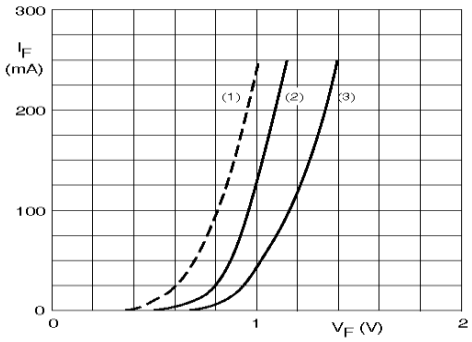
Characteristics at T_a = 25 °C

Parameter	Symbol	Max.	Unit
Forward Voltage at I_F = 1 mA at I_F = 10 mA at I_F = 50 mA at I_F = 150 mA	V_F	 0.715 0.855 1 1.25	V
Reverse Current at V_R = 25 V at V_R = 75 V at V_R = 25 V, T_j = 150 °C at V_R = 75 V, T_j = 150 °C	I_R	 30 1 30 50	 nA µA µA µA
Diode Capacitance at V_R = 0, f = 1 MHz	C_d	1.5	pF
Reverse Recovery Time at I_F = I_R = 10 mA, I_{rr} = 0.1 X I_R , R_L = 100 Ω	t_{rr}	4	ns



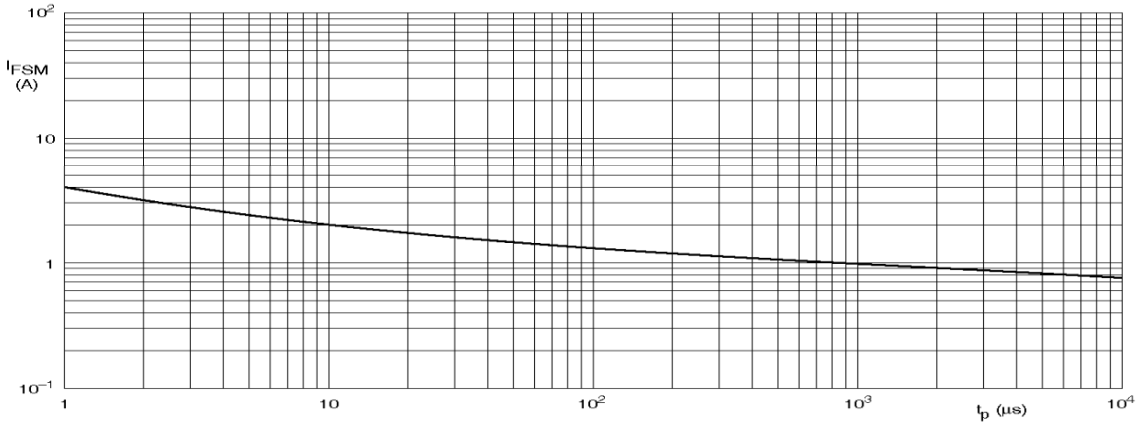
Device mounted on an FR4 printed-circuit board.

Maximum permissible continuous forward current as a function of ambient temperature.



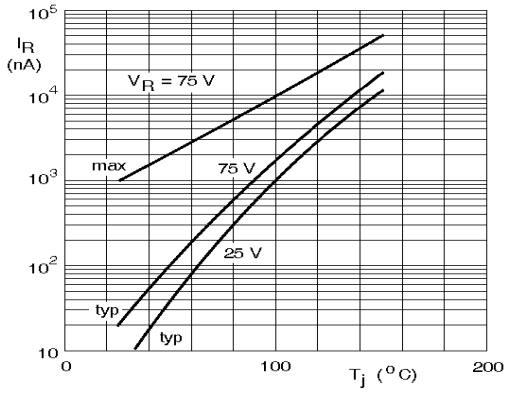
(1) T_j = 150 °C; typical values.
(2) T_j = 25 °C; typical values.
(3) T_j = 25 °C; maximum values.

Forward current as a function of forward voltage.

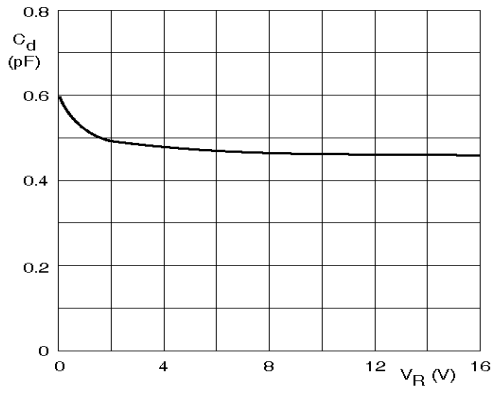


Based on square wave currents.
T_j = 25 °C prior to surge.

Maximum permissible non-repetitive peak forward current as a function of pulse duration.



Reverse current as a function of junction temperature.



f = 1 MHz; T_j = 25 °C.

Diode capacitance as a function of reverse voltage; typical values.