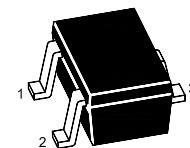
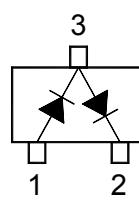


HIGH-SPEED DOUBLE SWITCHING DIODE


SOT-323 Plastic Package

 Marking Code: **A7**
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	85	V
Continuous Reverse Voltage	V_R	75	V
Continuous Forward Current	I_F	150 130	mA
Repetitive Peak Forward Current	I_{FRM}	500	mA
Non-repetitive Peak Forward Current Square Wave; $T_j = 25^\circ\text{C}$ Prior to Surge	I_{FSM}	4 1 0.5	A
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65 to +150	°C
Thermal Resistance from Junction to Ambient ¹⁾	$R_{th\ j-a}$	625	K/W

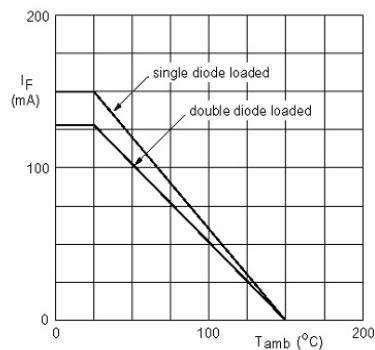
¹⁾ Device mounted on an FR4 printed-circuit board.

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

Parameter	Symbol	Max.	Unit
Forward Voltage at $I_F = 1 \text{ mA}$ at $I_F = 10 \text{ mA}$ at $I_F = 50 \text{ mA}$ at $I_F = 150 \text{ mA}$	V_F	0.715 0.855 1 1.25	V
Reverse Current at $V_R = 25 \text{ V}$ at $V_R = 75 \text{ V}$ at $V_R = 25 \text{ V}, T_j = 150^\circ\text{C}$ at $V_R = 75 \text{ V}, T_j = 150^\circ\text{C}$	I_R	30 1 30 50	nA μA μA μA
Diode Capacitance at $f = 1 \text{ MHz}; V_R = 0$	C_d	1.5	pF
Reverse Recovery Time at $I_F = 10 \text{ mA}$ to $I_R = 10 \text{ mA}, R_L = 100 \Omega$; measured at $I_R = 1 \text{ mA}$	t_{rr}	4	ns
Forward Recovery Voltage at $I_F = 10 \text{ mA}, t_r = 20 \text{ ns}$	V_{fr}	1.75	V

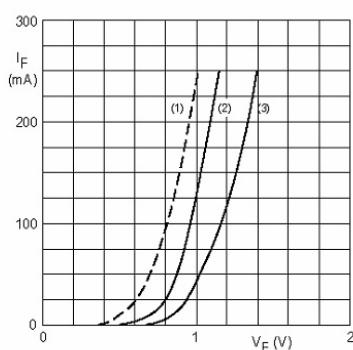


HIGH-SPEED DOUBLE SWITCHING DIODE



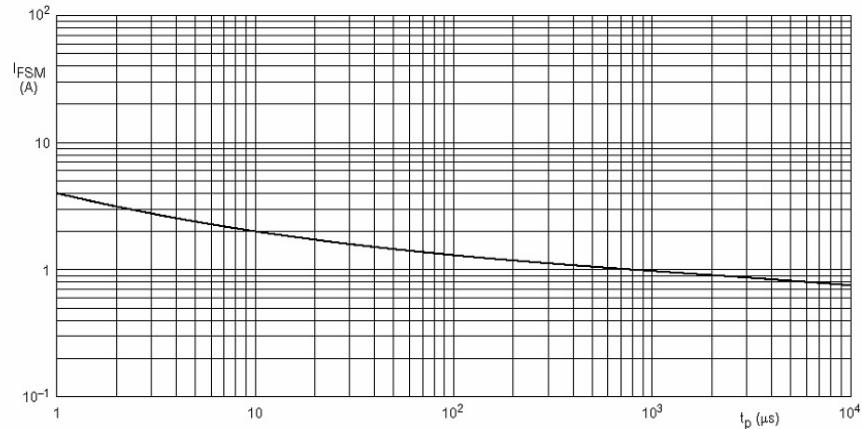
Device mounted on an FR4 printed-circuit board.

Fig.2 Maximum permissible continuous forward current as a function of ambient temperature.



- (1) $T_j = 150 \text{ }^\circ\text{C}$; typical values.
(2) $T_j = 25 \text{ }^\circ\text{C}$; typical values.
(3) $T_j = 25 \text{ }^\circ\text{C}$; maximum values.

Fig.3 Forward current as a function of forward voltage.



Based on square wave currents.
 $T_j = 25 \text{ }^\circ\text{C}$ prior to surge.

Fig.4 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

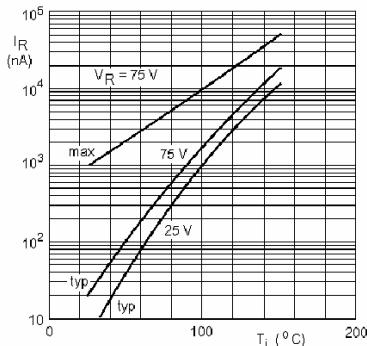
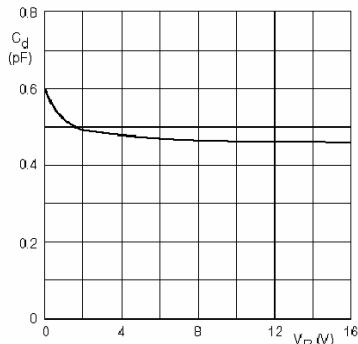


Fig.5 Reverse current as a function of junction temperature.



$f = 1 \text{ MHz}$, $T_j = 25 \text{ }^\circ\text{C}$.

Fig.6 Diode capacitance as a function of reverse voltage; typical values.