

BAV70

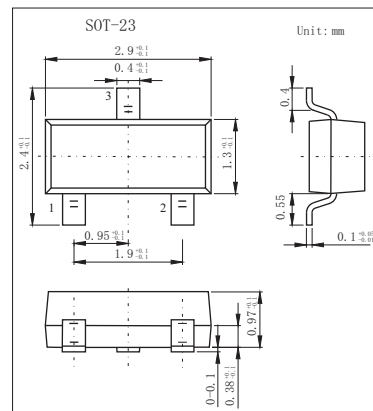
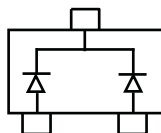
Switching Diodes

Features

Small plastic SMD package.

High switching speed: max.4 ns.

Repetitive peak forward current: max.450 mA.



Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	V _{RRM}	85	V
Continuous reverse voltage	V _R	75	V
Continuous forward current (single diode loaded *) (double diode loaded *)	I _F	215 125	mA
Repetitive peak forward current	I _{FRM}	450	mA
Non-repetitive peak forward current T _j =25 °C t=1 μs t=1ms t=1s	I _{FSM}	4	A
		1	
		0.5	
power dissipation *	P _D	250	mW
Thermal resistance from junction to tie-point	R _{th j-tp}	360	K/W
Thermal resistance from junction to ambient *	R _{th j-a}	500	K/W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-65 to +150	°C

* Device mounted on an FR4 printed-circuit board.

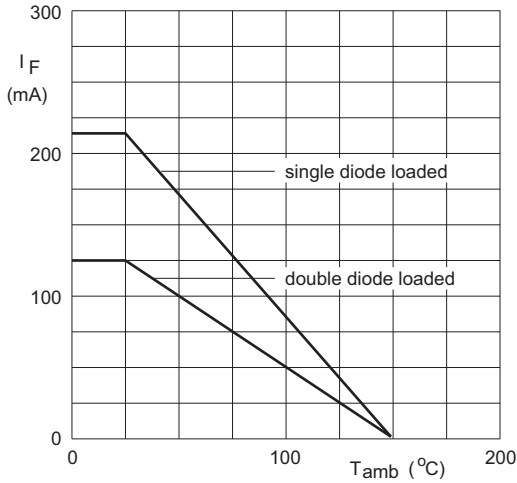
Electrical Characteristics Ta = 25 °C

Parameter	Symbol	Test conditions	Max	Unit
Forward voltage	V _F	I _F = 1 mA	715	mV
		I _F = 10 mA	855	mV
		I _F = 50 mA	1	V
		I _F = 150 mA	1.25	V
Reverse current	I _R	V _R = 75 V	1	μA
		V _R = 25 V; T _j = 150 °C	30	
		V _R = 75 V; T _j = 150 °C	50	
Diode capacitance	C _d	V _R = 0 V, f = 1 MHz	1.5	pF
Reverse recovery time	t _{rr}	when switched from I _F = 10 mA to I _R = 10 mA; R _L = 100 Ω; measured at I _R = 1 mA	4	nS
Forward recovery voltage	V _{fr}	I _F = 10 mA, t _r = 20 ns	1.75	V

Marking

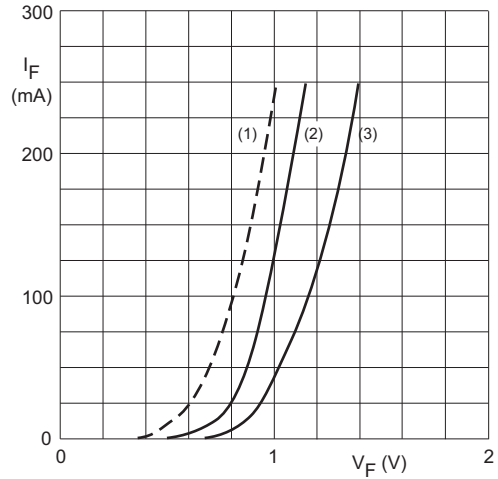
Marking	A4*
---------	-----

Typical Characteristics



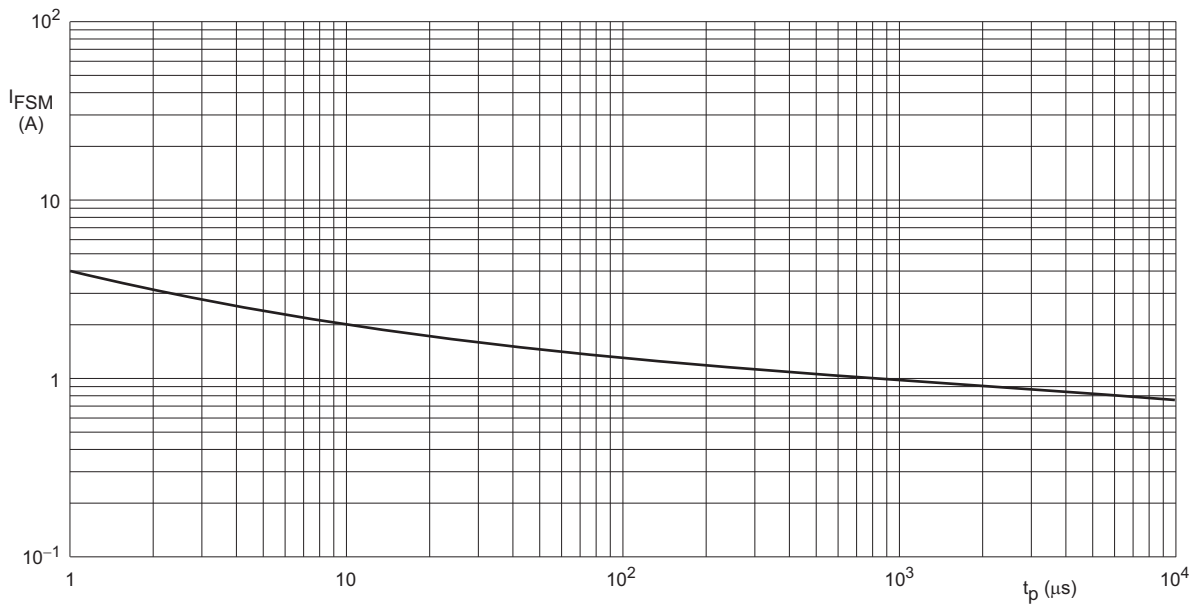
Device mounted on an FR4 printed-circuit board.

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



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

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



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

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

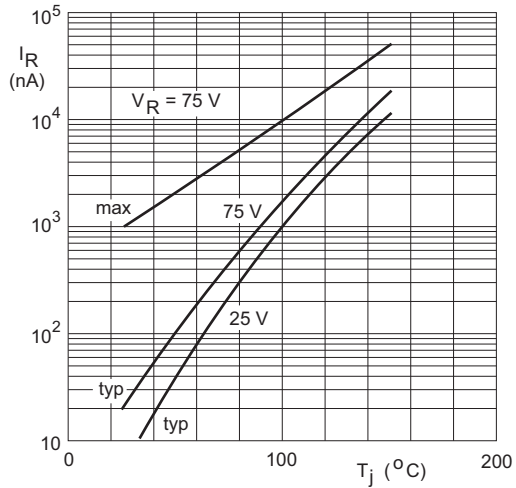
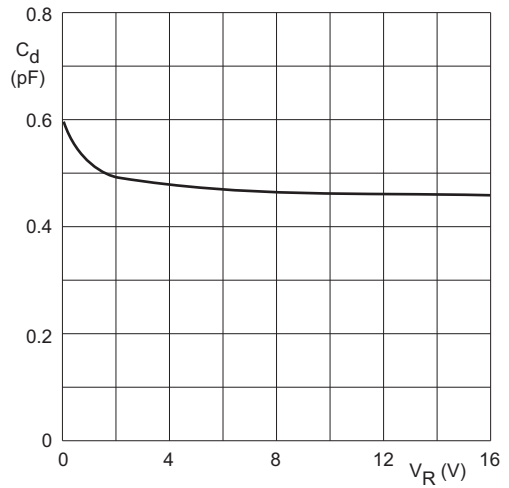


Fig.5 Reverse current as a function of junction temperature.



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

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