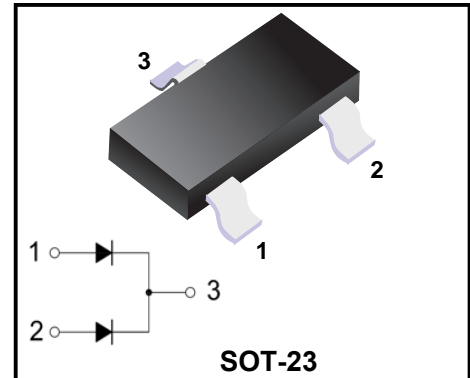


■ **Switching Diodes**

Features

- Small plastic SMD package.
- High switching speed: max.4 ns.
- Repetitive peak forward current: max.450 mA.

Marking Code	
BAV70	A4



Absolute Maximum Ratings (Ta=25°C)

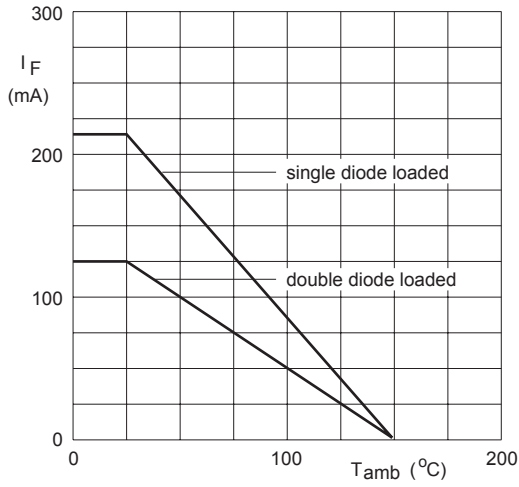
Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	VRRM	85	V
Continuous reverse voltage	VR	75	V
Continuous forward current(single diode loaded *) (double diode loaded *)	IF	215 125	mA
Repetitive peak forward current	IFRM	450	mA
Non-repetitive peak forward current Tj=25 °C t=1 μs	IFSM	4	A
t=1ms		1	
t=1s		0.5	
power dissipation *	PD	250	mW
Thermal resistance from junction to tie-point	Rth j-tp	360	K/W
Thermal resistance from junction to ambient *	Rth j-a	500	K/W
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	-65 to +150	°C

* Device mounted on an FR4 printed-circuit board.

Electrical Characteristics (Ta=25°C)

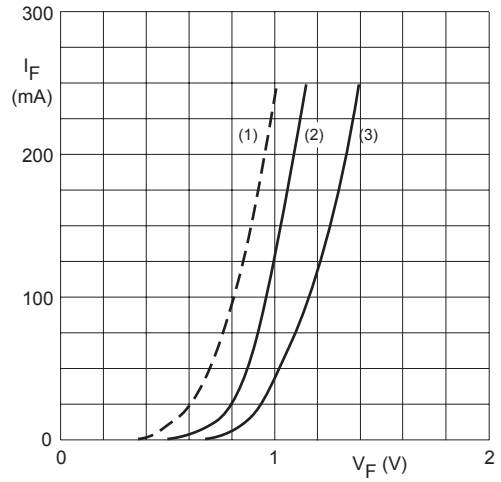
Parameter	Symbol	Test conditions	Max	Unit
Forward voltage	VF	IF = 1 mA	715	mV
		IF = 10 mA	855	mV
		IF = 50 mA	1	V
		IF = 150 mA	1.25	V
Reverse current	IR	VR = 75 V	1	μA
		VR = 25 V; Tj= 150 °C	30	
		VR = 75 V; Tj= 150 °C	50	
Diode capacitance	Cd	VR = 0 V, f= 1 MHz	1.5	pF
Reverse recovery time	trr	when switched from IF= 10 mA to IR=10mA;RL=100 Ω; measured at IR= 1mA	4	nS
Forward recovery voltage	Vfr	IF = 10 mA, tr= 20 ns	1.75	V

Typical Characteristic



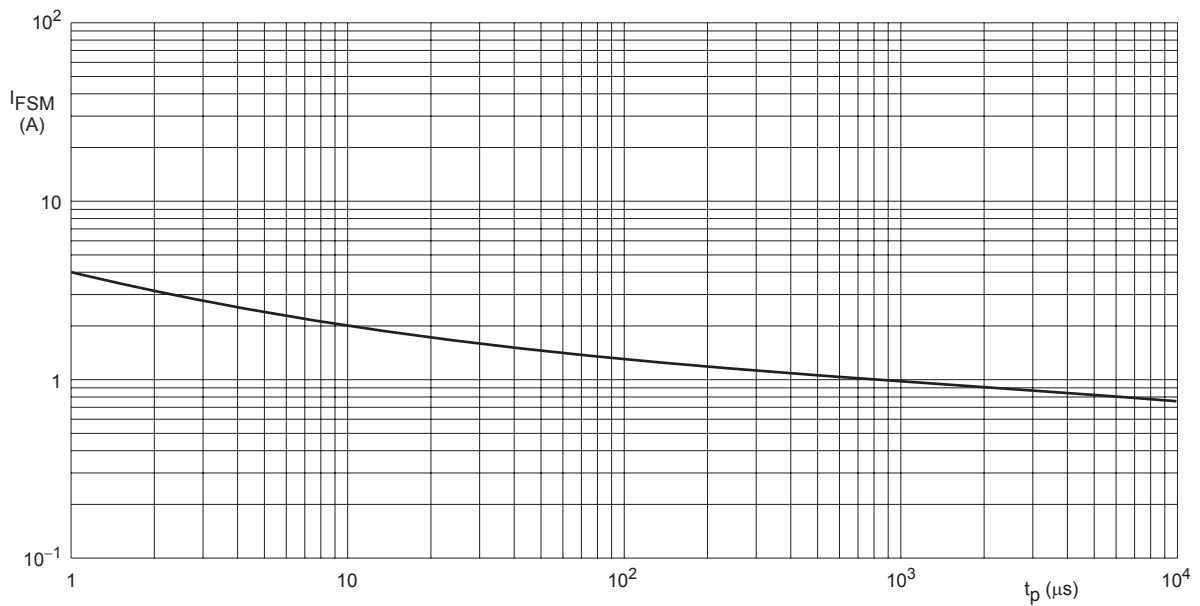
Device mounted on an FR4 printed-circuit board.

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



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

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



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

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

Typical Characteristic

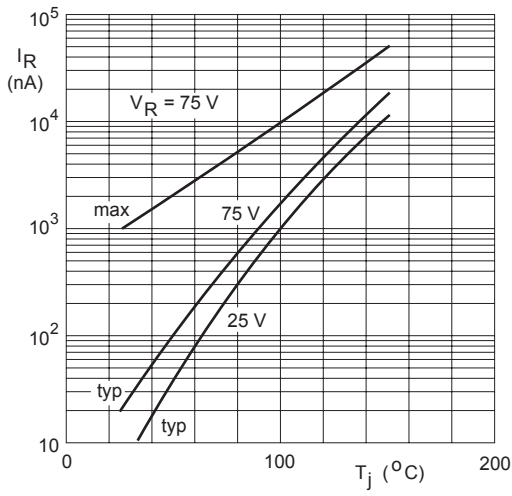
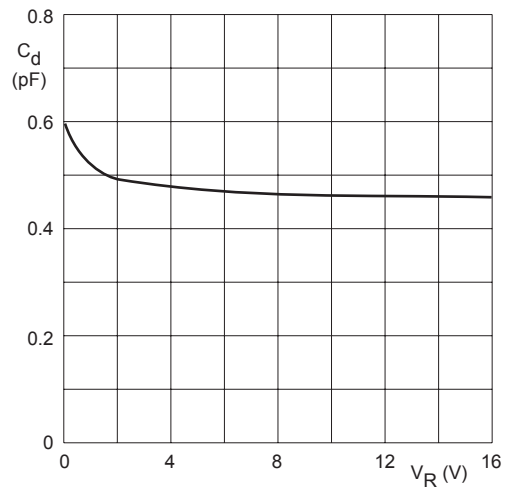


Fig.5 Reverse current as a function of junction temperature.



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

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

Ordering information

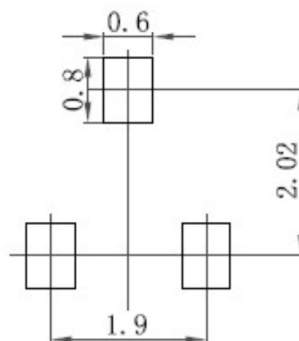
Package	Packing Description	Base Quantity	Packing Quantity
SOT-23	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

Package Dimensions

SOT-23

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	0.9	1.15	35	45
A1	0.1		3.9	
bp	0.38	0.48	15	19
C	0.09	0.15	3.54	5.9
D	2.8	3.0	110	118
E	1.2	1.4	47	55
E	1.9		75	
E1	0.95		37	
HE	2.1	2.55	83	100
Lp	0.15	0.45	5.9	18
Q	0.45	0.55	18	22
v	0.2		7.9	
W	0.1		4	

The recommended mounting pad size



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