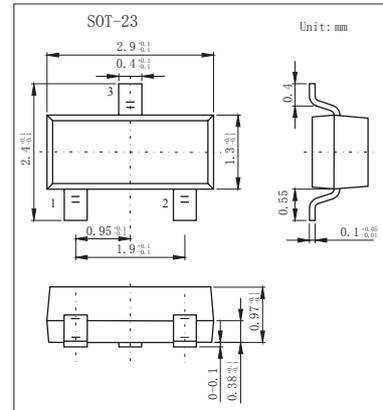
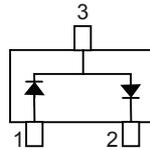


## Switching Diodes BAV99

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

\* Device mounted on an FR4 printed-circuit board.

### ■ Electrical Characteristics Ta = 25°C

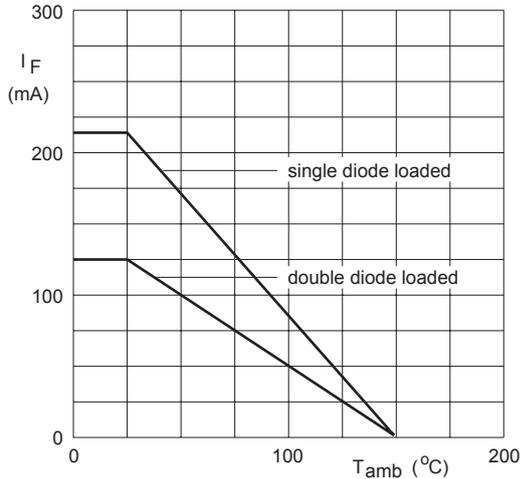
Parameter	Symbol	Test conditions	Max	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 1 mA	715	mV
		I <sub>F</sub> = 10 mA	855	mV
		I <sub>F</sub> = 50 mA	1	V
		I <sub>F</sub> = 150 mA	1.25	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 75 V	1	μA
		V <sub>R</sub> = 25 V; T <sub>j</sub> = 150 °C	30	
		V <sub>R</sub> = 75 V; T <sub>j</sub> = 150 °C	50	
Diode capacitance	C <sub>d</sub>	V <sub>R</sub> = 0 V, f = 1 MHz	1.5	pF
Reverse recovery time	t <sub>rr</sub>	when switched from I <sub>F</sub> = 10 mA to I <sub>R</sub> = 10 mA; R <sub>L</sub> = 100 Ω; measured at I <sub>R</sub> = 1 mA	4	nS
Forward recovery voltage	V <sub>fr</sub>	I <sub>F</sub> = 10 mA, t <sub>r</sub> = 20 ns	1.75	V

### ■ Marking

Marking	A7*
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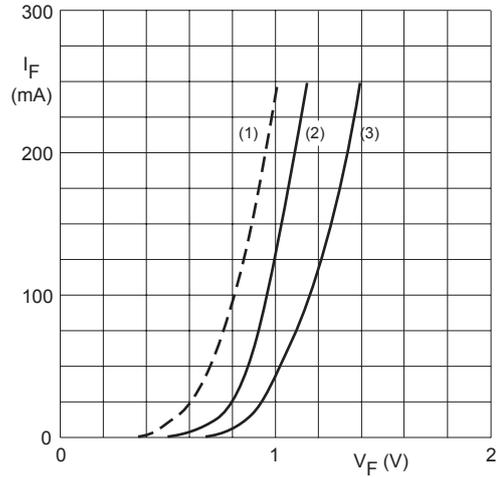
## BAV99

### ■ Typical Characteristics



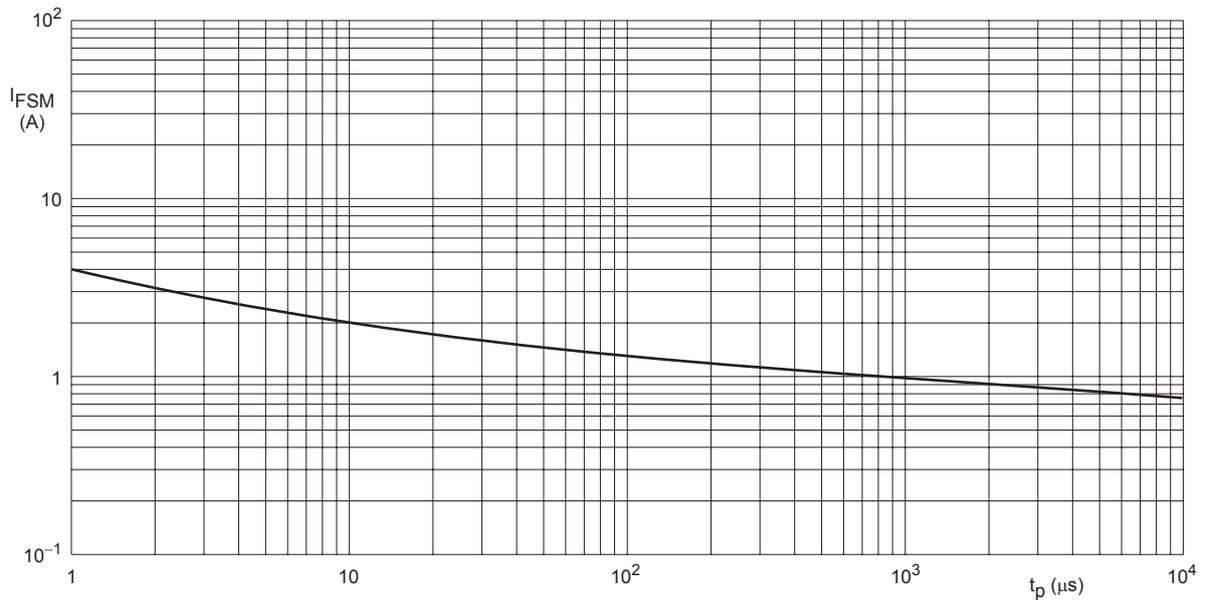
Device mounted on an FR4 printed-circuit board.

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



- (1)  $T_j = 150$  °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.

## BAV99

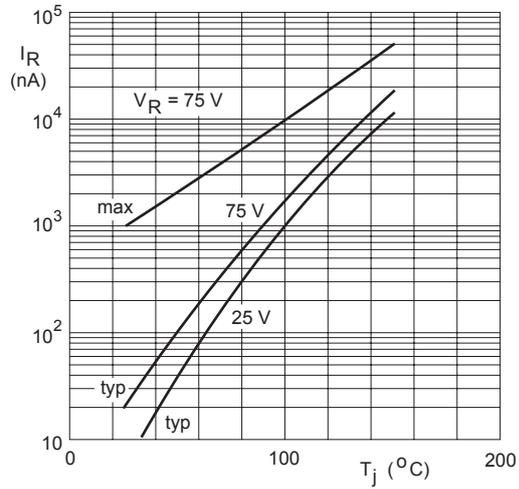
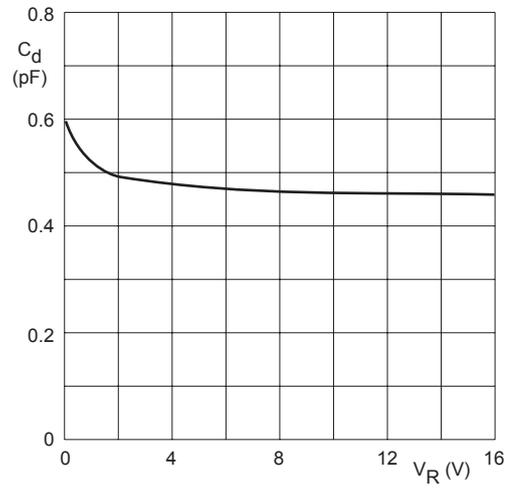


Fig.5 Reverse current as a function of junction temperature.



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

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