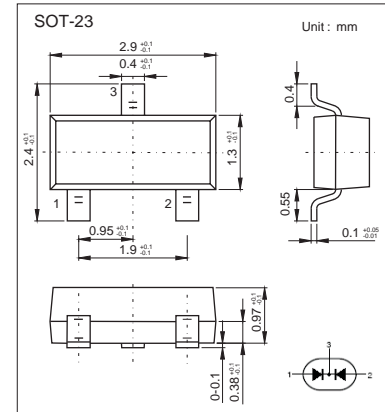


Switching Diodes

BAV70 (KAV70)

■ Features

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

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

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 ($T_j = 25^\circ\text{C}$) $t = 1\mu\text{s}$	I_{FSM}	4	A
$t = 1\text{ms}$		1	
$t = 1\text{s}$		0.5	
Power dissipation ($T_{amb} = 25^\circ\text{C}$) *	P_D	250	mW
Thermal resistance from junction to case	$R_{\theta JC}$	205	$^\circ\text{C}/\text{W}$
Thermal resistance from junction to ambient *	$R_{\theta JA}$	500	
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$

* Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

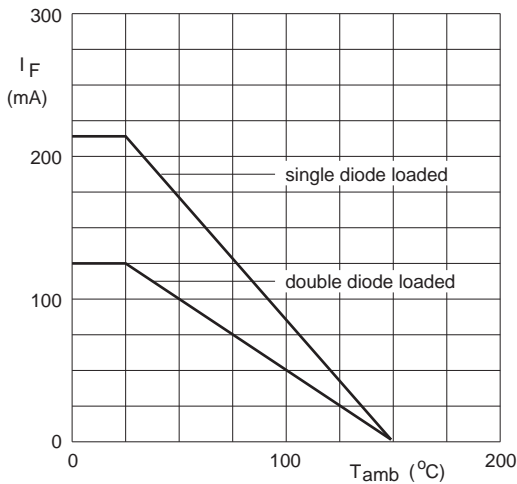
Parameter	Symbol	Test Conditions	Max	Unit
Forward voltage	V_F	$I_F = 1\text{ mA}$	715	mV
		$I_F = 10\text{ mA}$	855	mV
		$I_F = 50\text{ mA}$	1	V
		$I_F = 150\text{ mA}$	1.25	V
Reverse current	I_R	$V_R = 25\text{ V}$	30	nA
		$V_R = 75\text{ V}$	2.5	μA
		$V_R = 25\text{ V}; T_j = 150^\circ\text{C}$	60	μA
		$V_R = 75\text{ V}; T_j = 150^\circ\text{C}$	100	μA
Diode capacitance	C_d	$f = 1\text{ MHz}; V_R = 0\text{ V}$	1.5	pF
Reverse recovery time	t_{rr}	when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$; $R_L = 100\ \Omega$; measured at $I_R = 1\text{ mA}$	4	ns
Forward recovery voltage	V_{fr}	when switched from $I_F = 10\text{ mA}$; $t_r = 20\text{ ns}$	1.75	V

■ Marking

Marking	A4
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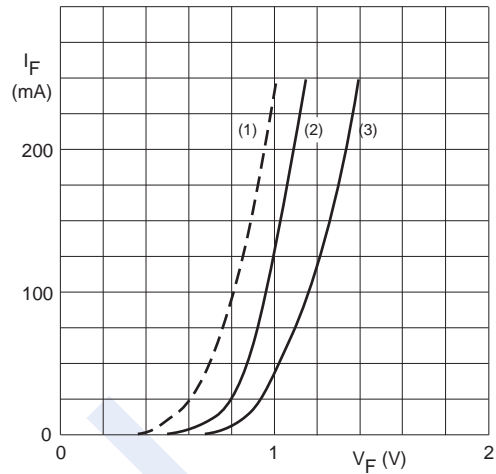
BAV70 (KAV70)

■ Typical Characteristics



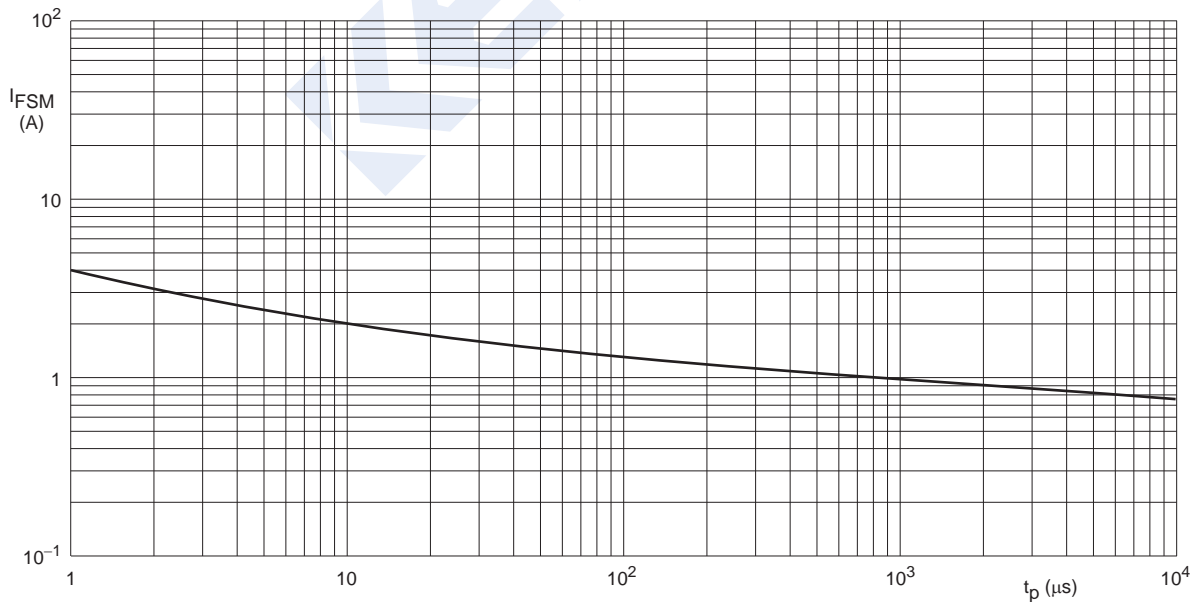
Device mounted on an FR4 printed-circuit board.

Fig.1 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.2 Forward current as a function of forward voltage.



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

Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

BAV70 (KAV70)

■ Typical Characteristics

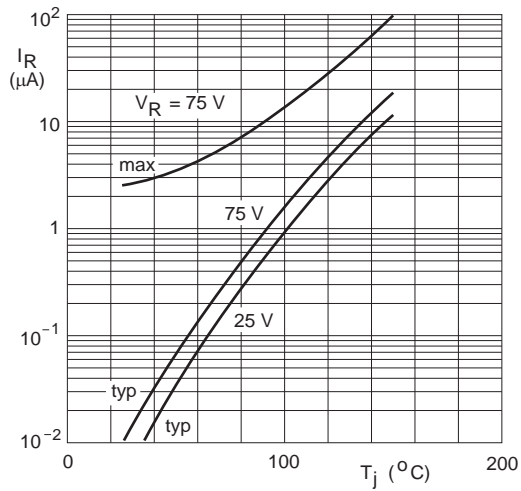
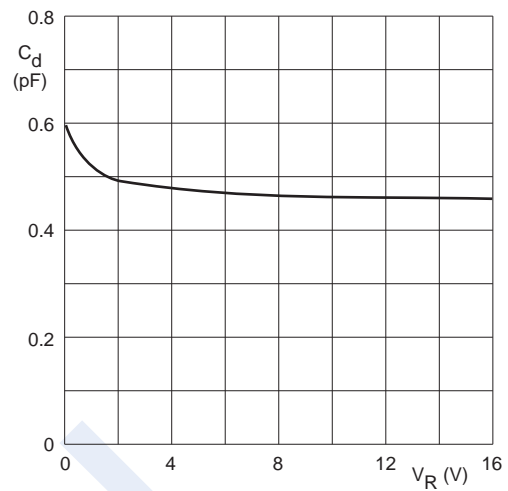


Fig.4 Reverse current as a function of junction temperature.



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

Fig.5 Diode capacitance as a function of reverse voltage; typical values.