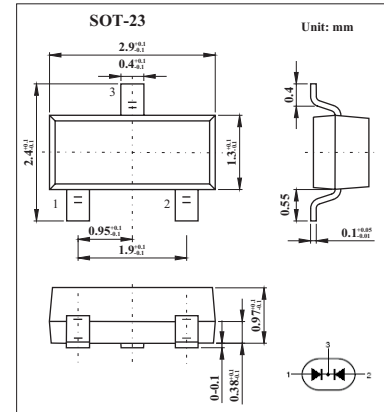


## High-Speed Double Diode

### KAV70(BAV70)



#### ■ 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 tie-point	$R_{th\ j-tp}$	360	K/W
thermal resistance from junction to ambient *	$R_{th\ j-a}$	500	K/W
Storage temperature	$T_{st\ g}$	-65 to +150	$^\circ\text{C}$
Junction temperature	$T_j$	150	$^\circ\text{C}$

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

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

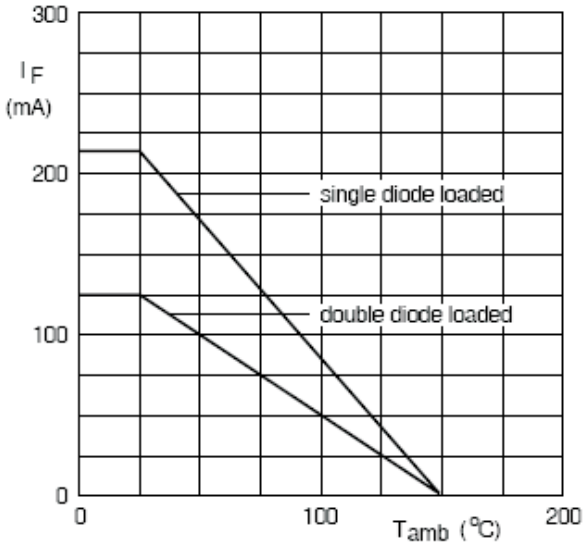
Parameter	Symbol	Conditions	Max	Unit
Forward voltage	$V_F$	$I_F = 1\text{ mA}$	715	mV
		$I_F = 10\text{ mA}$	855	mV
		$I_F = 50\text{ mA}$	1	V
		$I_F = 150\text{ mA}$	1.25	
Reverse current	$I_R$	$V_R = 25\text{ V}$	30	nA
		$V_R = 75\text{ V}$	2.5	$\mu\text{A}$
		$V_R = 25\text{ V}; T_j = 150^\circ\text{C}$	60	$\mu\text{A}$
		$V_R = 75\text{ V}; T_j = 150^\circ\text{C}$	100	$\mu\text{A}$
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

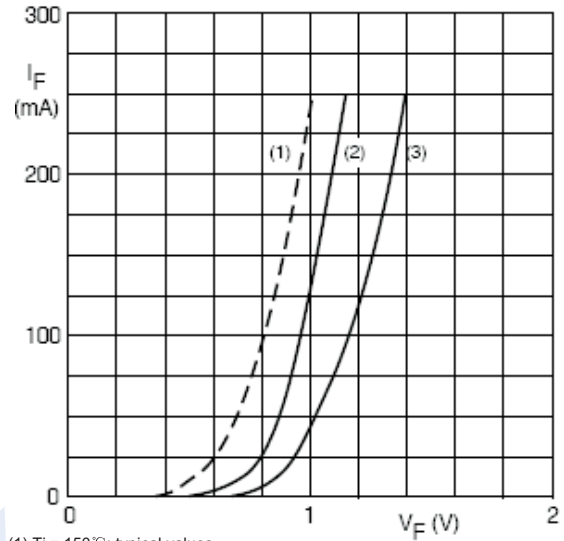
Marking	A4
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### KAV70(BAV70)

■ Typical Characteristics



Device mounted on an FR4 printed-circuit board.



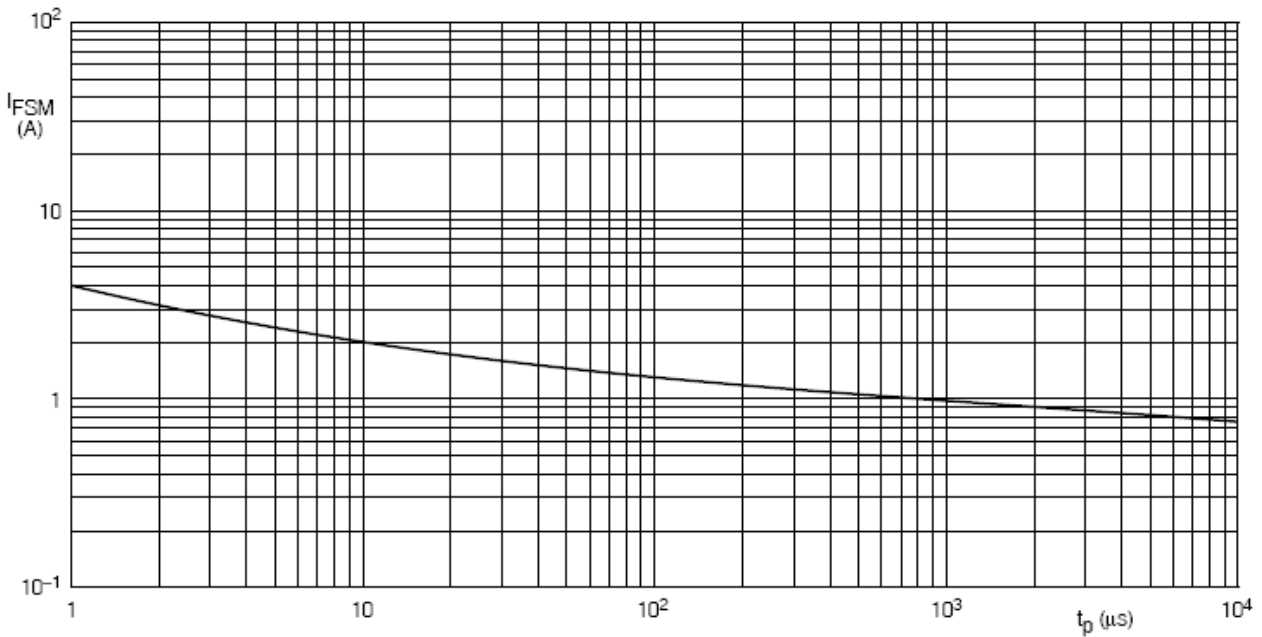
(1)  $T_j = 150^\circ\text{C}$ ; typical values.

(2)  $T_j = 25^\circ\text{C}$ ; typical values.

(3)  $T_j = 25^\circ\text{C}$ ; maximum values.

Fig.1 Maximum permissible continuous forward current as a function of ambient temperature.

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



Based on square wave currents.

$T_j = 25^\circ\text{C}$  prior to surge.

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

## KAV70(BAV70)

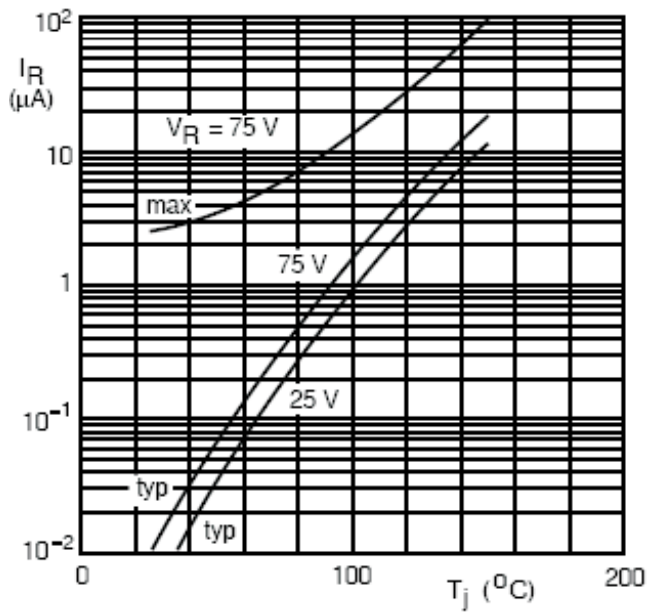


Fig.4 Reverse current as a function of junction temperature.

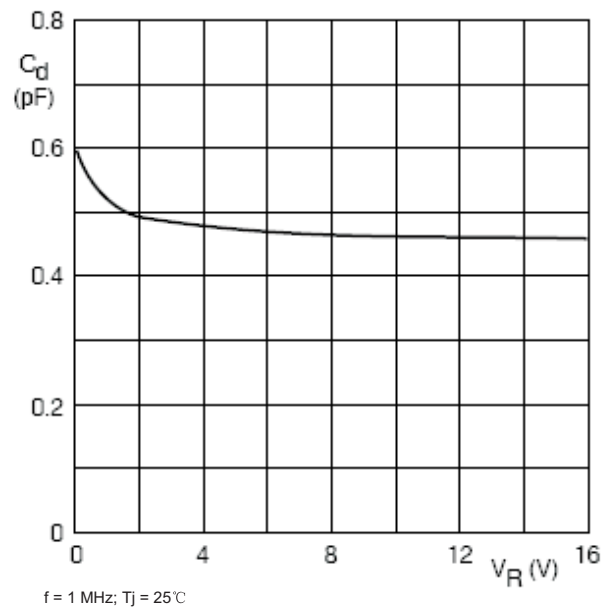


Fig.5 Diode capacitance as a function of reverse voltage; typical values.