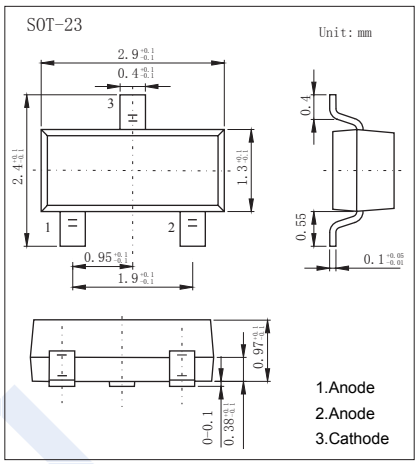
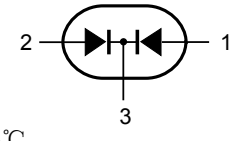
Switching Diodes

BAV170 (KAV170)



■ Features

- Switching time: typ. 0.8 us
- Continuous reverse voltage:75V (max)
- Repetitive peak reverse voltage:85V (max)
- Repetitive peak forward current:500mA (max)



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Repetitive Peak Reverse Voltage	V_{RM}	85	V
Continuous Reverse Voltage	V_R	75	
Forward Current - Single Diode Loaded;	I_F	215	mA
- Double Diode Loaded;		125	
Peak Forward Surge Current	I_{FM}	500	
Non-Repetitive Peak Forward Current t_p=1us	I_{FSM}	4	A
t_p=1ms		1	
t_p=1s		0.5	
Power Dissipation	P_d	250	mW
Thermal Resistance from Junction to Ambient	$R_{th\ j\text{-}a}$	500	℃/W
Thermal Resistance from Junction to Tie-Point	$R_{th\ j\text{-}tp}$	360	
Junction Temperature	T_J	150	℃
Storage Temperature range	T_{stg}	-65 to 150	

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_R	I_R= 100 uA	75			V
Forward voltage	V_{F1}	I_F= 1 mA			0.9	
	V_{F2}	I_F= 10 mA			1	
	V_{F3}	I_F= 50 mA			1.1	
	V_{F4}	I_F= 150 mA			1.25	
Reverse voltage leakage current	I_{R1}	V_R= 75 V			5	nA
		V_R= 75 V,T_j = 150℃			80	
Diode capacitance	C_d	V_R= 0 V, f= 1 MHz		2		pF
Reverse recovery time	t_{rr}	I_F=I_R=10mA,Irr=0.1xI_R, R_L=100Ω			3	us

■ Marking

Marking	JX*

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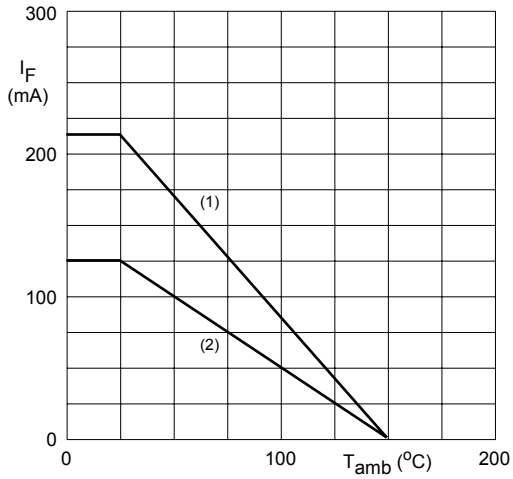
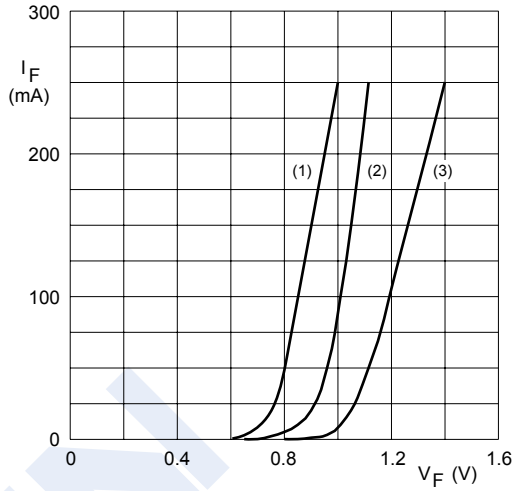
■ Typical Characterisitics



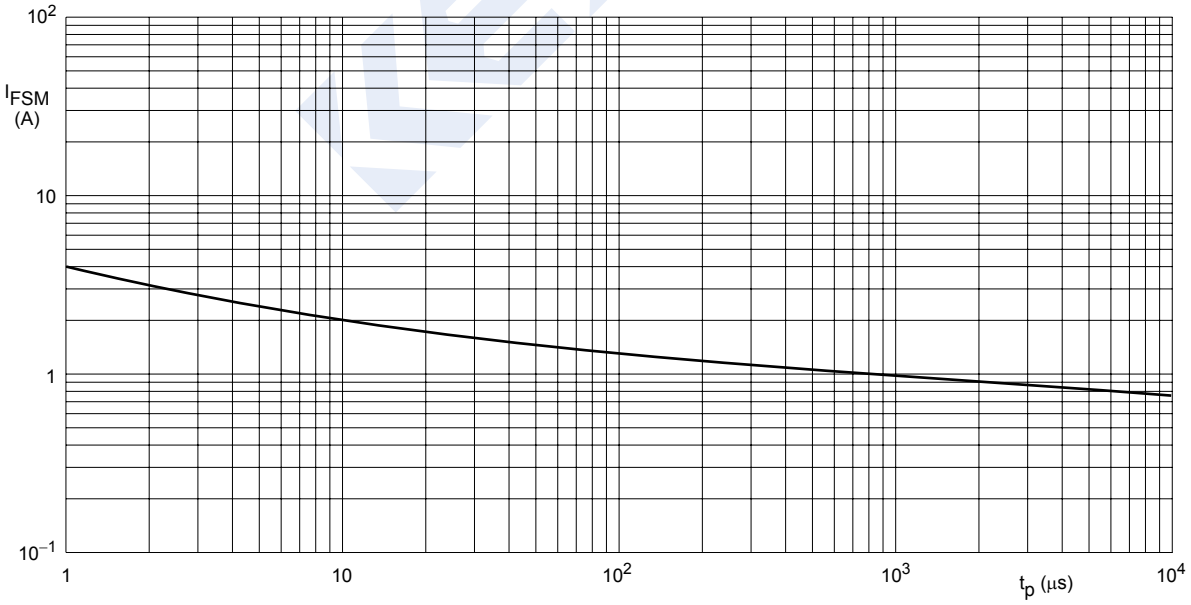
Device mounted on a FR4 printed-circuit board.
(1) Single diode loaded.
(2) Double diode loaded.

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; per diode.



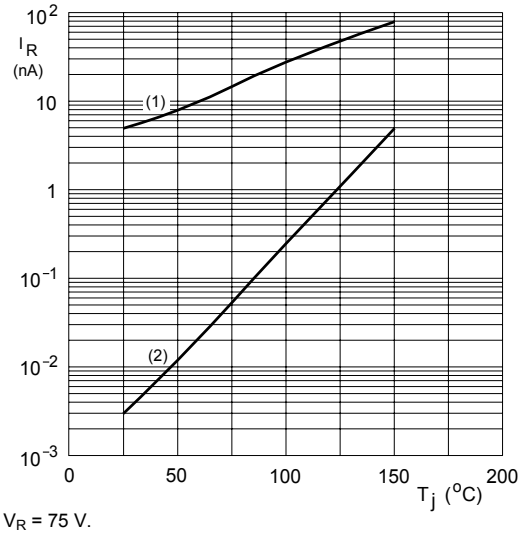
Based on square wave currents; T_j = 25 °C prior to surge.

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

Switching Diodes

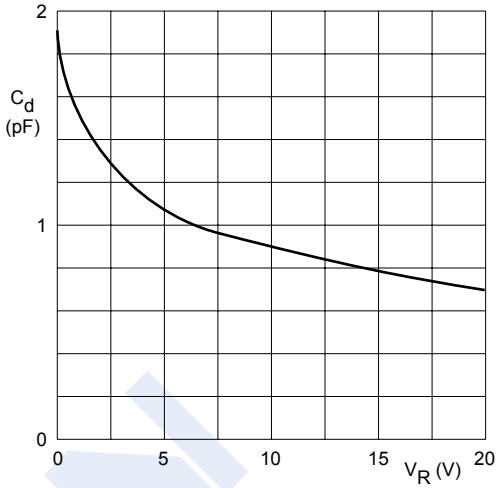
BAV170 (KAV170)

■ Typical Characterisitics



V_R = 75 V.
(1) Maximum values.
(2) Typical values.

Fig.5 Reverse current as a function of junction temperature; per diode.



f = 1 MHz; T_j = 25 °C.

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