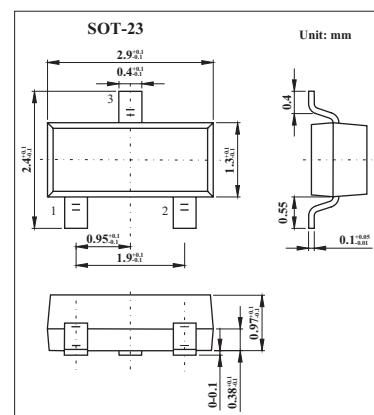
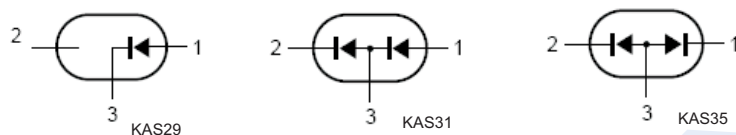


General Purpose Controlled Avalanche Diodes

KAS29/KAS31/KAS35
(BAS29/BAS31/BAS35)

■ Features

- Small plastic SMD package
- General application

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

Parameter	Symbol	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}	110	V
Continuous reverse voltage	V_R	90	V
Continuous forward current* 1	I_F	250	mA
single diode loaded; double diode loaded;		150	
Repetitive peak forward current	I_{FRM}	600	mA
Non-repetitive peak forward current square wave; $T_j = 25^\circ\text{C}$ prior to surge;	I_{FSM}	10	A
		4	A
		0.75	A
Total power dissipation $T_a = 25^\circ\text{C}$ *1	P_{tot}	250	mW
Repetitive peak reverse current	I_{RRM}	600	mA
Repetitive peak reverse energy *2	E_{RRM}	5	mJ
Thermal resistance from junction to tie-point	$R_{th\ j\text{-}tp}$	360	K/W
Thermal resistance from junction to ambient * 1	$R_{th\ j\text{-}a}$	500	K/W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$

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

*2 $t_p \geq 50\ \mu\text{s}$; $f \leq 20\ \text{Hz}$; $T_j = 25^\circ\text{C}$

KAS29/KAS31/KAS35 (BAS29/BAS31/BAS35)

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

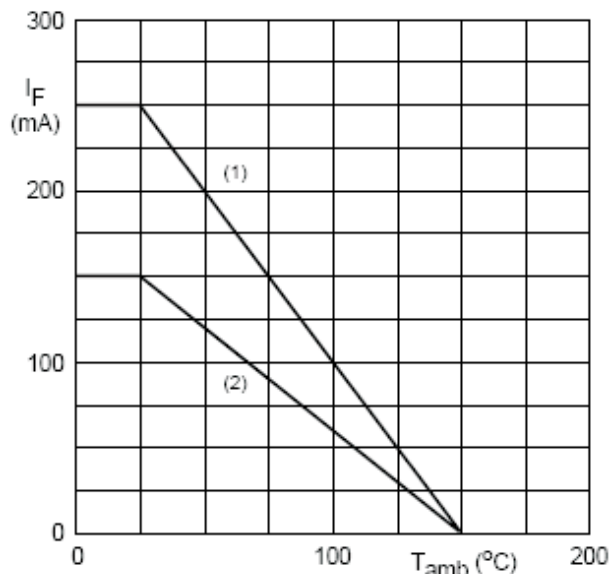
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward voltage	V_F	$I_F = 10\text{ mA}$			750	mV
		$I_F = 50\text{ mA}$			840	mV
		$I_F = 100\text{ mA}$			900	mV
		$I_F = 200\text{ mA}$			1	V
		$I_F = 400\text{ mA}$			1.25	V
Reverse current	I_R	$V_R = 90\text{ V}$			100	nA
		$V_R = 90\text{ V}; T_j = 150^\circ\text{C}$			100	μA
Reverse avalanche breakdown voltage	$V_{(BR)R}$	$I_R = 1\text{ mA}$	120		170	V
Diode capacitance	C_d	$f = 1\text{ MHz}; V_R = 0$			35	pF
Reverse recovery time	t_{rr}	when switched from $I_F = 30\text{ mA}$ to $I_R = 30\text{ mA}; R_L = 100\ \Omega$; measured at $I_R = 3\text{ mA}$			50	ns

■ Marking

NO.	KAS29	KAS31	KAS35
Marking	L20	L21	L22

KAS29/KAS31/KAS35 (BAS29/BAS31/BAS35)

Typical Characteristics

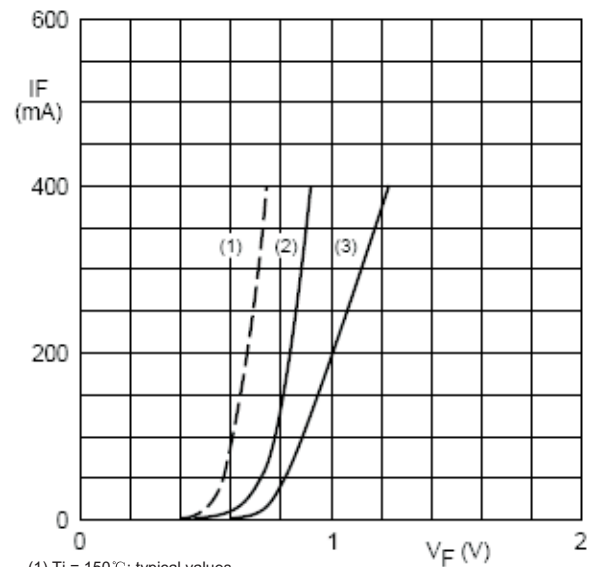


Device mounted on an FR4 printed-circuit board.

(1) Single diode loaded.

(2) Double diode loaded.

Fig.1 Maximum Permissible Continuous Forward Current as a Function Of Ambient Temperature.

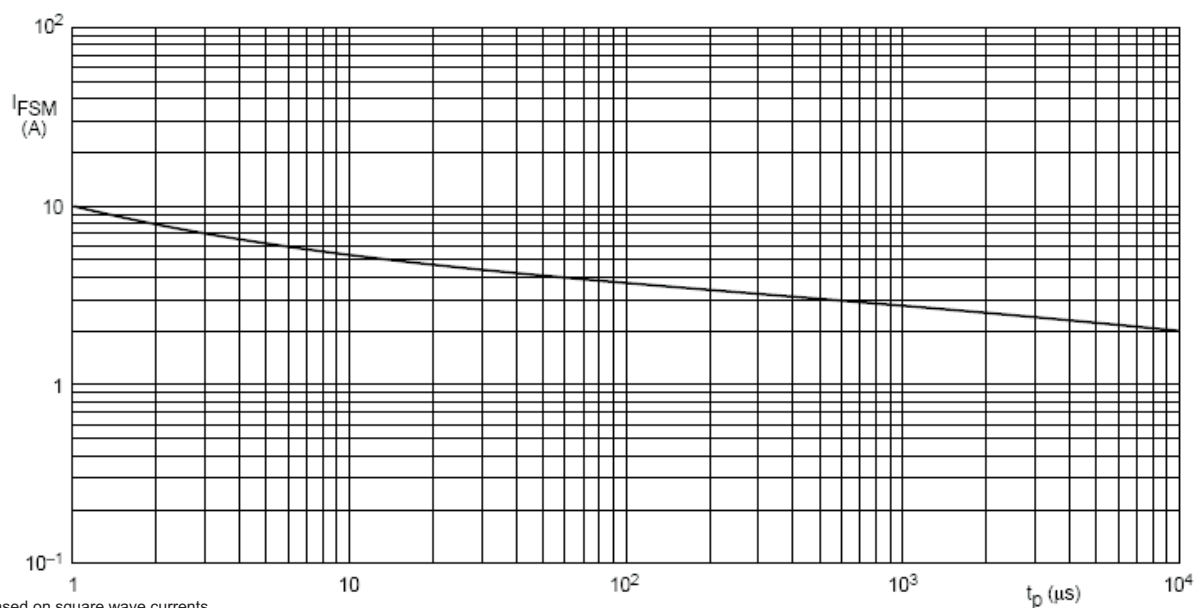


(1) $T_j = 150^\circ\text{C}$; typical values.

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

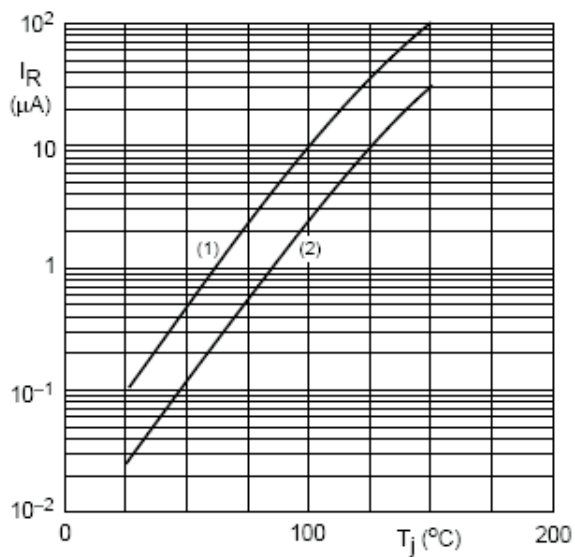
(3) $T_j = 25^\circ\text{C}$; maximum values.

Fig.2 Forward Current as a Function of Forward Voltage.



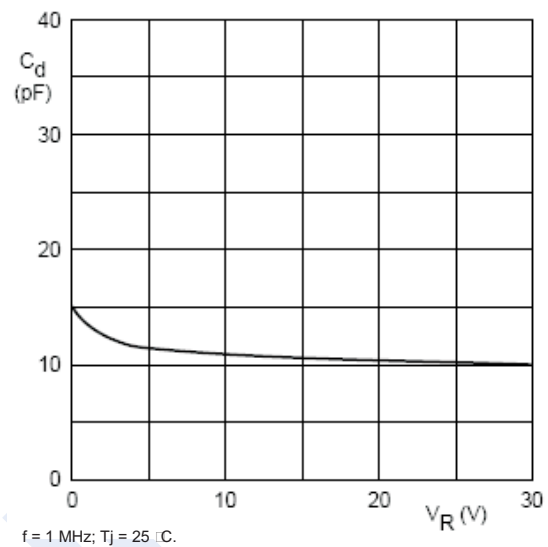
Based on square wave currents.
 $T_j = 25^\circ\text{C}$ prior to surge.

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

KAS29/KAS31/KAS35
(BAS29/BAS31/BAS35)

(1) $V_R = 90 V$; maximum values.
(2) $V_R = 90 V$; typical values.

Fig.4 Reverse Current as a Function of Junction Temperature.



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

Fig.5 Diode Capacitance as a Function Of Reverse Voltage; Typical Values.