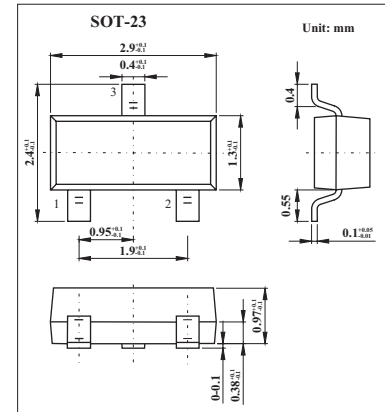
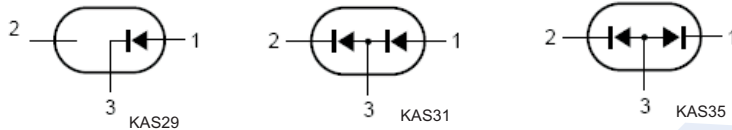


General Purpose Controlled Avalanche Diodes

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}	$t = 1 \mu\text{s}$	10
		$t = 100 \mu\text{s}$	4
		$t = 1 \text{s}$	0.75
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	$R_{th\ j-tp}$	360	K/W
Thermal resistance from junction to ambient * 1	$R_{th\ j-a}$	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 Ta = 25°C

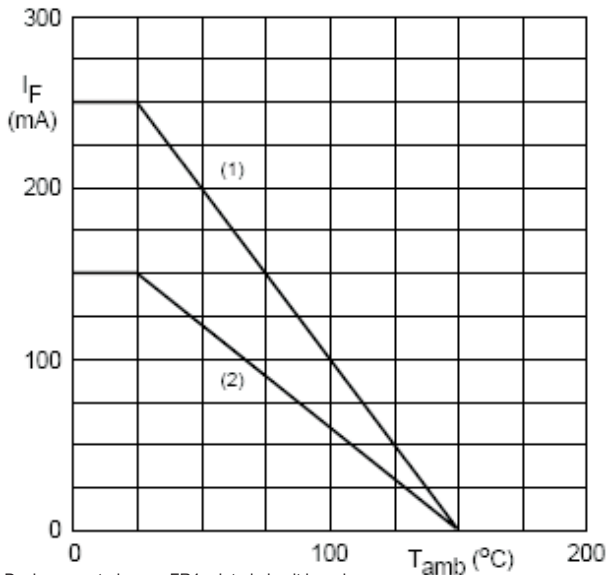
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Forward voltage	V _F	I _F = 10 mA			750	mV
		I _F = 50 mA			840	mV
		I _F = 100 mA			900	mV
		I _F = 200 mA			1	V
		I _F = 400 mA			1.25	V
Reverse current	I _R	V _R = 90 V			100	nA
		V _R = 90 V; T _j = 150 °C			100	μ A
Reverse avalanche breakdown voltage	V _{(BR)R}	I _R = 1 mA	120		170	V
Diode capacitance	C _d	f = 1 MHz; V _R = 0			35	pF
Reverse recovery time	t _{rr}	when switched from I _F = 30 mA to I _R = 30 mA; R _L = 100 Ω; measured at I _R = 3 mA			50	ns

■ Marking

NO.	KAS29	KAS31	KAS35
Marking	L20	L21	L22

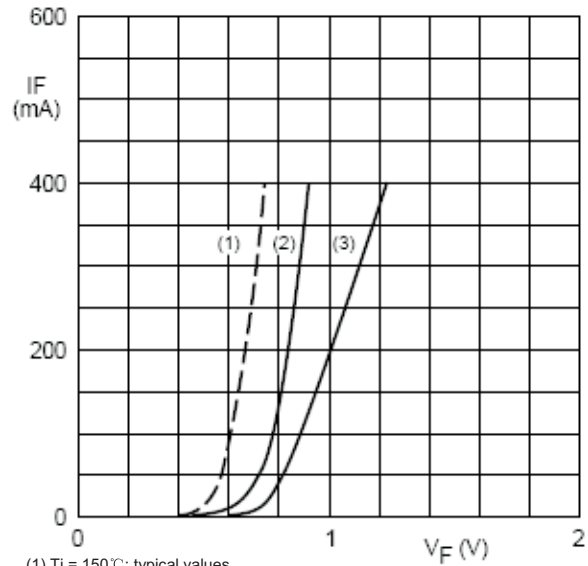
KAS29/KAS31/KAS35 (BAS29/BAS31/BAS35)

Typical Characteristics



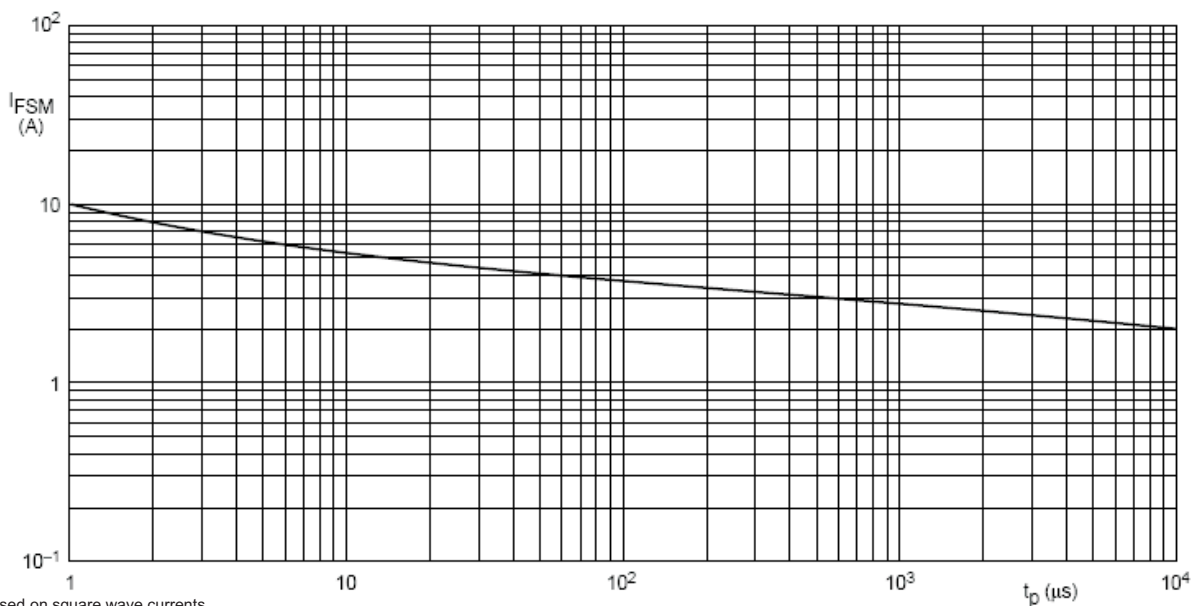
Device mounted on an FR4 printed-circuit board.
(1) Single diode loaded.
(2) Double diode loaded.

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.

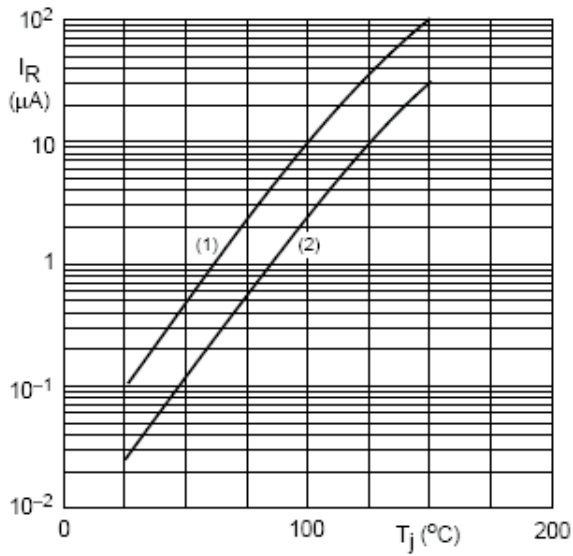
Fig.2 Forward Current as a Function of Forward Voltage.



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

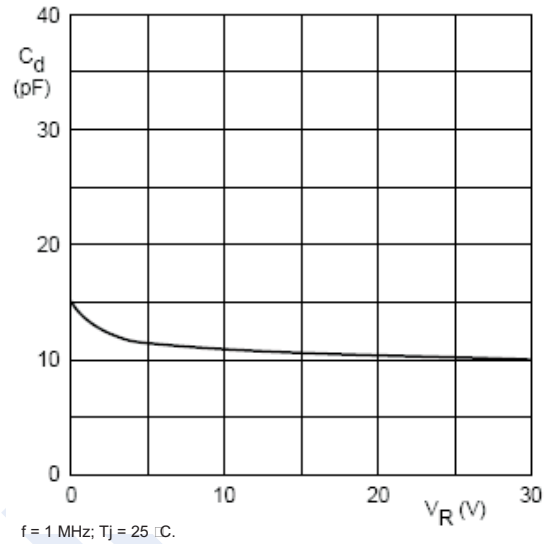
Fig.3 Maximum permissible non-repetitive peak forward current as a function of pulse duration.

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 °C.

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