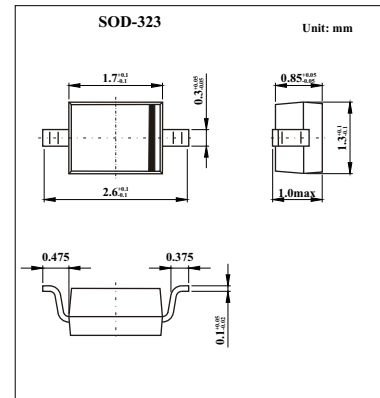


General Purpose PIN Diode

KAP50-03(BAP50-03)

■ Features

- Low diode capacitance.
- Low diode forward resistance.



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

Parameter	Symbol	Rating	Unit
Continuous reverse voltage	V_R	50	V
Continuous forward current	I_F	50	mA
Total power dissipation $T_s = 90^\circ\text{C}$	P_{tot}	500	mW
Storage temperature	T_{stg}	-65 to +150	$^\circ\text{C}$
Junction temperature	T_j	150	$^\circ\text{C}$
Thermal resistance from junction to soldering point	$R_{th\ j-s}$	85	K/W

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

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Forward voltage	V_F	$I_F = 50\text{ mA}$		0.95	1.1	V
Reverse voltage	V_R	$I_R = 10\ \mu\text{A}$	50			V
Reverse current	I_R	$V_R = 50\text{ V}$			100	nA
Diode capacitance	C_d	$V_R = 0; f = 1\text{ MHz}$		0.4		pF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$		0.3	0.55	pF
		$V_R = 5\text{ V}; f = 1\text{ MHz}$		0.2	0.35	pF
Diode forward resistance	r_D	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}$		25	40	Ω
		$I_F = 1\text{ mA}; f = 100\text{ MHz}$		14	25	Ω
		$I_F = 10\text{ mA}; f = 100\text{ MHz}$		3	5	Ω

■ Marking

Marking	A8
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KAP50-03(BAP50-03)

■ Typical Characteristics

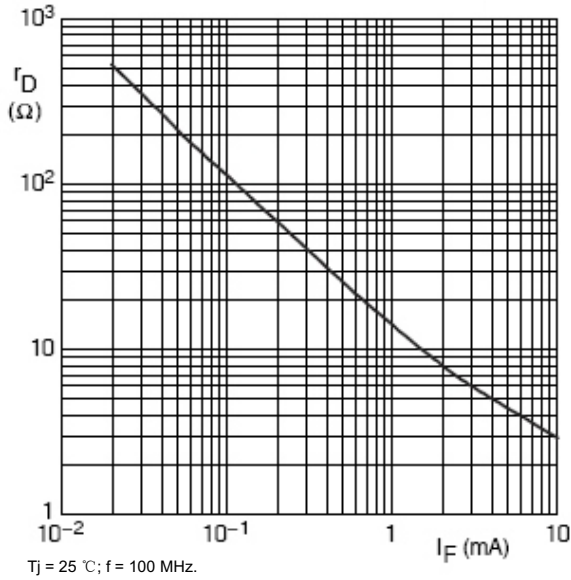


Fig.1 Forward resistance as a function of forward current; typical values.

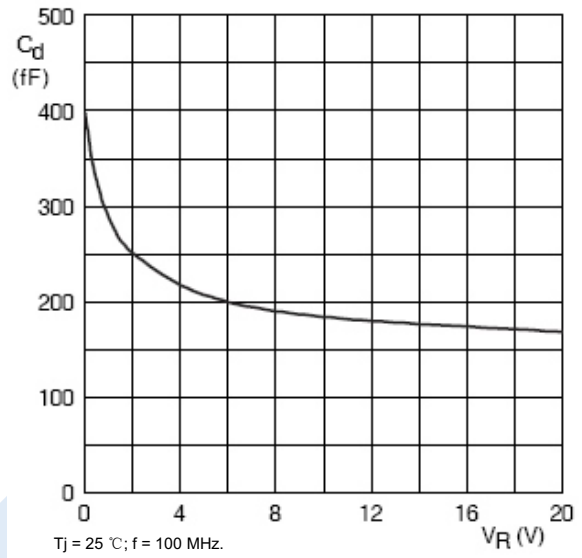
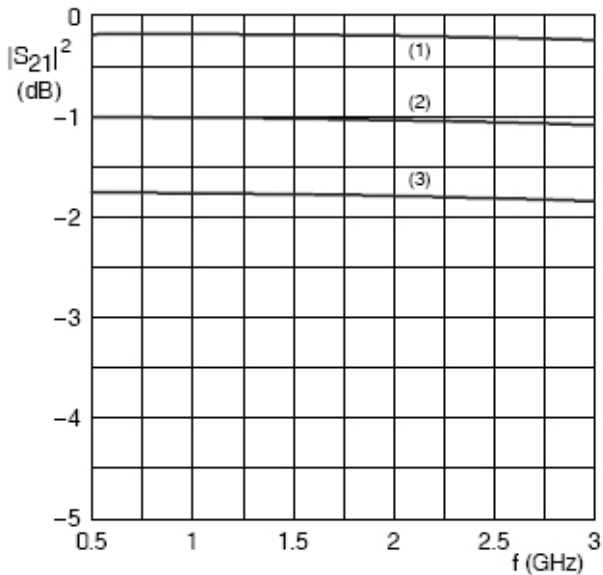
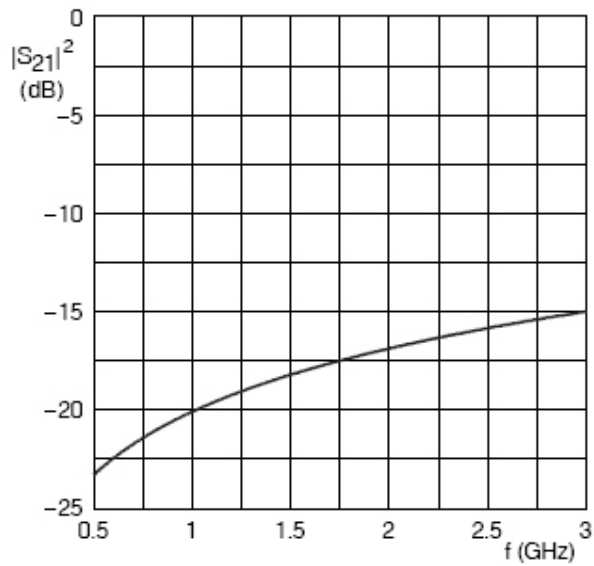


Fig.2 Diode capacitance as a function of reverse voltage; typical values.



(1) $I_F = 10\text{ mA}$. (2) $I_F = 1\text{ mA}$. (3) $I_F = 0.5\text{ mA}$.
Diode inserted in series with a $50\ \Omega$ stripline circuit and biased via a analyzer Tee network.
 $T_{amb} = 25^\circ\text{C}$.

Fig.3 Insertion loss ($|S_{21}|^2$) of the diode as a function of frequency; typical values.



Diode zero biased and inserted in series with a $50\ \Omega$ stripline circuit
 $T_{amb} = 25^\circ\text{C}$.

Fig.4 Isolation ($|S_{21}|^2$) of the diode as a function of frequency; typical values.