

General purpose PIN Diode

BAP50-02

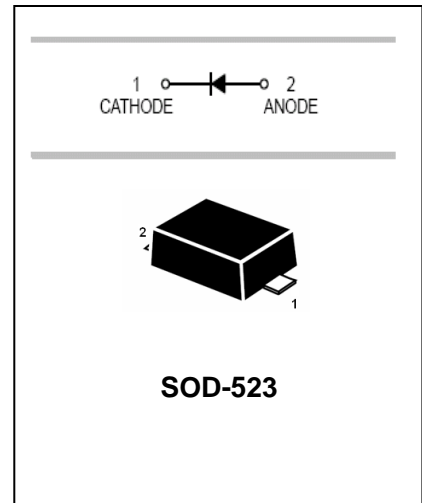
FEATURES

HF

- Low diode capacitance
- Low diode forward resistance
- General purpose PIN diode in a SOD-323 small plastic SMD package

APPLICATIONS

- General RF application



ORDERING INFORMATION

Type No.	Marking	Package Code
BAP50-02	K2	SOD-523

MAXIMUM RATING @ Ta=25°C unless otherwise specified

Parameter	Symbol	Limits	Unit
Continuous reverse voltage	V_R	50	V
Continuous forward current	I_F	50	mA
Power Dissipation	P_d	500	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	85	°C/W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 to +150	°C

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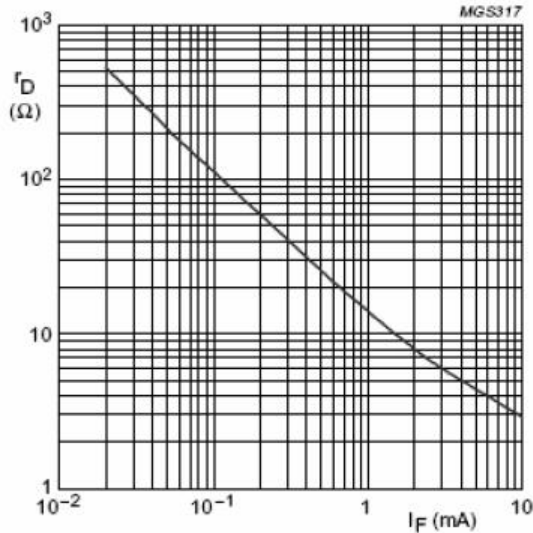
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Continuous reverse voltage	V_R	50			V	$I_R=10\mu A$
Forward voltage	V_F		0.95	1.1	V	$I_F=50mA$
Reverse current	I_R			100	nA	$V_R=50V$
Diode capacitance	C_{d1}		0.4		pF	$V_R=0V, f=1MHz$
	C_{d2}		0.3	0.55	pF	$V_R=1V, f=1MHz$
	C_{d3}		0.2	0.35	pF	$V_R=5V, f=1MHz$
Diode forward resistance	r_D		25	40	Ω	$I_F=0.5mA, f=100MHz$
	r_D		14	25	Ω	$I_F=1mA, f=100MHz$
	r_D		3	5	Ω	$I_F=10mA, f=100MHz$

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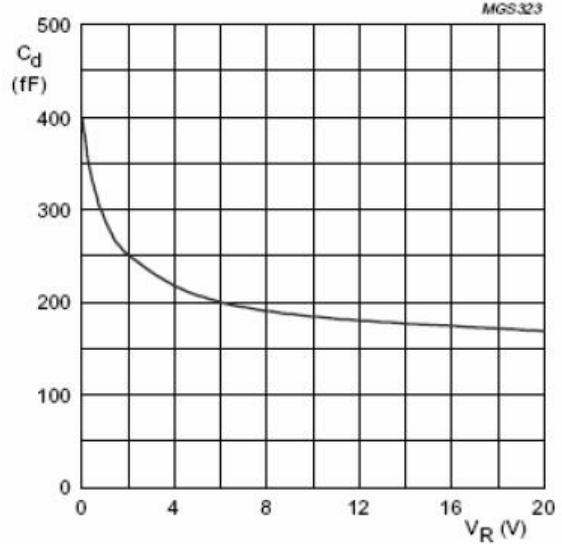
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TYPICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified



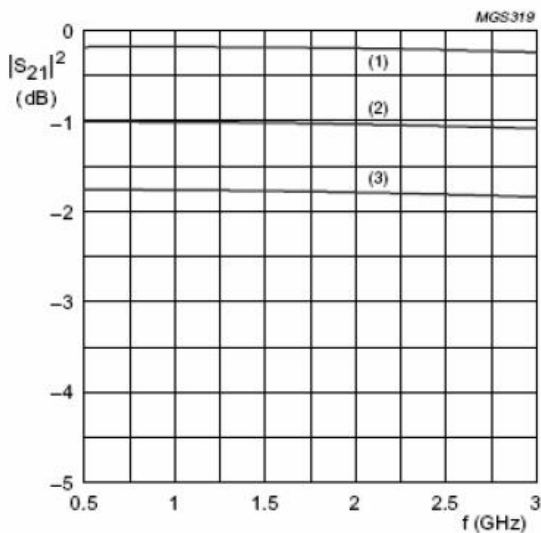
$f = 100 \text{ MHz}; T_j = 25^\circ\text{C}$.

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



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

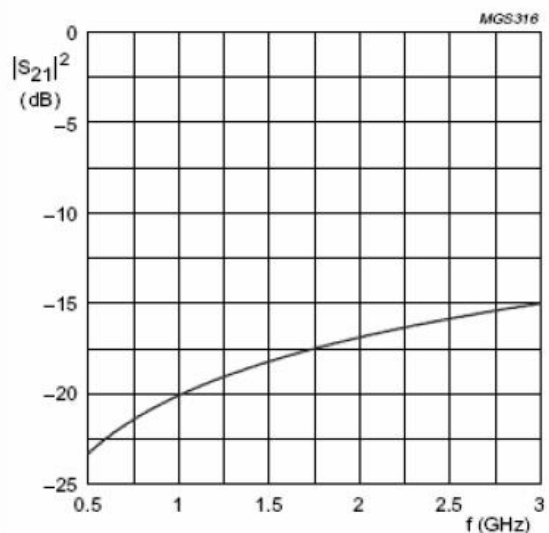
Fig.2 Diode capacitance as a function of reverse voltage; typical values.



(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 50Ω stripline circuit and biased via the analyzer Tee network.
 $T_{\text{amb}} = 25^\circ\text{C}$.

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 50Ω stripline circuit.
 $T_{\text{amb}} = 25^\circ\text{C}$.

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

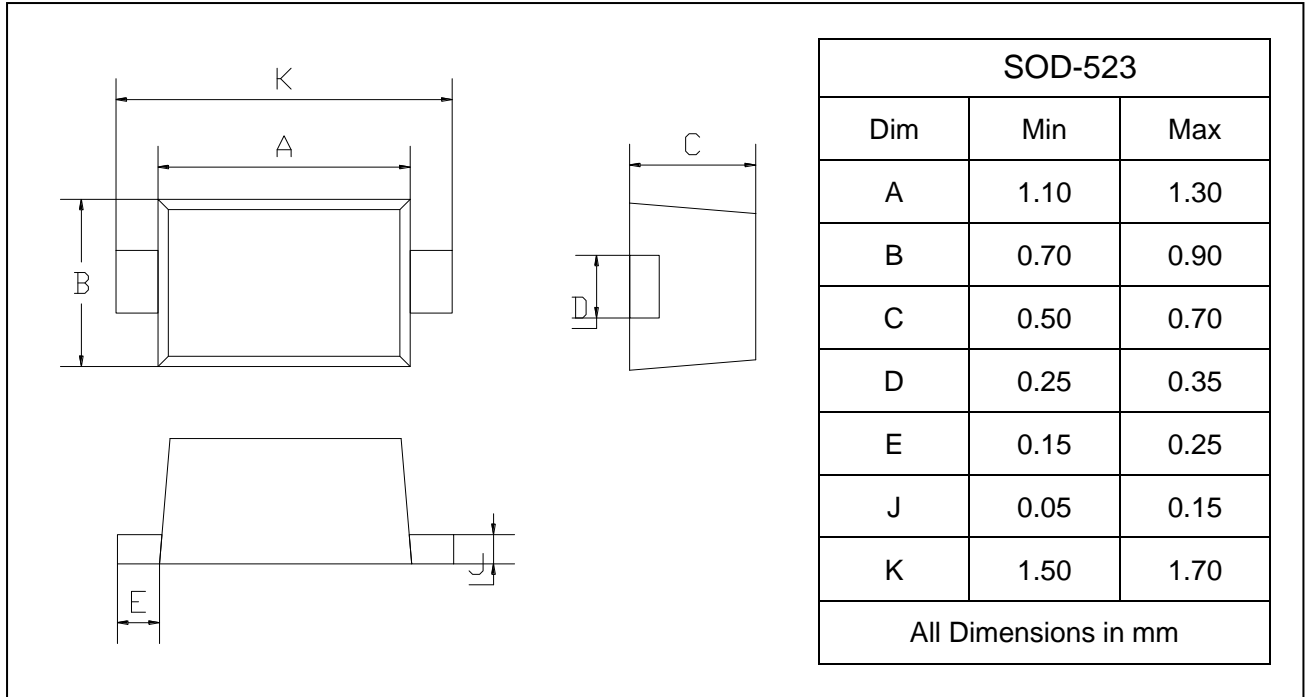
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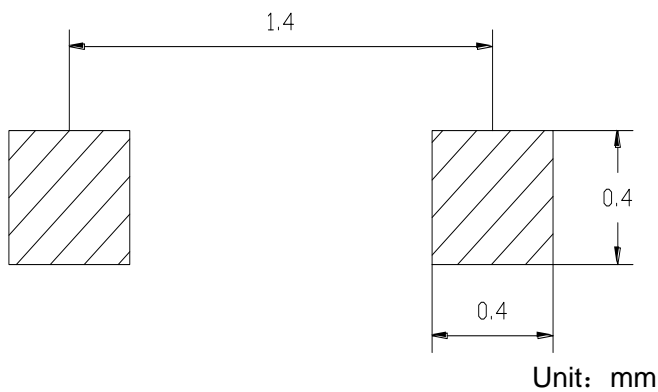
PACKAGE OUTLINE

Plastic surface mounted package

SOD-523



SOLDERING FOOTPRINT



PACKAGE INFORMATION

Device	Package	Shipping
BAP50-02	SOD-523	3000 pcs / Tape & Reel