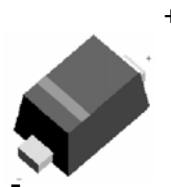




## SOD-523 Plastic-Encapsulate Diodes

### BAP51-02 GENERAL PURPOSE PIN DIODES

SOD-523



#### FEATURES

- Low diode capacitance
- Low diode forward resistance

#### MARKING: A5

#### Maximum Ratings and Electrical Characteristics, Single Diode @T<sub>A</sub>=25°C

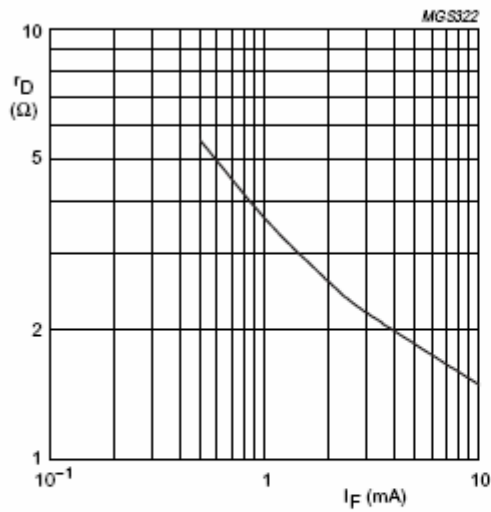
Parameter	Symbol	Limits	Unit
Continuous reverse voltage	V <sub>R</sub>	60	V
Continuous Forward Current	I <sub>F</sub>	50	mA
Power Dissipation (T <sub>A</sub> =90°C)	P <sub>d</sub>	715	mW
Thermal Resistance from Junction to soldering point	R <sub>θJS</sub>	85	°C/W
Junction temperature	T <sub>j</sub>	-65~+150	°C
Storage temperature	T <sub>STG</sub>	-65~+150	°C

#### Electrical Ratings @T<sub>A</sub>=25°C

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Continuous reverse voltage	V <sub>R</sub>	50			V	I <sub>R</sub> =10μA
Forward voltage	V <sub>F</sub>			1.1	V	I <sub>F</sub> =50mA
Reverse current	I <sub>R</sub>			100	nA	V <sub>R</sub> =50V
Diode capacitance	C <sub>d1</sub>		0.4*		pF	V <sub>R</sub> =0V, f=1MHz
	C <sub>d2</sub>			0.55	pF	V <sub>R</sub> =1V, f=1MHz
	C <sub>d3</sub>			0.35	pF	V <sub>R</sub> =5V, f=1MHz
Diode forward resistance	r <sub>D</sub>			9	Ω	I <sub>F</sub> =0.5mA, f=100MHz
	r <sub>D</sub>			6.5	Ω	I <sub>F</sub> =1mA, f=100MHz
	r <sub>D</sub>			2.5	Ω	I <sub>F</sub> =10mA, f=100MHz

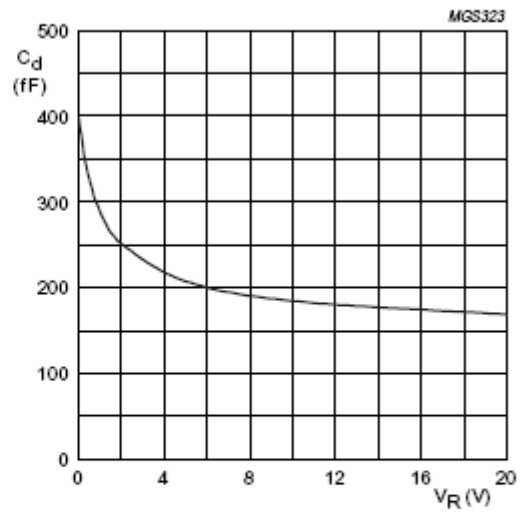
# Typical Characteristics

# BAP51-02



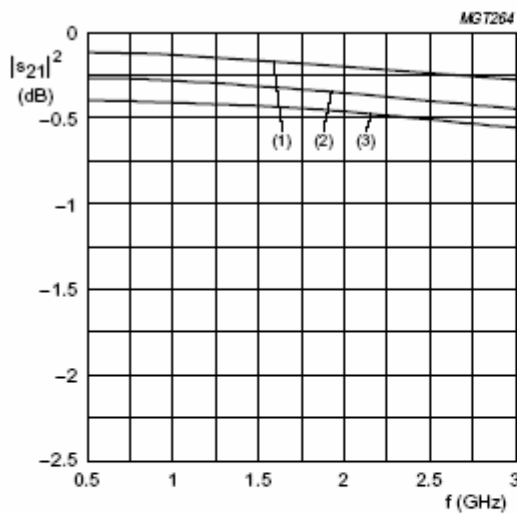
$f = 100 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

Fig.2 Forward resistance as a function of forward current; typical values.



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

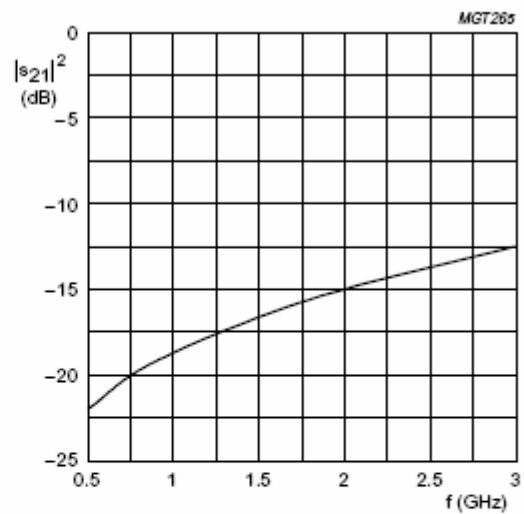
Fig.3 Diode capacitance as a function of reverse voltage; typical values.



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

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



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

Fig.5 Isolation ( $|S_{21}|^2$ ) of the diode as a function of frequency; typical values.