

# BAP50-03

## General Purpose Pin Diodes 200mW

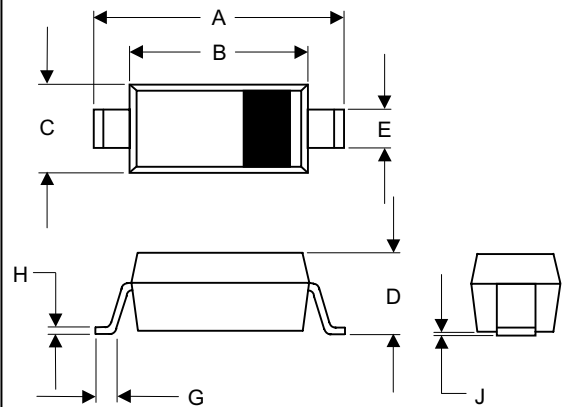
### Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Low diode capacitance
- Low diode forward resistance
- MARKING: A81

Maximum Ratings @ 25°C Unless Otherwise Specified

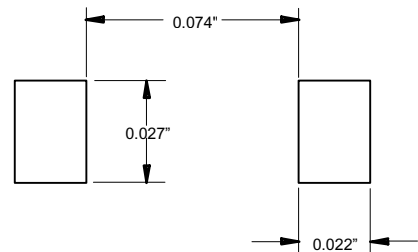
Parameter	Symbol	Limits	Unit
Continuous Reverse Voltage	$V_R$	50	V
Forward Current	$I_F$	50	mA
Power Dissipation ( $T_A=90^\circ\text{C}$ )	$P_D$	200	mW
Junction and Storage temperature	$T_j, P_{stg}$	-65~+150	°C
Thermal Resistance Junction to Ambient	$R_{thJA}$	85	K/W

### SOD-323



DIM	DIMENSIONS				NOTE
	INCHES		MM		
	MIN	MAX	MIN	MAX	
A	.090	.107	2.30	2.70	
B	.063	.071	1.60	1.80	
C	.045	.053	1.15	1.35	
D	.031	.045	0.80	1.15	
E	.010	.016	0.25	0.40	
G	.004	.018	0.10	0.45	
H	.004	.010	0.10	0.25	
J	-----	.006	-----	0.15	

#### SUGGESTED SOLDER PAD LAYOUT

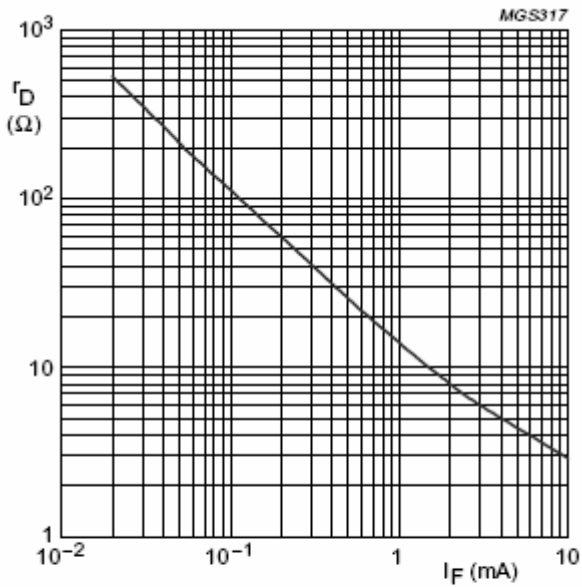


### Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Min.	Max.	Unit	Conditions
Continuous reverse voltage	$V_R$	50		V	$I_R=10\mu\text{A}$
Forward voltage	$V_F$		1.1	V	$I_F=50\text{mA}$
Reverse current	$I_R$		100	nA	$V_R=50\text{V}$
Diode capacitance	$C_{d1}$		1.11	pF	$V_R=0\text{V}, f=1\text{MHz}$
	$C_{d2}$		0.55	pF	$V_R=1\text{V}, f=1\text{MHz}$
	$C_{d3}$		0.35	pF	$V_R=5\text{V}, f=1\text{MHz}$
Diode forward resistance	$r_D$		40	$\Omega$	$I_F=0.5\text{mA}, f=100\text{MHz};$ Note 1
	$r_D$		25	$\Omega$	$I_F=1.0\text{mA}, f=100\text{MHz};$ Note 1
	$r_D$		5	$\Omega$	$I_F=10\text{mA}, f=100\text{MHz};$ Note 1

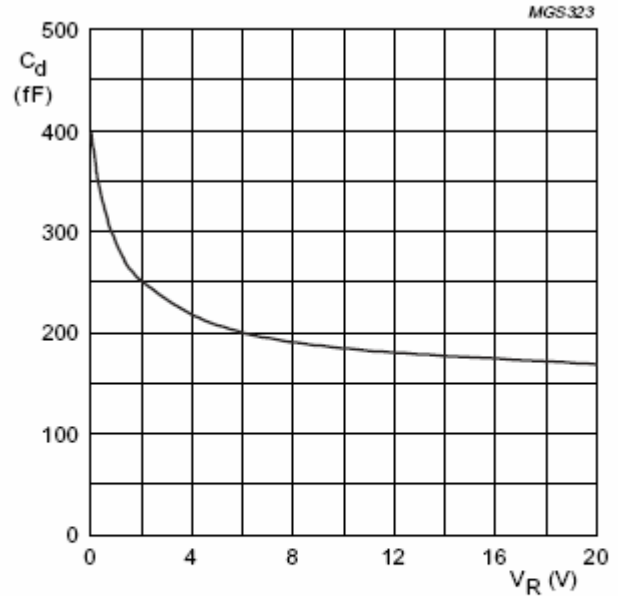
Note 1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

## Typical Characteristics



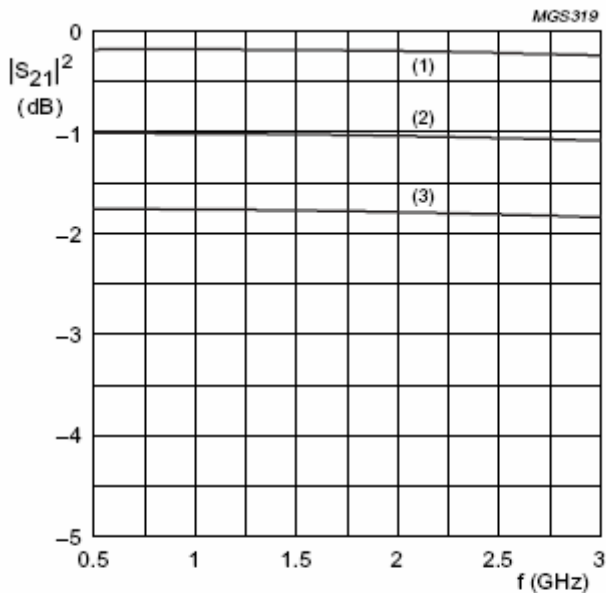
$f = 100 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

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



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

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

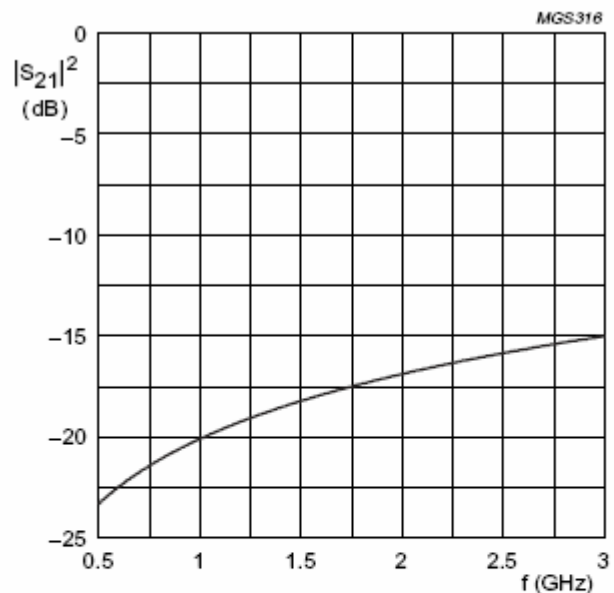


(1)  $I_F = 10 \text{ mA}.$       (2)  $I_F = 1 \text{ mA}.$       (3)  $I_F = 0.5 \text{ mA}.$

Diode inserted in series with a  $50 \text{ } \Omega$  stripline circuit and biased via the analyzer Tee network.

$T_{\text{amb}} = 25 \text{ }^\circ\text{C}.$

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  $50 \text{ } \Omega$  stripline circuit.

$T_{\text{amb}} = 25 \text{ }^\circ\text{C}.$

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



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## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

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