

## BAP51-02

## General Purpose Pin Diodes 715mW

### 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: A5

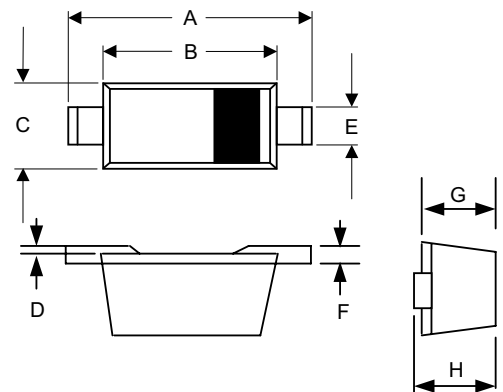
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Limits	Unit
Continuous Reverse Voltage	$V_R$	60	V
Forward Current	$I_F$	50	mA
Power Dissipation( $T_A=90^\circ\text{C}$ )	$P_D$	715	mW
Junction and Storage temperature	$T_j, P_{stg}$	-65~+150	°C
Thermal Resistance Junction to solder point	$R_{thJs}$	85	K/W

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

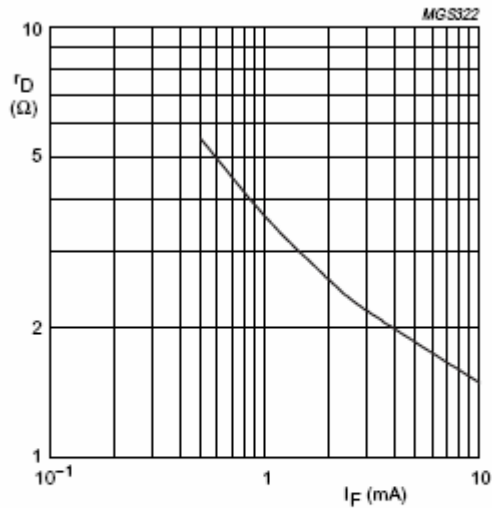
Parameter	Symbol	Min.	Max.	Unit	Conditions
Continuous reverse voltage	$V_R$	50		V	$I_R=10\mu\text{A}$
Forward voltage	$V_F$		1.1	V	$I_F=50\text{mA}$
Reverse current	$I_R$		100	nA	$V_R=50\text{V}$
Diode capacitance	$C_{d1}$		0.4(Typ)	pF	$V_R=0\text{V}, f=1\text{MHz}$
	$C_{d2}$		0.55	pF	$V_R=1\text{V}, f=1\text{MHz}$
	$C_{d3}$		0.35	pF	$V_R=5\text{V}, f=1\text{MHz}$
Diode forward resistance	$r_D$		9	$\Omega$	$I_F=0.5\text{mA}, f=100\text{MHz}$
	$r_D$		6.5	$\Omega$	$I_F=1\text{mA}, f=100\text{MHz}$
	$r_D$		2.5	$\Omega$	$I_F=10\text{mA}, f=100\text{MHz}$

### SOD523



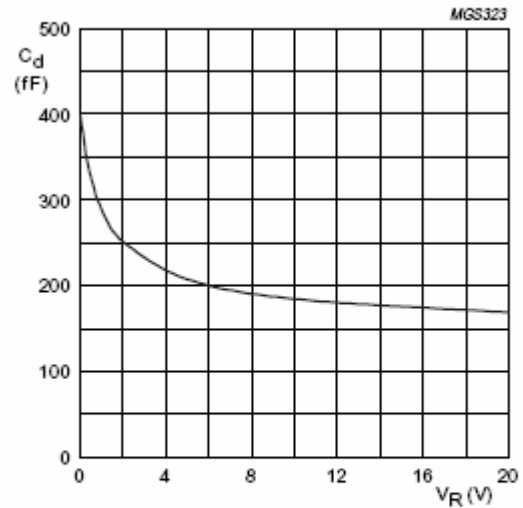
DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.059	.067	1.50	1.70	
B	.043	.051	1.10	1.30	
C	.030	.033	0.75	0.85	
D	.001	.003	0.01	0.07	
E	.010	.014	0.25	0.35	
F	.003	.006	0.08	0.15	
G	.020	.028	0.50	0.70	
H	.020	.031	0.51	0.77	

## Typical Characteristics



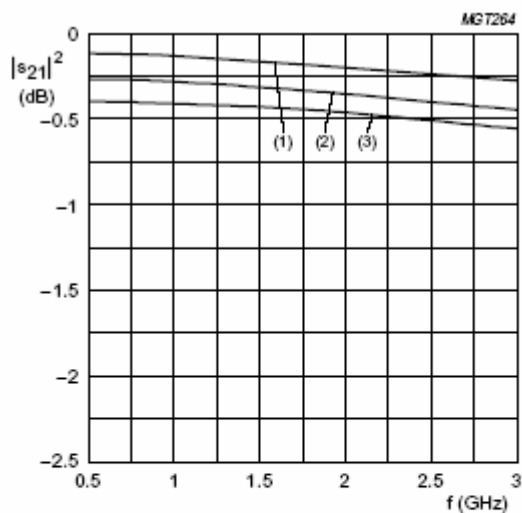
$f = 100 \text{ MHz}$ ;  $T_j = 25^\circ\text{C}$ .

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



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

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

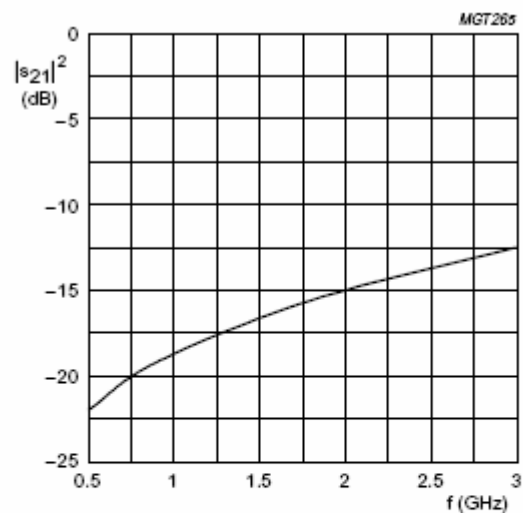


(1)  $I_F = 10 \text{ mA}$ . (2)  $I_F = 1 \text{ mA}$ . (3)  $I_F = 0.5 \text{ mA}$ .

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

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

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  $50 \Omega$  stripline circuit.

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

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

## Ordering Information

Device	Packing
Part Number-TP	Tape&Reel;8Kpcs/Reel

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