

# BAP64-05W

## 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: 5W

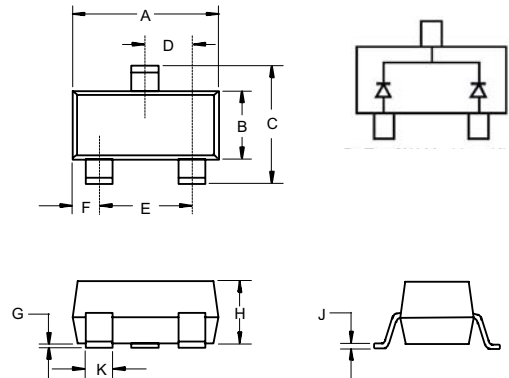
Maximum Ratings @ 25°C Unless Otherwise Specified

Parameter	Symbol	Limits	Unit
Continuous Reverse Voltage	$V_R$	175	V
Forward Current	$I_F$	100	mA
Power Dissipation ( $T_A=90^\circ\text{C}$ )	$P_D$	200	mW
Junction and Storage temperature	$T_j, P_{stg}$	-65~+150	$^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{thJA}$	625	$^\circ\text{C/W}$

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

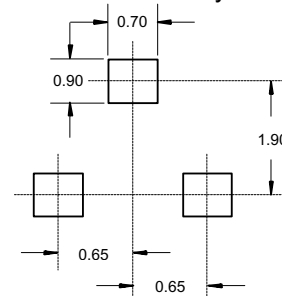
Parameter	Symbol	Min.	TYP	Max.	Unit	Conditions
Reverse Voltage Leakage Current	$I_R$		10		$\mu\text{A}$	$V_R=175\text{V}$
			1.0			$V_R=20\text{V}$
Forward voltage	$V_F$		1.1		V	$I_F=50\text{mA}$
Diode capacitance	$C_{d1}$		0.52		pF	$V_R=0\text{V}, f=1\text{MHz}$
	$C_{d2}$		0.37		pF	$V_R=1\text{V}, f=1\text{MHz}$
	$C_{d3}$		0.23	0.35	pF	$V_R=20\text{V}, f=1\text{MHz}$
Diode forward resistance	$r_D$		20	40	$\Omega$	$I_F=0.5\text{mA}, f=100\text{MHz}$
	$r_D$		10	20	$\Omega$	$I_F=1\text{mA}, f=100\text{MHz}$
	$r_D$		2	3.8	$\Omega$	$I_F=10\text{mA}, f=100\text{MHz}$
	$r_D$		0.7	1.35	$\Omega$	$I_F=100\text{mA}, f=100\text{MHz}$
Charge carrier life time	$\tau_L$		1.55		$\mu\text{S}$	when switched from $I_F=10\text{mA}$ to $I_R=6\text{mA}$ ; $R_L=100\Omega$ ; measured at $I_R=3\text{mA}$
Series inductance	$L_S$		1.4		nH	$I_F=100\text{mA}, f=100\text{MHz}$

### SOT-323

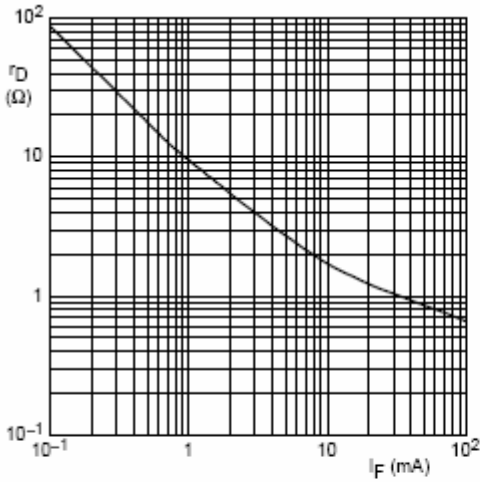


DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.071	.087	1.80	2.20	
B	.045	.053	1.15	1.35	
C	.079	.087	2.00	2.20	
D	.026 Nominal		0.65 Nominal		
E	.047	.055	1.20	1.40	
F	.012	.016	.30	.40	
G	.000	.004	.000	.100	
H	.035	.039	.90	1.00	
J	.004	.010	.100	.250	
K	.012	.016	.30	.40	

### Suggested Solder Pad Layout

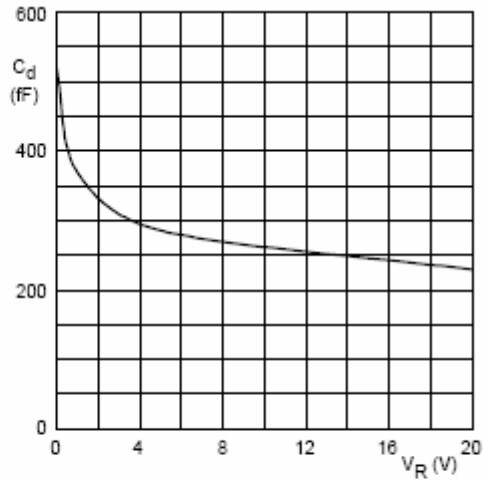


## Typical Characteristics



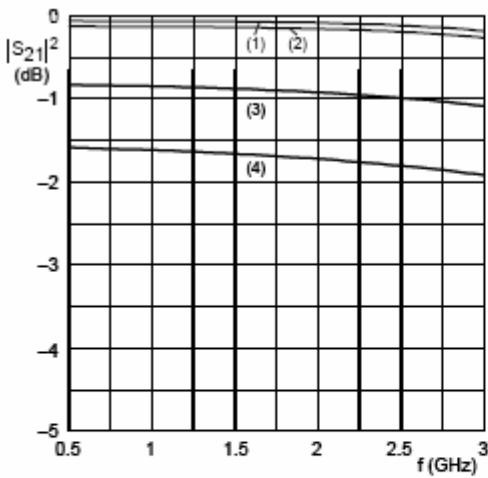
$f = 100 \text{ MHz}; T_j = 25 \text{ }^\circ\text{C}.$

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



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

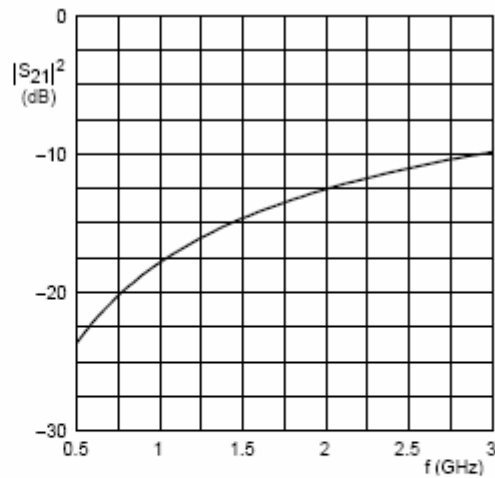
Diode capacitance as a function of reverse voltage; typical values.



(1)  $I_F = 100 \text{ mA}$ . (3)  $I_F = 1 \text{ mA}$ .  
(2)  $I_F = 10 \text{ mA}$ . (4)  $I_F = 0.5 \text{ mA}$ .

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

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

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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