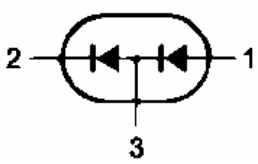
General Purpose PIN Diode
BAP50-04W

Features

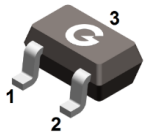
- Low diode capacitance
- Low diode forward resistance

HF



Mechanical Data

- Case: SOT-323
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208



SOT-323

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BAP50-04W	SOT-323	3000 pcs / Tape & Reel	4LP

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	50	V
Forward Current	I_F	50	mA

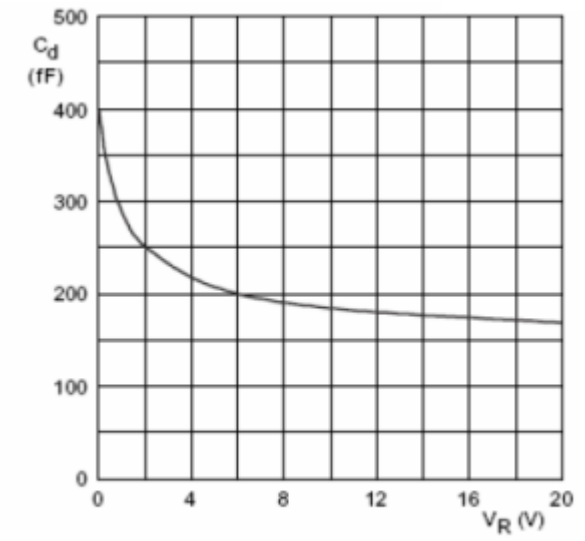
Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation(T_{sp} = 90 °C)	P_D	200	mW
Operating Junction Temperature Range	T_J	-65 ~ +150	°C
Storage Temperature Range	T_{STG}	-65 ~ +150	°C

Electrical Characteristics (@ T_J = 25°C unless otherwise specified)

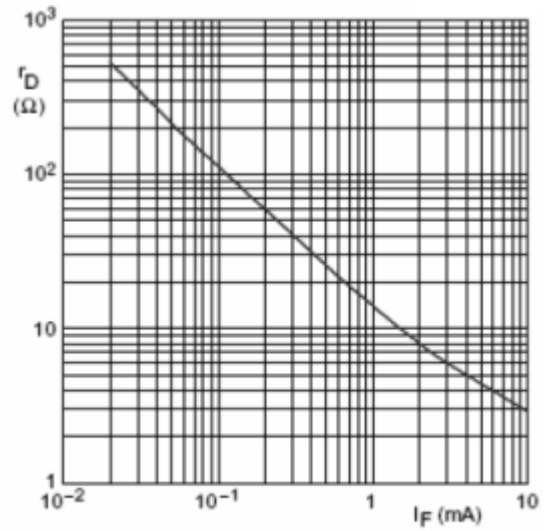
Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
V_R	Continuous Reverse Voltage	I_R = 10μA	50	-	-	V
I_R	Reverse Voltage Leakage Current	V_R = 50V	-	-	100	nA
V_F	Forward Voltage	I_F = 50mA	-	-	1.10	V
C_{d1}	Diode Capacitance	V_R = 0V, f = 1MHz	-	0.40	-	pF
C_{d2}		V_R = 1V, f = 1MHz	-	0.30	0.55	pF
C_{d3}		V_R = 5V, f = 1MHz	-	0.20	0.35	pF
R_{D1}	Diode Forward Resistance	I_F = 0.5mA, f = 100MHz	-	25	40	Ω
R_{D2}		I_F = 1mA, f = 100MHz	-	14	25	Ω
R_{D3}		I_F = 10mA, f = 100MHz	-	3	5	Ω

Ratings and Characteristics Curves (@ T_A = 25°C unless otherwise specified)



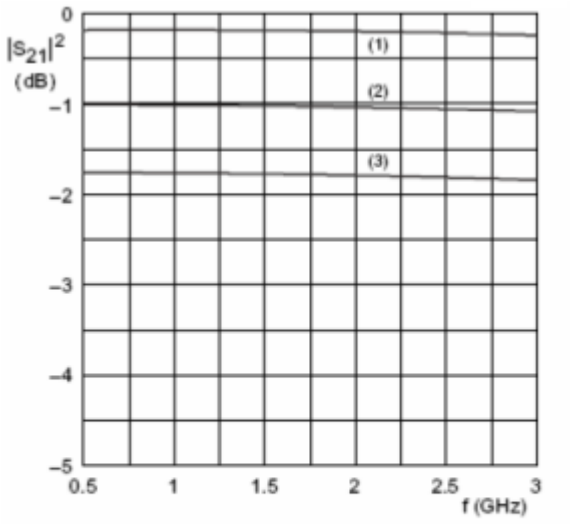
f = 1 MHz; T_j = 25 °C.

Fig 1 Diode capacitance as a function of reverse Voltage; typical values.



f = 100 MHz; T_j = 25 °C.

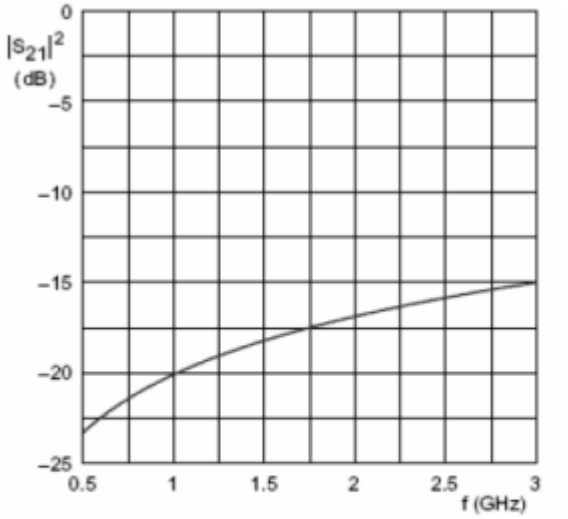
Fig 2 Forward voltage as a function of forward Current; typical values.



(1) I_F = 10 mA. (2) I_F = 1 mA. (3) I_F = 0.5 mA.

Diode inserted in series with a 50 Ω stripline circuit and biased via the analyzer Tee network.
T_{amb} = 25 °C.

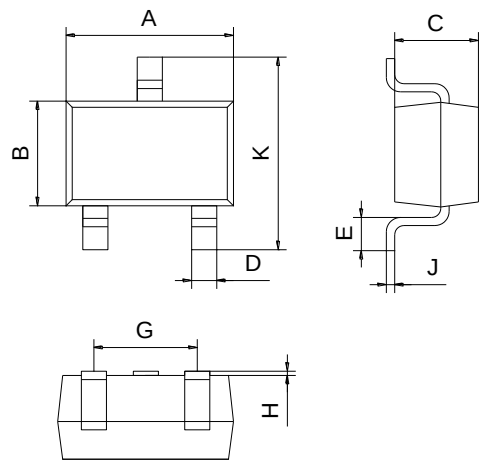
Fig 3 Insertion loss ($|S_{21}|^2$) of the diode as a function of frequency; typical values.



Diode zero biased and inserted in series with a 50 Ω stripline circuit.
T_{amb} = 25 °C.

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

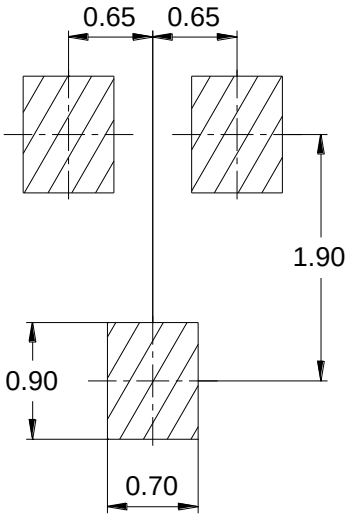
Package Outline Dimensions (Unit: mm)



SOT-323		
Dimension	**Min.**	**Max.**
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	0.25	0.40
G	1.20	1.40
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

Mounting Pad Layout (Unit: mm)

SOT-323



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