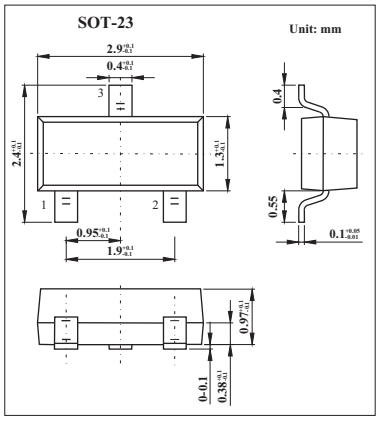
TY Semicondutor®

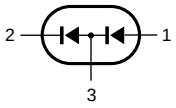
Product specification

BAP50-04

■ Features

- Low diode capacitance.
- Low diode forward resistance.





■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Continuous reverse voltage	V_R	50	V
Continuous forward current	I_F	50	mA
Total power dissipation Ts = 90℃	P_{tot}	250	mW
Storage temperature	T_{stg}	-65 to +150	℃
Junction temperature	T_j	150	℃
Thermal resistance from junction to soldering point	Rth j-s	220	℃/W

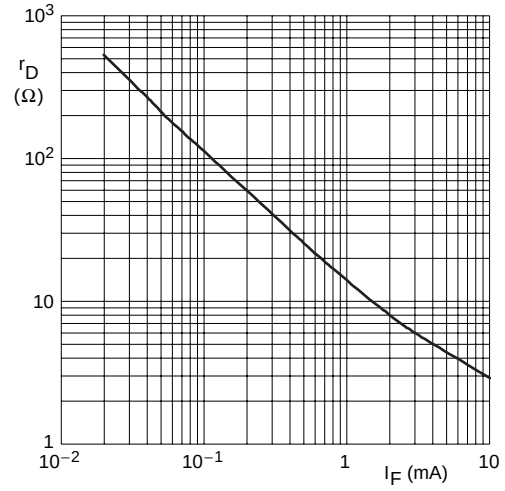
■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditons	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 50 mA		0.95	1.1	V
Reverse voltage	V_R	I_R = 10 μA	50			V
Reverse current	I_R	V_R = 50 V			100	nA
Diode capacitance	C_d	V_R = 0; f = 1 MHz		0.45		pF
		V_R = 1 V; f = 1 MHz		0.35	0.5	pF
		V_R = 5 V; f = 1 MHz		0.3	0.5	pF
Diode forward resistance	r_D	I_F = 0.5 mA; f = 100 MHz		25	40	Ω
		I_F = 1 mA; f = 100 MHz		14	25	Ω
		I_F = 10 mA; f = 100 MHz		3	5	Ω

■ Marking

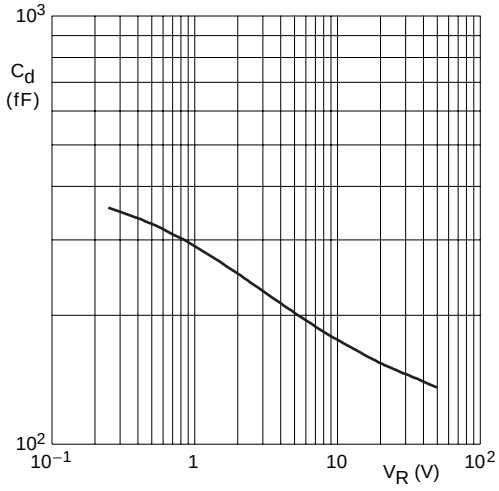
Marking	4LP

■ Typical Characteristics



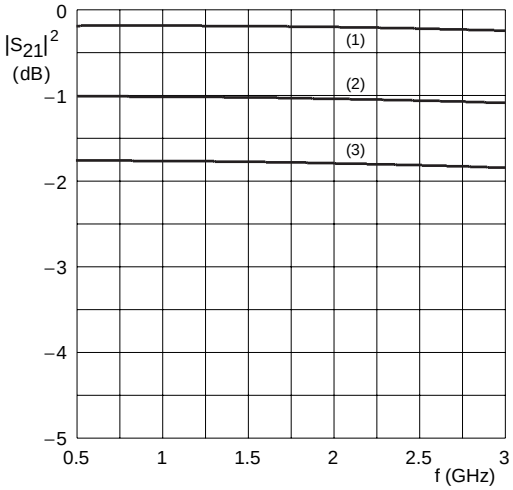
f = 100 MHz; T_j = 25 °C.

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



f = 1 MHz; T_j = 25 °C.

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

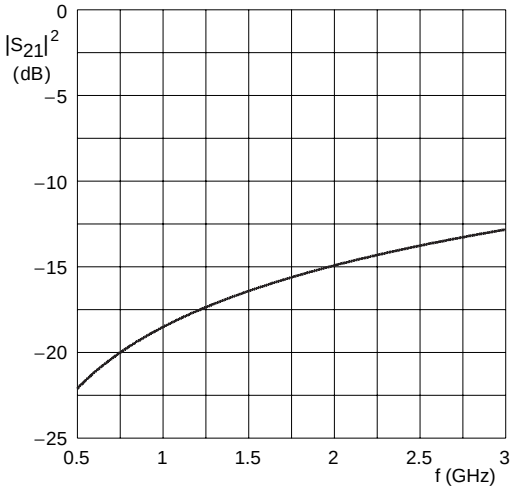


(1) I_F = 10 mA. (2) I_F = 1 mA. (3) I_F = 0.5 mA.

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 in on-state 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 in off-state as a function of frequency; typical values.