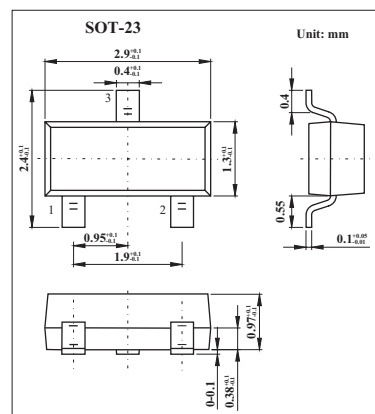


Silicon PIN diode

BAP65-05

■ Features

- Two elements in common cathode configuration
- High voltage, current controlled
- RF resistor for RF switches
- Low diode capacitance
- Low diode forward resistance (low loss).

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min	Max	Unit
continuous reverse voltage	V_R		30	V
continuous forward current	I_F		100	mA
total power dissipation $T_s \leq 90^\circ\text{C}$	P_{tot}		250	mW
storage temperature	T_{stg}	-65	+150	$^\circ\text{C}$
junction temperature	T_j	-65	+150	$^\circ\text{C}$
thermal resistance from junction to soldering point	$R_{th\ j-s}$		220	K/W

BAP65-05

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Conditions	Typ	Max	Unit
forward voltage	V_F	$I_F = 50 \text{ mA}$	0.95	1.1	V
reverse leakage current	V_R	$V_R = 20 \text{ V}$		20	nA
diode capacitance	C_d	$V_R = 0; f = 1 \text{ MHz}$	0.7		pF
		$V_R = 1 \text{ V}; f = 1 \text{ MHz}$	0.575	0.9	
		$V_R = 3 \text{ V}; f = 1 \text{ MHz}$	0.525	0.8	
		$V_R = 20 \text{ V}; f = 1 \text{ MHz}$	0.425		
diode forward resistance	r_D	$I_F = 1 \text{ mA}; f = 100 \text{ MHz}$	1		Ω
		$I_F = 5 \text{ mA}; f = 100 \text{ MHz}; \text{note 1}$	0.65	0.95	
		$I_F = 10 \text{ mA}; f = 100 \text{ MHz}; \text{note 1}$	0.56	0.9	
		$I_F = 100 \text{ mA}; f = 100 \text{ MHz}$	0.35		
isolation	$ s_{21} ^2$	$V_R = 0; f = 900 \text{ MHz}$	9.4		dB
		$V_R = 0; f = 1800 \text{ MHz}$	4.8		
		$V_R = 0; f = 2450 \text{ MHz}$	3.1		
insertion loss	$ s_{21} ^2$	$I_F = 1 \text{ mA}; f = 900 \text{ MHz}$	0.1		dB
		$I_F = 1 \text{ mA}; f = 1800 \text{ MHz}$	0.18		
		$I_F = 1 \text{ mA}; f = 2450 \text{ MHz}$	0.28		
insertion loss	$ s_{21} ^2$	$I_F = 5 \text{ mA}; f = 900 \text{ MHz}$	0.08		dB
		$I_F = 5 \text{ mA}; f = 1800 \text{ MHz}$	0.16		
		$I_F = 5 \text{ mA}; f = 2450 \text{ MHz}$	0.26		
insertion loss	$ s_{21} ^2$	$I_F = 10 \text{ mA}; f = 900 \text{ MHz}$	0.07		dB
		$I_F = 10 \text{ mA}; f = 1800 \text{ MHz}$	0.15		
		$I_F = 10 \text{ mA}; f = 2450 \text{ MHz}$	0.25		
insertion loss	$ s_{21} ^2$	$I_F = 100 \text{ mA}; f = 900 \text{ MHz}$	0.06		dB
		$I_F = 100 \text{ mA}; f = 1800 \text{ MHz}$	0.14		
		$I_F = 100 \text{ mA}; f = 2450 \text{ MHz}$	0.24		
charge carrier life time	τ_L	when switched from $I_F = 10 \text{ mA}$ to $I_R = 6 \text{ mA}$; $R_L = 100 \Omega$, measured at $I_R = 3 \text{ mA}$	0.17		μs
series inductance	L_S	$I_F = 100 \text{ mA}; f = 100 \text{ MHz}$	1.4		nH

Note

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

■ Marking

Marking	7Kp
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