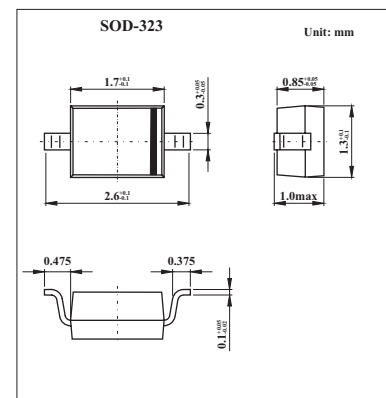


Silicon PIN diode

BAP65-03

■ Features

- High voltage, current controlled
- RF resistor for RF switches
- Low diode capacitance
- Low diode forward resistance (low loss)
- Very low series inductance.



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Min	Max	Unit
continuous reverse voltage	V _R		30	V
continuous forward current	I _F		100	mA
total power dissipation Ts ≤ 90 °C	P _{tot}		500	mW
storage temperature	T _{stg}	-65	+150	°C
junction temperature	T _j	-65	+150	°C
thermal resistance from junction to soldering point	R _{th j-s}		120	K/W

BAP65-03

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Typ	Max	Unit
forward voltage	V_F	$I_F = 50\text{ mA}$	0.95	1.1	V
reverse leakage current	I_R	$V_R = 20\text{ V}$		20	nA
diode capacitance	C_d	$V_R = 0; f = 1\text{ MHz}$	0.65		pF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$	0.55	0.9	
		$V_R = 3\text{ V}; f = 1\text{ MHz}$	0.5	0.8	
		$V_R = 20\text{ V}; f = 1\text{ MHz}$	0.375		
diode forward resistance	r_D	$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	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$	$V_R = 0; f = 900\text{ MHz}$	10.2		dB
		$V_R = 0; f = 1800\text{ MHz}$	5.8		
		$V_R = 0; f = 2450\text{ MHz}$	4.1		
insertion loss	$ s_{21} ^2$	$V_R = 1; f = 900\text{ MHz}$	0.1		dB
		$V_R = 1; f = 1800\text{ MHz}$	0.14		
		$V_R = 1; f = 2450\text{ MHz}$	0.18		
insertion loss	$ s_{21} ^2$	$V_R = 5; f = 900\text{ MHz}$	0.06		dB
		$V_R = 5; f = 1800\text{ MHz}$	0.1		
		$V_R = 5; f = 2450\text{ MHz}$	0.14		
insertion loss	$ s_{21} ^2$	$V_R = 10; f = 900\text{ MHz}$	0.06		dB
		$V_R = 10; f = 1800\text{ MHz}$	0.1		
		$V_R = 10; f = 2450\text{ MHz}$	0.13		
insertion loss	$ s_{21} ^2$	$V_R = 100; f = 900\text{ MHz}$	0.05		dB
		$V_R = 100; f = 1800\text{ MHz}$	0.1		
		$V_R = 100; f = 2450\text{ MHz}$	0.14		
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	$I_F = 100\text{ mA}; f = 100\text{ MHz}$	1.5		nH

Note

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

■ Marking

Marking	D3
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