

Silicon PIN diode

BAP64-05

■ Features

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- Low diode capacitance
- Low diode forward resistance
- Low series inductance
- For applications up to 3 GHz.

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

Parameter	Symbol	Min	Max	Unit
continuous reverse voltage	V_R		175	V
continuous forward current	I_F		100	mA
total power dissipation $T_s = 90^\circ\text{C}$	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

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
forward voltage	V_F	$I_F = 50\text{ mA}$		0.95	1.1	V
reverse leakage current	V_R	$V_R = 175\text{ V}$			10	$\mu\text{ A}$
		$V_R = 20\text{ V}$			1	$\mu\text{ A}$
diode capacitance	C_d	$V_R = 0; f = 1\text{ MHz}$		0.52		pF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$		0.37	0.5	
		$V_R = 20\text{ V}; f = 1\text{ MHz}$		0.23	0.35	
diode forward resistance	r_D	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}; \text{note 1}$		20	40	Ω
		$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$		10	20	
		$I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$		2	3.8	
		$I_F = 100\text{ mA}; f = 100\text{ MHz}; \text{note 1}$		0.7	1.35	
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 $I_R = 3\text{ mA}$		1.55		$\mu\text{ S}$
series inductance	L_s			1.4		nH

Note

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

■ Marking

Marking	5Kp
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