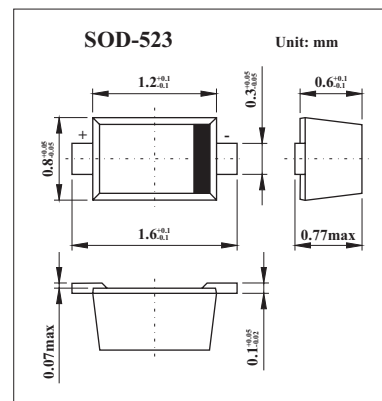


Silicon PIN diode

BAP70-02

■ Features

- High voltage, current controlled RF resistor for attenuators
- Low diode capacitance
- Very low series inductance.

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

Parameter	Symbol	Min	Max	Unit
continuous reverse voltage	V_R		50	V
continuous forward current	I_F		100	mA
total power dissipation $T_s = 90^\circ\text{C}$	P_{tot}		415	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	$R_{th\ j-s}$		145	K/W

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

Parameter	Symbol	Conditions	Typ	Max	Unit
forward voltage	V_F	$I_F = 50\text{ mA}$	0.9	1.1	V
reverse leakage current	I_R	$V_R = 50\text{ V}$		20	nA
diode capacitance	C_d	$V_R = 0; f = 1\text{ MHz}$	570		fF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$	400		
		$V_R = 5\text{ V}; f = 1\text{ MHz}$	270		
		$V_R = 20\text{ V}; f = 1\text{ MHz}$	200	250	
diode forward resistance	r_D	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	77	100	Ω
		$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	40	50	
		$I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	5.4	7	
		$I_F = 100\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	1.4	1.9	
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 $I_R = 3\text{ mA}$	1.25		$\mu\text{ s}$
series inductance	L_s	$I_F = 100\text{ mA}; f = 100\text{ MHz}$	0.6		nH

Note

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

■ Marking

Marking	K8
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