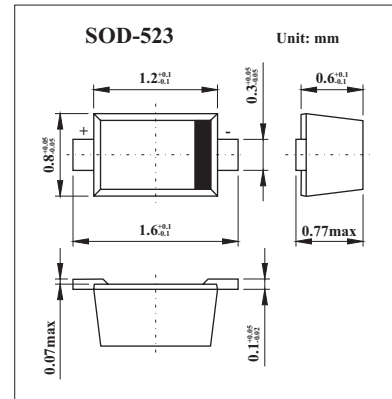


## Silicon PIN diode

## 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	$P_{tot}$	$T_s = 90^\circ\text{C}$	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	$\Omega$
		$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	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	$\tau_L$	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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