

Silicon PIN Diodes

BAR14;BAR15;BAR16

■ Features

- RF switch
- RF attenuator for frequencies above 10 MHz
- Low distortion factor
- Long-term stability of electrical characteristics

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

Parameter	Symbol	Value	Unit
Reverse voltage	V_R	100	V
Forward current	I_F	140	mA
Total power dissipation, $T_s \leq 65^\circ\text{C}^{1)}$	P_{tot}	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 to +150	$^\circ\text{C}$
Junction - ambient $^{1)}$	R_{thJA}	≤ 500	K/W
Junction - soldering point	R_{thJS}	≤ 340	

Note

1. Package mounted on alumina $15\text{ mm} \times 16.7\text{ mm} \times 0.7\text{ mm}$.

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse current	V_R	$V_R = 50\text{ V}$			100	nA
		$V_R = 100\text{ V}$			1	μA
Forward voltage	V_F	$I_F = 100\text{ mA}$		1.05		V
Diode capacitance	C_T	$V_R = 50\text{ V}, f = 1\text{ MHz}$		0.25	0.5	pF
		$V_R = 0, f = 100\text{ MHz}$		0.2		
Forward resistance	r_f	$I_F = 0.01\text{ mA}, f = 100\text{ MHz}$		2800		Ω
		$I_F = 0.1\text{ mA}, f = 100\text{ MHz}$		380		
		$I_F = 1\text{ mA}, f = 100\text{ MHz}$		45		
		$I_F = 10\text{ mA}, f = 100\text{ MHz}$		7		
Zero bias conductance	g_p	$V_R = 0, f = 100\text{ MHz}$		50		μS
Charge carrier life time	t_{rr}	$I_F = 10\text{ mA}, I_R = 6\text{ mA}$	0.7	1		μS

■ Marking

Type	BAR14	BAR15	BAR16
Marking	L7	L8	L9

