

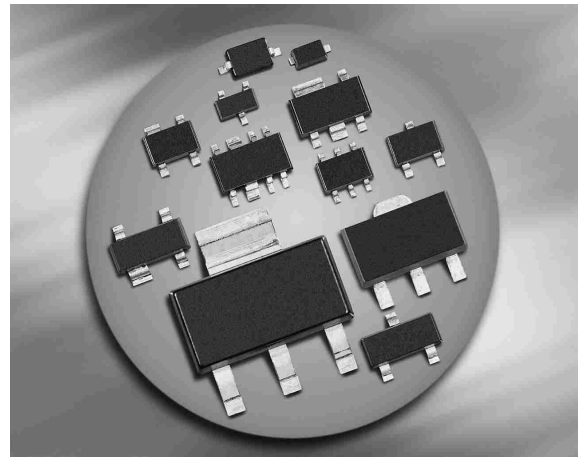
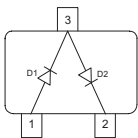
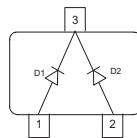
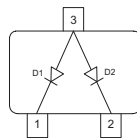
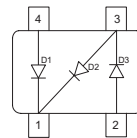


**THE DATASHEET OF
BAR161E6327HTSA1**



Silicon PIN Diode

- RF switch, RF attenuator for frequencies above 10 MHz
- Low distortion faktor
- Long-term stability of electrical characteristics
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101


BAR14-1

BAR15-1

BAR16-1

BAR61


Type	Package	Configuration	L_S (nH)	Marking
BAR14-1	SOT23	series	1.8	L7s
BAR15-1	SOT23	common cathode	1.8	L8s
BAR16-1	SOT23	common anode	1.8	L9s
BAR61	SOT143	PI element	2	61s

Maximum Ratings at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	100	V
Forward current	I_F	140	mA
Total power dissipation $T_S \leq 65^\circ\text{C}$	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}	≤ 340	K/W

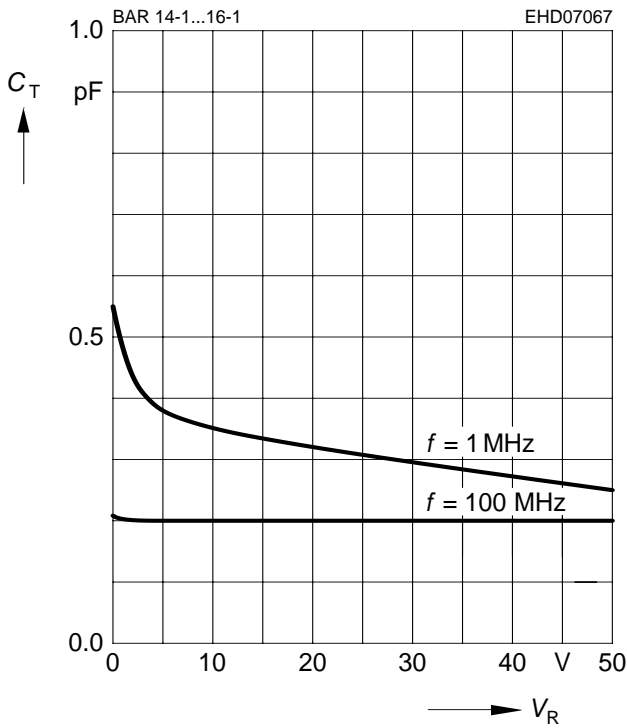
¹For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 50\text{ V}$ $V_R = 100\text{ V}$	I_R	-	-	100 1000	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	1.05	1.25	V
AC Characteristics					
Diode capacitance $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 50\text{ V}, f = 1\text{ MHz}$	C_T	-	0.2 0.25	0.5 0.5	pF
Zero bias conductance $V_R = 0\text{ V}, f = 100\text{ MHz}$	g_P	-	50	100	μS
Forward resistance $I_F = 0.01\text{ mA}, f = 100\text{ MHz}$ $I_F = 0.1\text{ mA}, f = 100\text{ MHz}$ $I_F = 1\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	r_f	- 300 35 5.5	2600 470 55 8	4200 - 85 12	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\ \Omega$	τ_{rr}	700	1000	-	ns
I-region width	W_I	-	146	-	μm

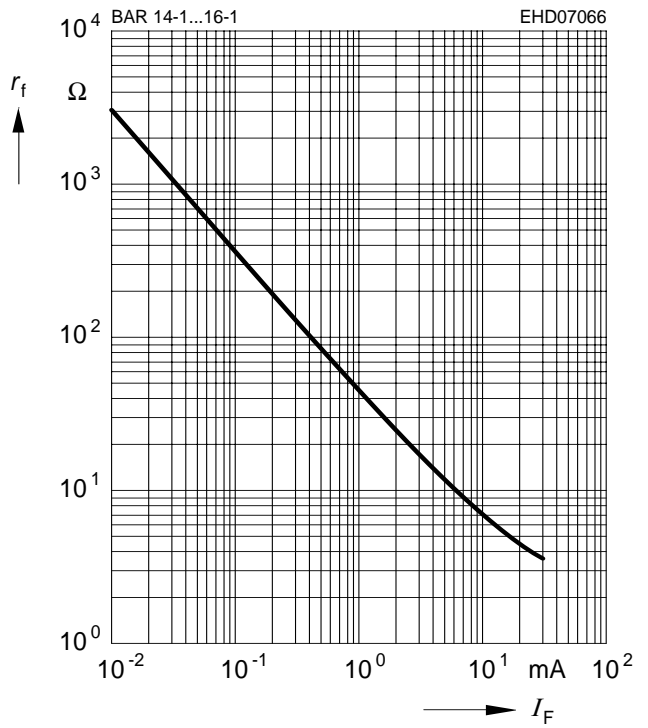
Diode capacitance $C_T = f(V_R)$

$f =$ Parameter



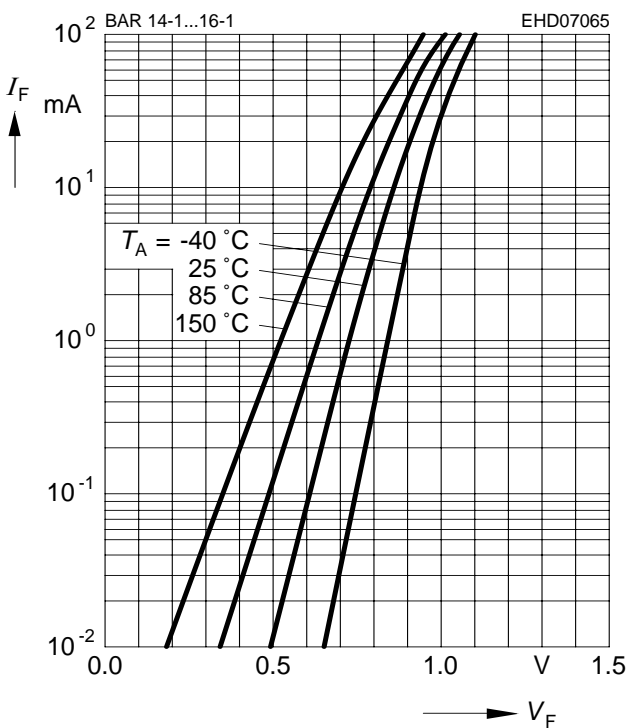
Forward resistance $r_f = f(I_F)$

$f = 100$ MHz



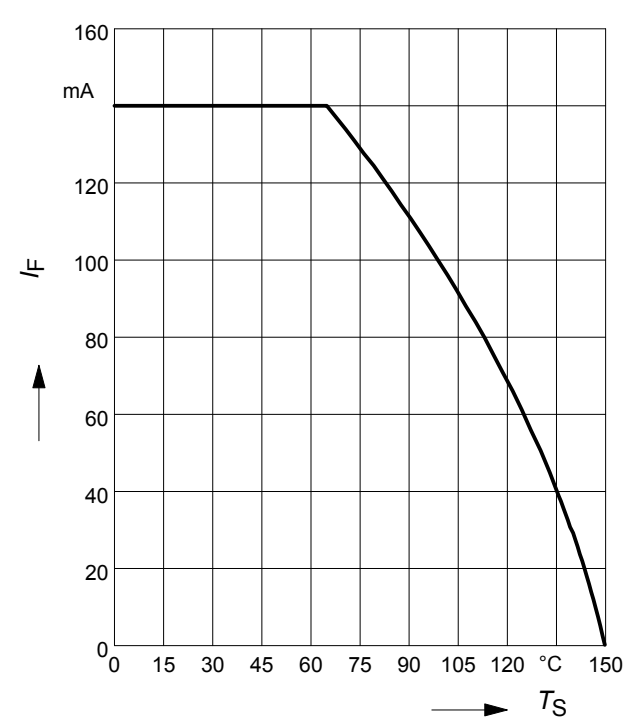
Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$

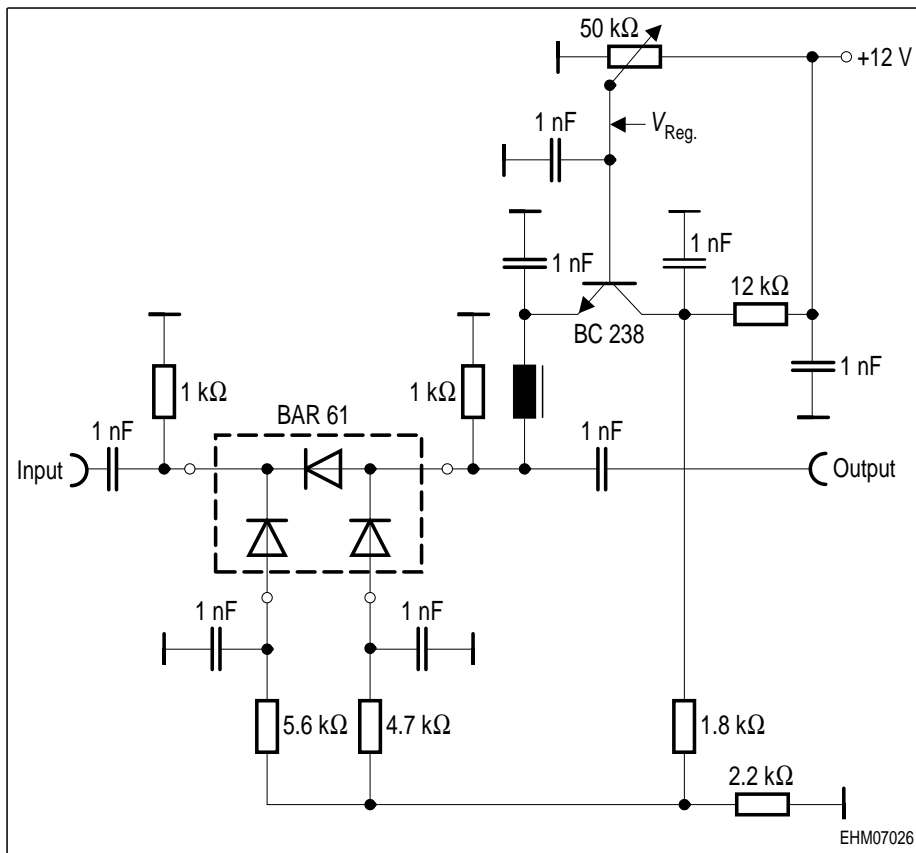


Forward current $I_F = f(T_S)$

BAR14-1, BAR15-1, BAR16-1



Application circuit for attenuation networks with diode BAR61

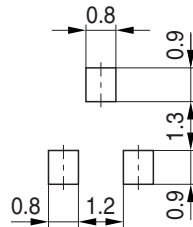


Package Outline

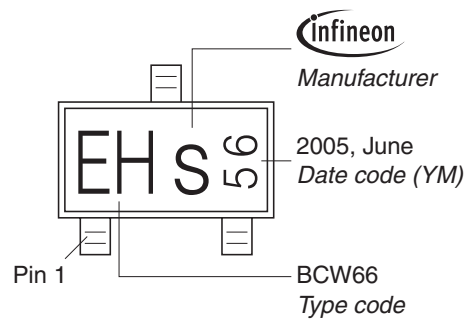


1) Lead width can be 0.6 max. in dambar area

Foot Print

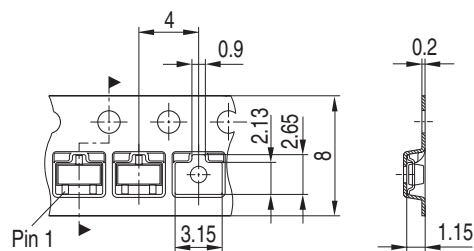


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

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