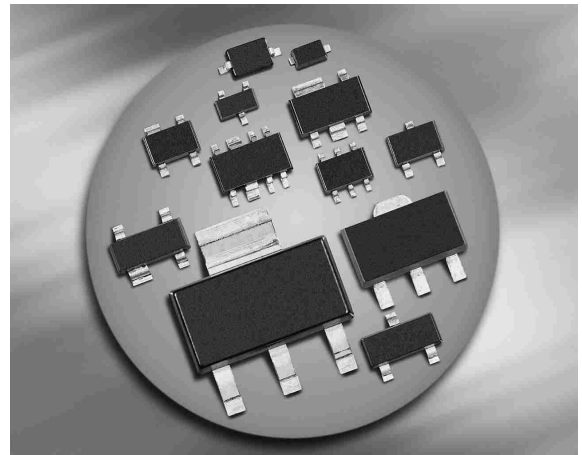
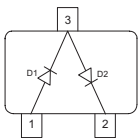
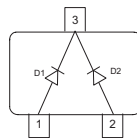
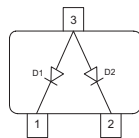
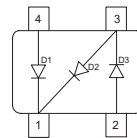


Silicon PIN Diode

- 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

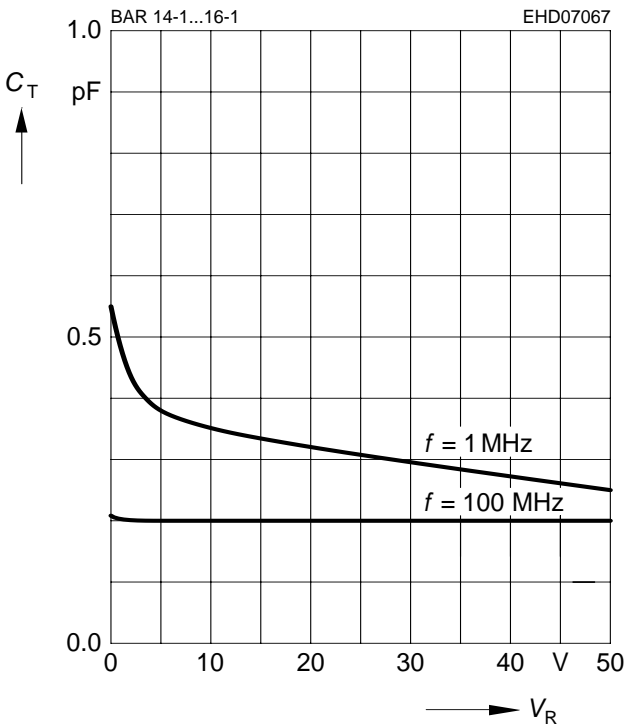
¹For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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	-	2600 300 35 5.5	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

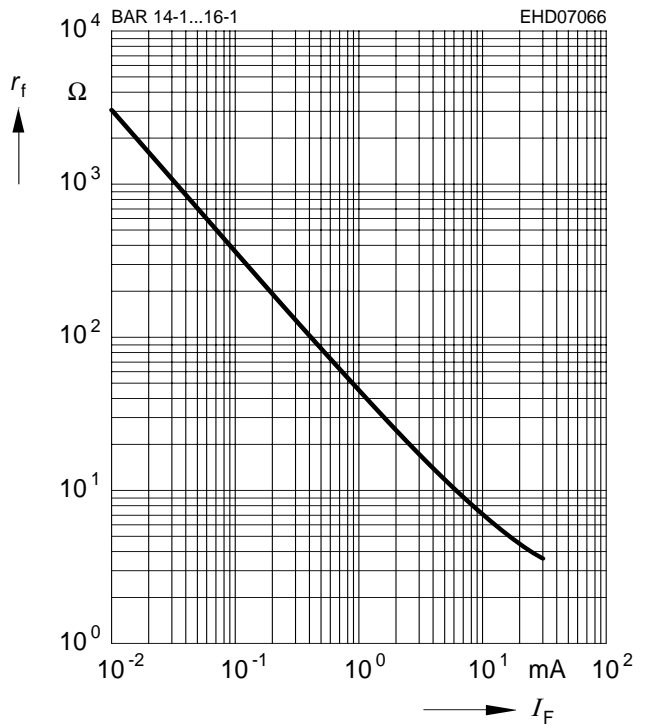
Diode capacitance $C_T = f(V_R)$

$f =$ Parameter



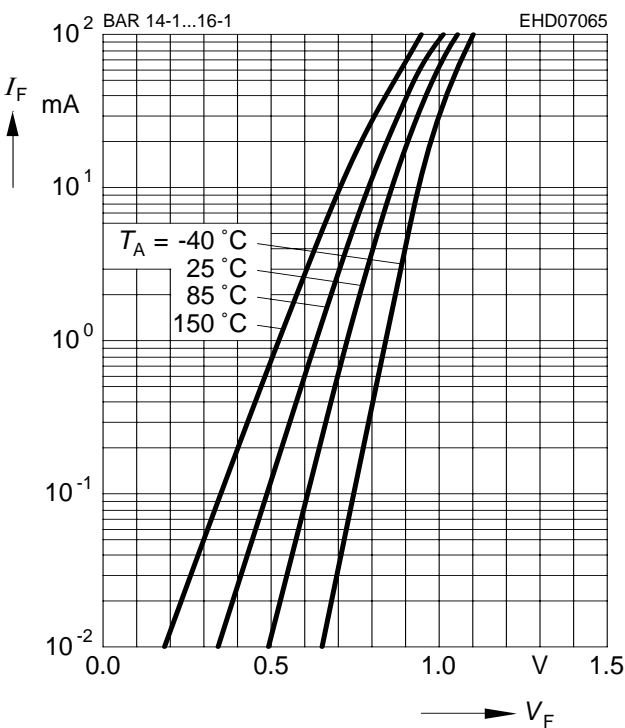
Forward resistance $r_f = f(I_F)$

$f = 100$ MHz



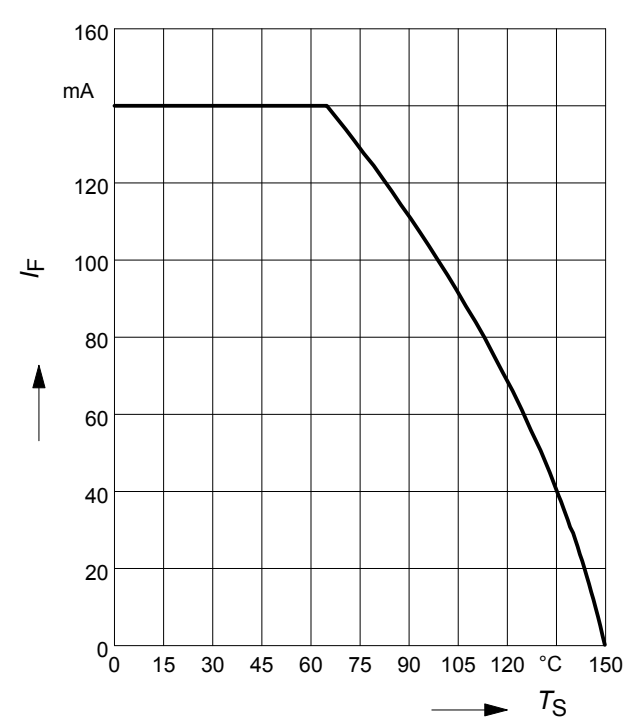
Forward current $I_F = f(V_F)$

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

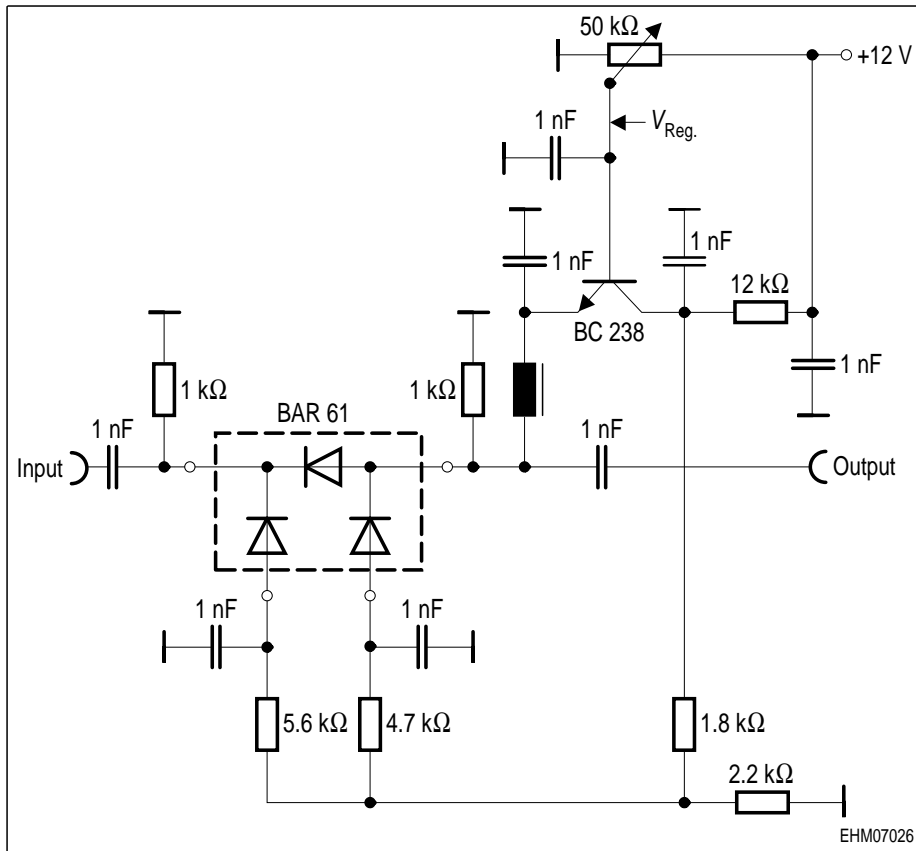


Forward current $I_F = f(T_S)$

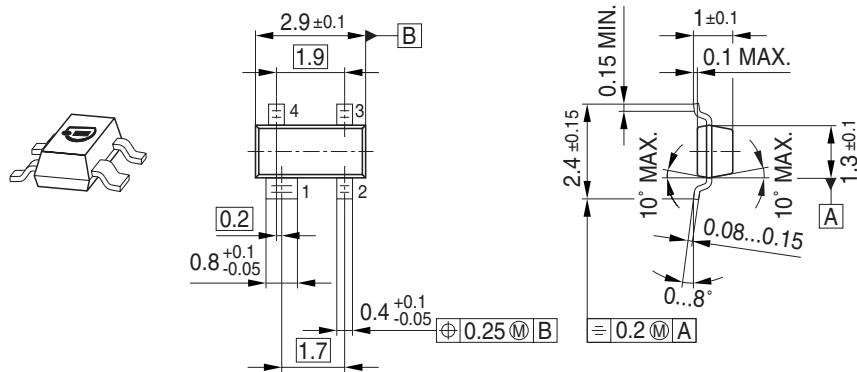
BAR14-1, BAR15-1, BAR16-1



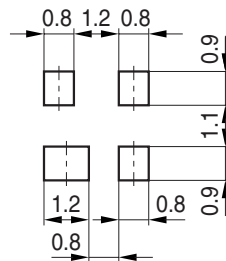
Application circuit for attenuation networks with diode BAR61



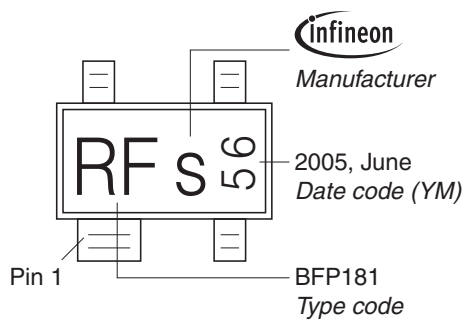
Package Outline



Foot Print

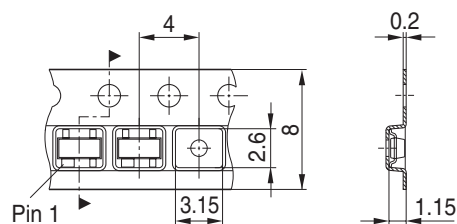


Marking Layout (Example)



Standard Packing

Reel $\phi 180 \text{ mm} = 3.000 \text{ Pieces/Reel}$
 Reel $\phi 330 \text{ mm} = 10.000 \text{ Pieces/Reel}$

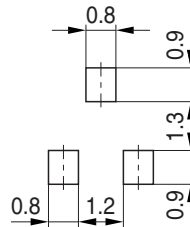


Package Outline

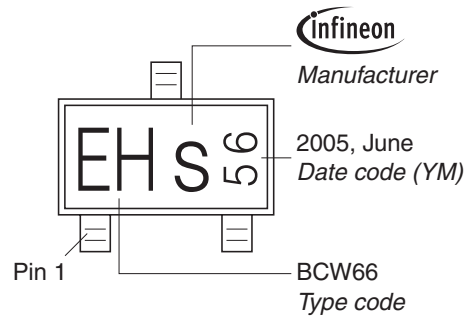


1) Lead width can be 0.6 max. in dambar area

Foot Print

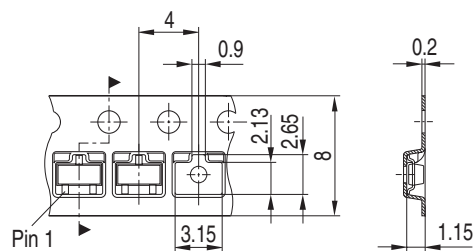


Marking Layout (Example)



Standard Packing

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



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