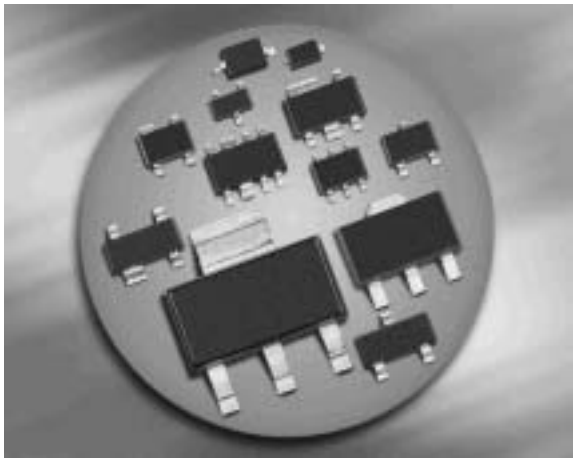
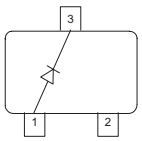
Silicon PIN Diode



- Current-controlled RF resistor
  for switching and attenuating applications
- Frequency range 1 MHz ... 2 GHz
- Especially useful as antenna switch
  in TV-sat tuners
- Very low harmonics
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101

AEC Qualified RoHS

BA779



Type	Package	Configuration	L_S(nH)	Marking
BA779	SOT 23	single	1.8	PA

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	50	V
Forward current	I_F	50	mA
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[2)]	R_{thJS}	≤ 370	K/W

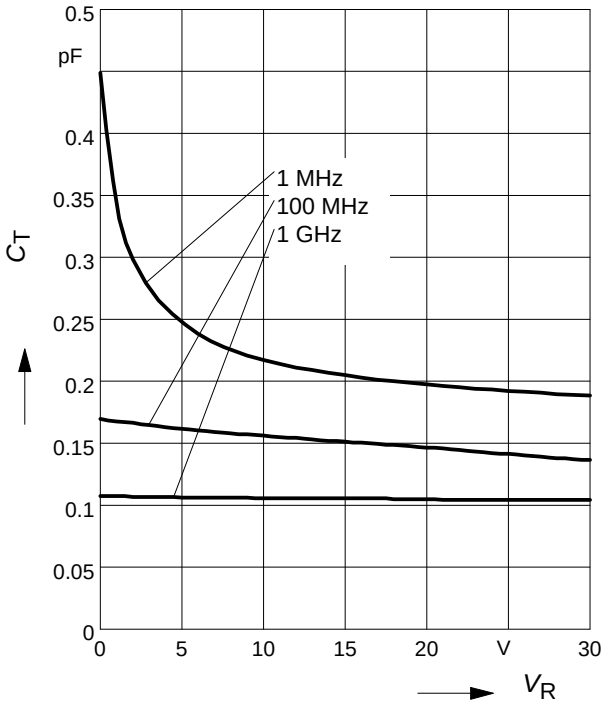
[1]Pb-containing package may be available upon special request
[2]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 30 V	I_R	-	-	20	nA
Forward voltage I_F = 50 mA	V_F	-	-	1.1	V
AC Characteristics					
Diode capacitance V_R = 0 V, f = 100 MHz V_R = 10 V, f = 1 MHz	C_T	 - -	 0.26 0.22	 0.4 0.6	pF
Reverse parallel resistance V_R = 1 V, f = 100 MHz V_R = 0 V, f = 1 GHz	R_P	 - -	 50 10	 - -	kΩ
Forward resistance I_F = 1.5 mA, f = 100 MHz I_F = 10 mA, f = 100 MHz	r_f	 - -	 22 4.5	 40 7	Ω
Charge carrier life time I_F = 10 mA, I_R = 6 mA, measured at I_R = 3 mA, R_L = 100 Ω	τ_{rr}	-	1600	-	nS
I-region width	W_I	-	130	-	µm

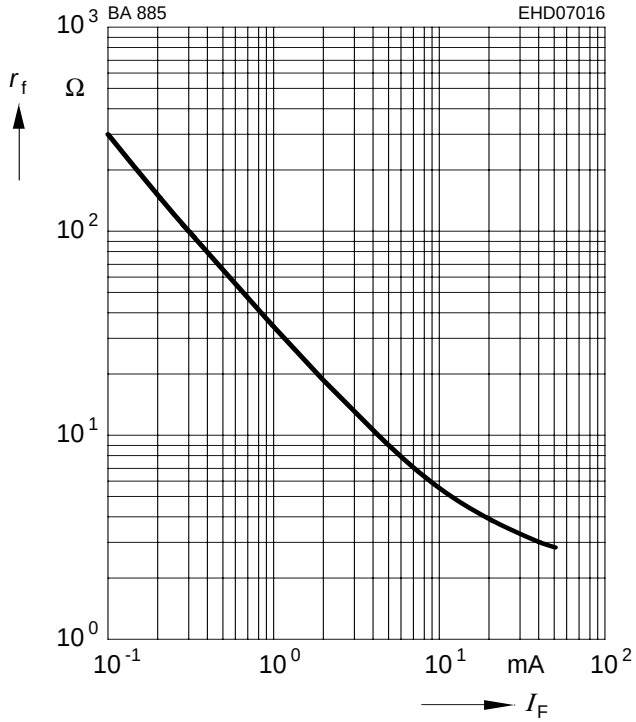
Diode capacitance $C_T = f(V_R)$

f = 1MHz

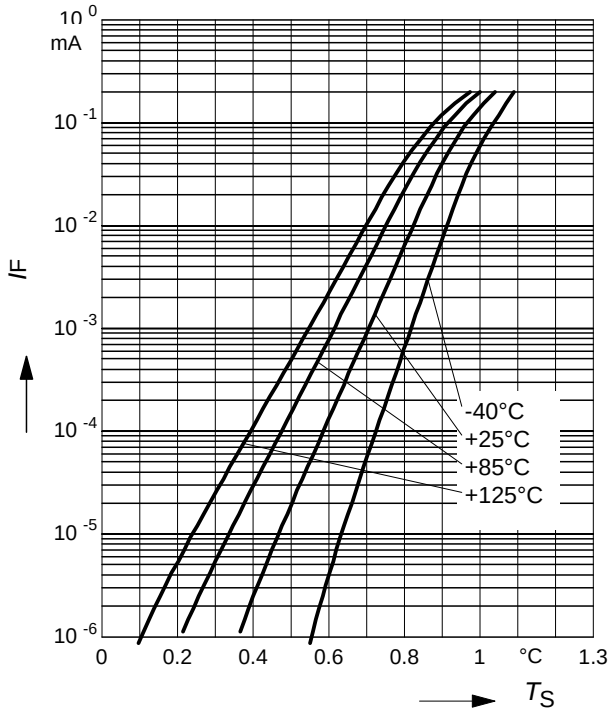


Forward resistance $r_f = f(I_F)$

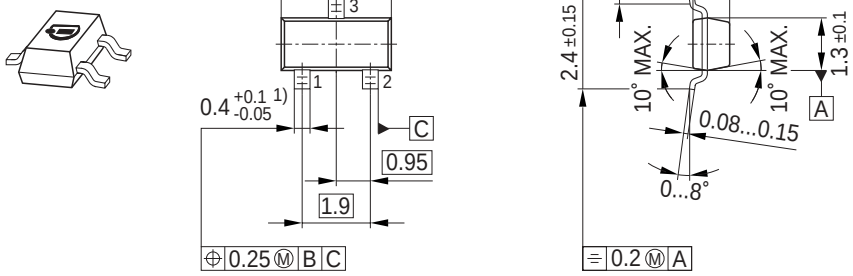
f = 1MHz



Forward current $I_F = f(V_F)$

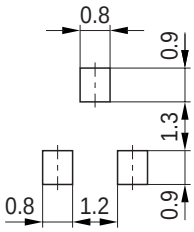


Package Outline

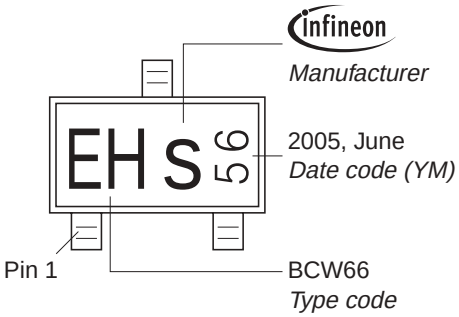


1) Lead width can be 0.6 max. in dambar area

Foot Print

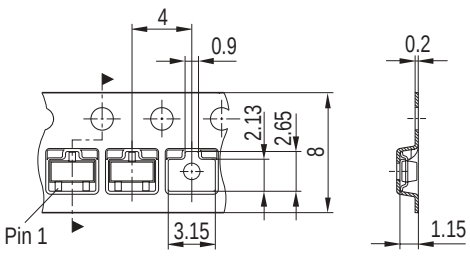


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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