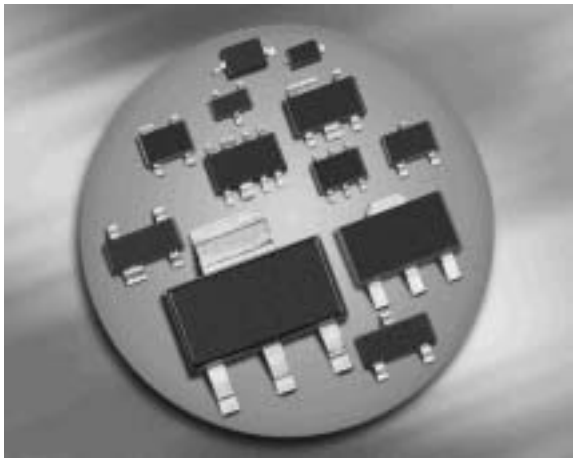
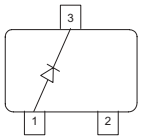
Silicon Schottky Diode

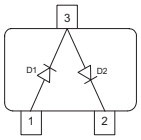
- For mixer applications in VHF/UHF range
- For high-speed switching application
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



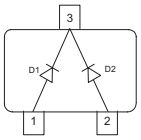
BAT17



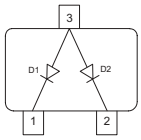
BAT17-04
BAT17-04W



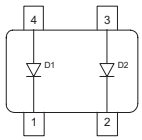
BAT17-05
BAT17-05W



BAT17-06W



BAT17-07



ESD (**E**lectro**s**tatic **d**ischarge) sensitive device, observe handling precaution!

Type	Package	Configuration	L_S(nH)	Marking
BAT17	SOT23	single	1.8	53s
BAT17-04	SOT23	series	1.8	54s
BAT17-04W	SOT323	series	1.4	54s
BAT17-05	SOT23	common cathode	1.8	55s
BAT17-05W	SOT323	common cathode	1.4	55s
BAT17-06W	SOT323	common anode	1.4	56s
BAT17-07	SOT143	parallel pair	2	57s

[1]Pb-containing package may be available upon special request

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	4	V
Forward current	I_F	130	mA
Total power dissipation	P_{tot}		mW
BAT17, $T_S \leq$ 77°C		150	
BAT17-04, $T_S \leq$ 61°C		150	
BAT17-05, $T_S \leq$ 46°C		150	
BAT17-04W, -05W, -6W, $T_S \leq$ 92 °C		150	
BAT17-07, $T_S \leq$ 60 °C		150	
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}		K/W
BAT17		≤ 490	
BAT17-04, BAT17-07		≤ 590	
BAT17-05		≤ 690	
BAT17-04W, BAT17-05W, BAT17-06W		≤ 390	

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

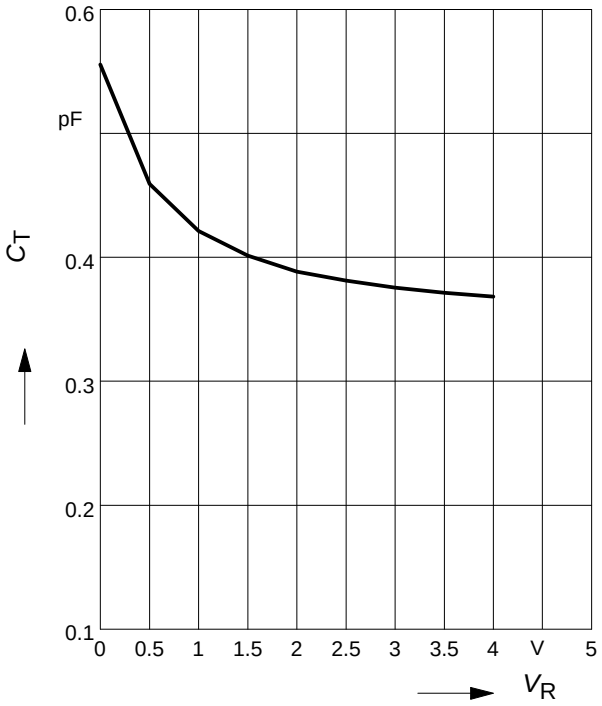
Electrical Characteristics at T_A = 25°C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)}$ = 10 µA	$V_{(BR)}$	4	-	-	V
Reverse current	I_R				µA
V_R = 3 V		-	-	0.25	
V_R = 4 V		-	-	10	
V_R = 3 V, T_A = 60 °C		-	-	1.25	
Forward voltage	V_F				mV
I_F = 0.1 mA		200	275	350	
I_F = 1 mA		250	340	450	
I_F = 10 mA		350	425	600	
Forward voltage matching[1)]	ΔV_F	-	-	20	
I_F = 1 mA					
AC Characteristics					
Diode capacitance V_R = 0 , f = 1 MHz	C_T	0.4	0.55	0.75	pF
Differential forward resistance I_F = 5 mA, f = 10 kHz	R_F	-	8	15	Ω

[1] ΔV_F is the difference between lowest and highest V_F in multiple diode component.

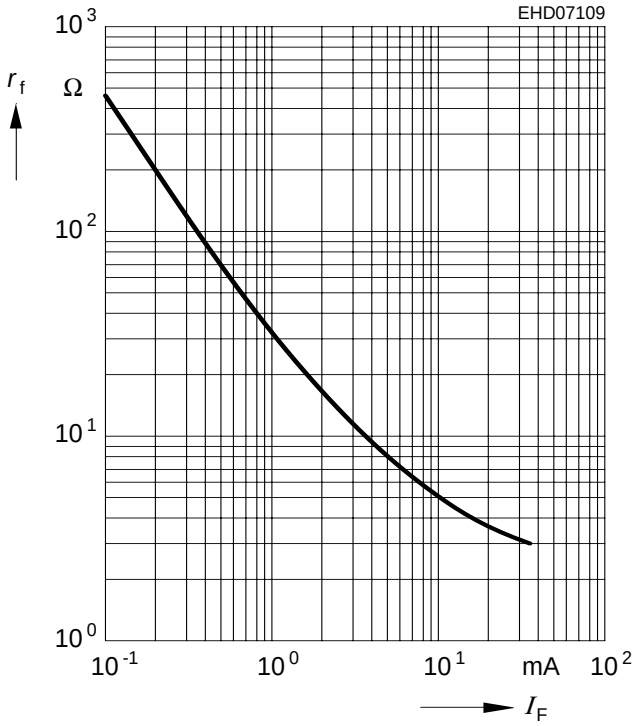
Diode capacitance $C_T = f(V_R)$

f = 1MHz



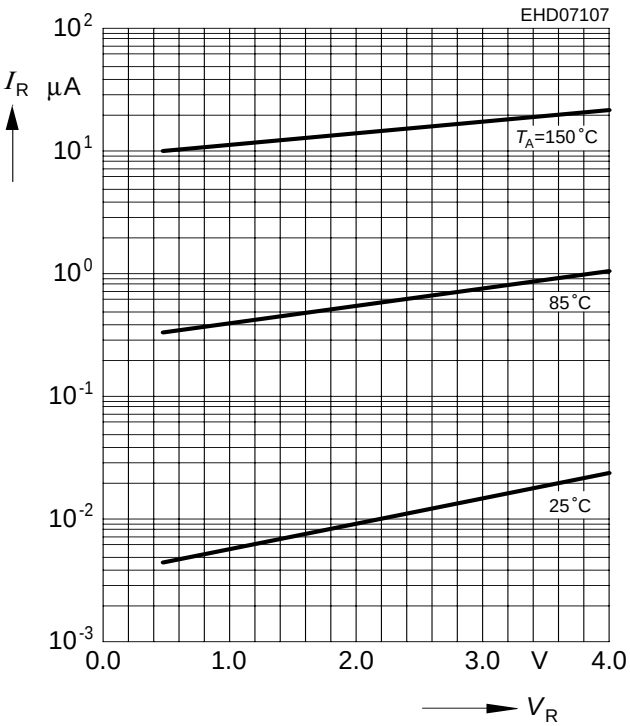
Forward resistance $r_f = f(I_F)$

f = 10kHz



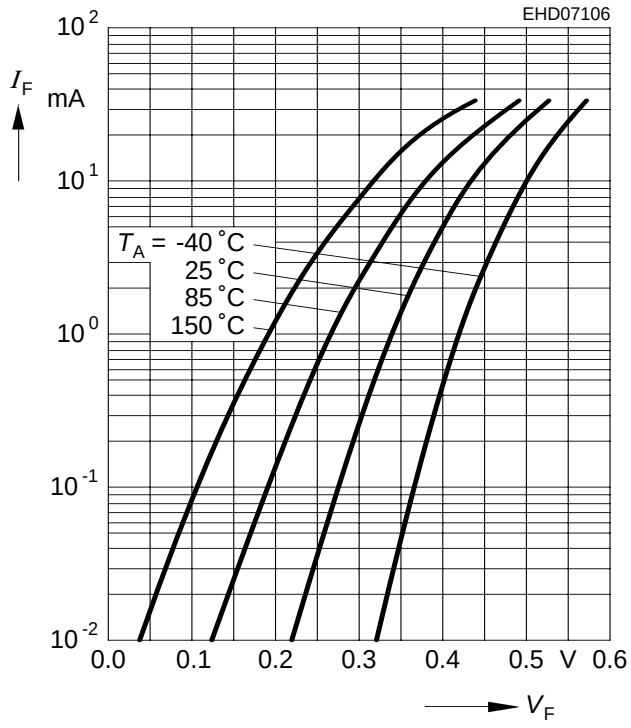
Reverse current $I_R = f(V_R)$

T_A = Parameter



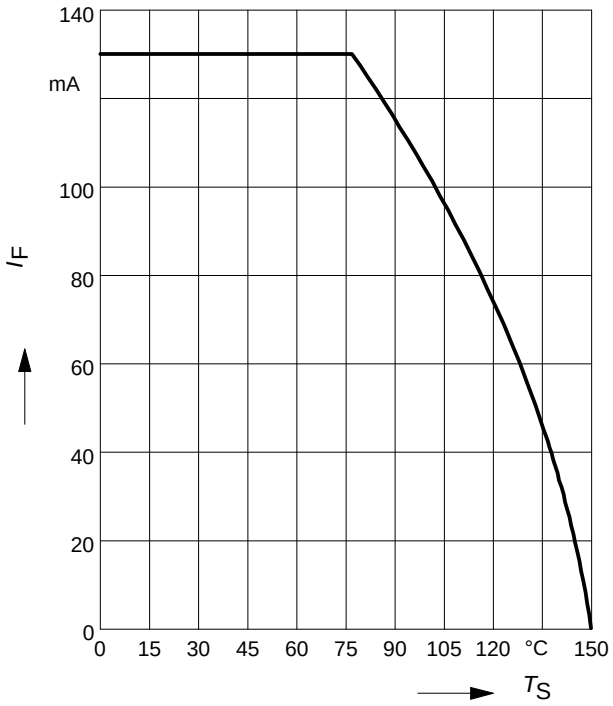
Forward current $I_F = f(V_F)$

T_A = Parameter



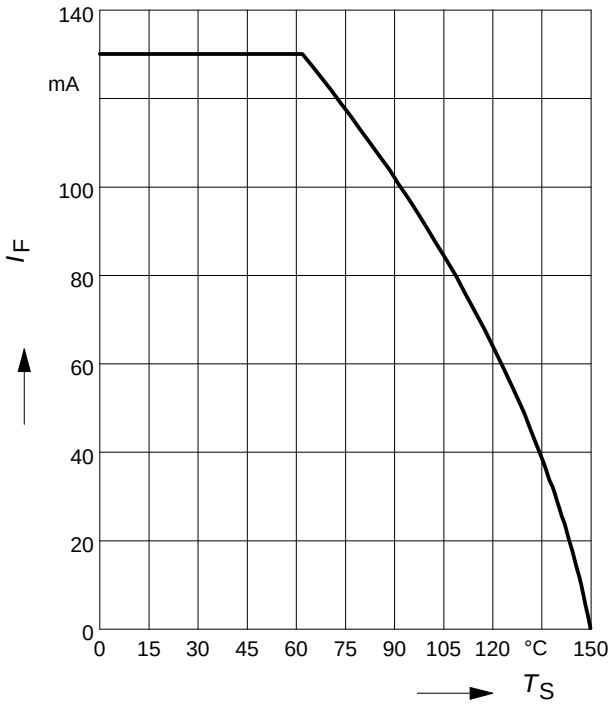
Forward current $I_F = f(T_S)$

BAT17



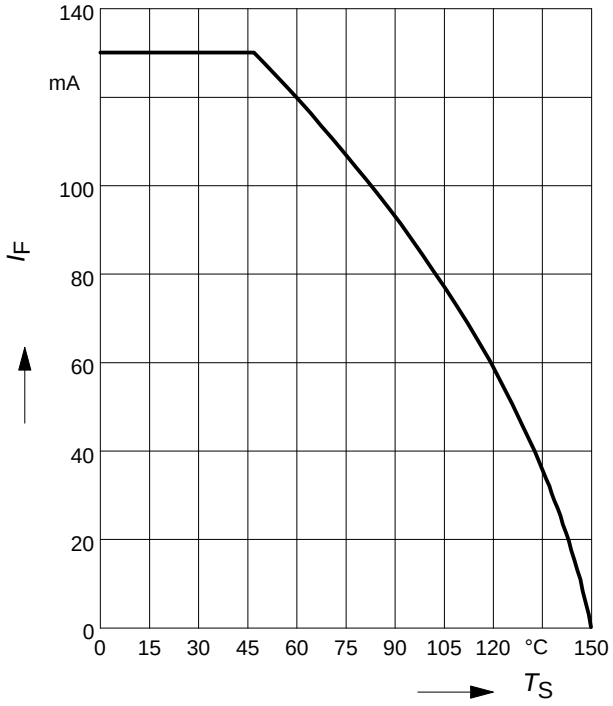
Forward current $I_F = f(T_S)$

BAT17-04, BAT17-07

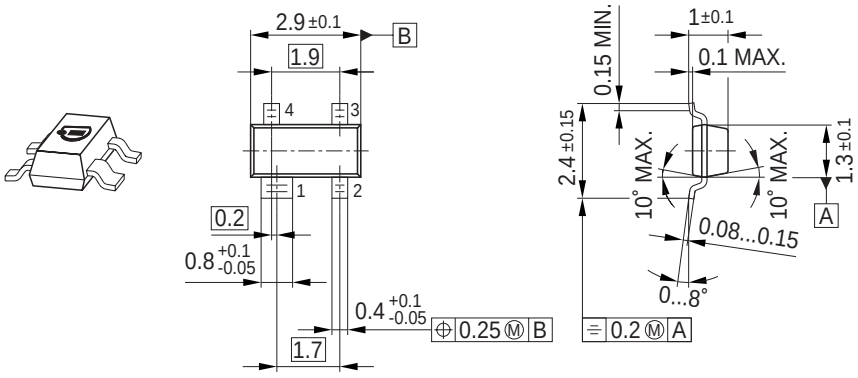


Forward current $I_F = f(T_S)$

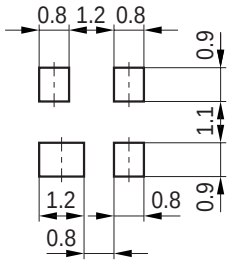
BAT17-05



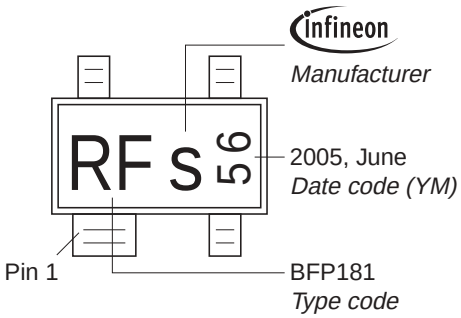
Package Outline



Foot Print

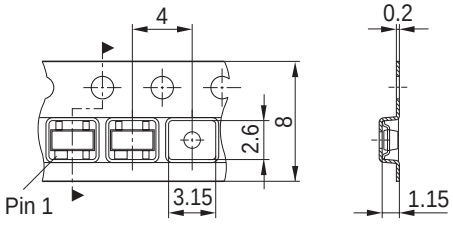


Marking Layout (Example)

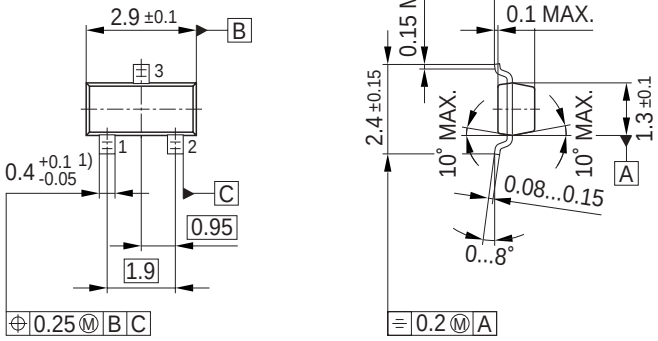


Standard Packing

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

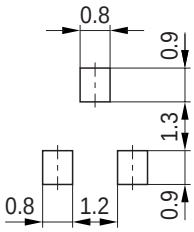


Package Outline

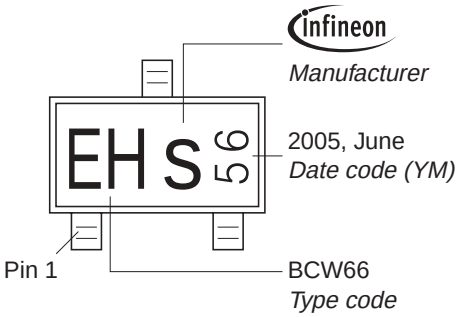


1) Lead width can be 0.6 max. in dambar area

Foot Print



Marking Layout (Example)



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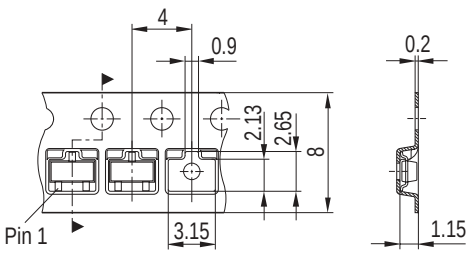
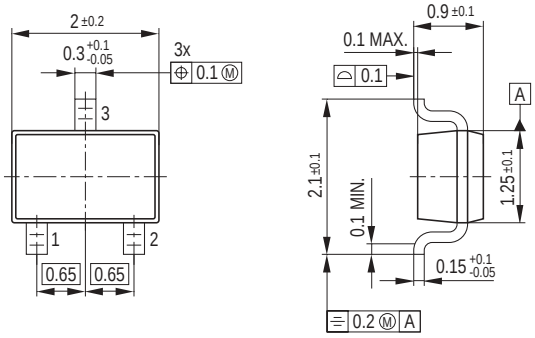


Package Outline



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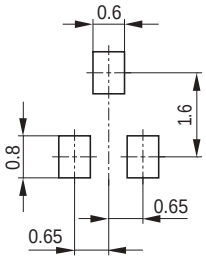
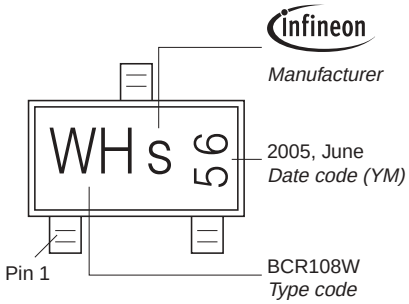


Marking Layout (Example)



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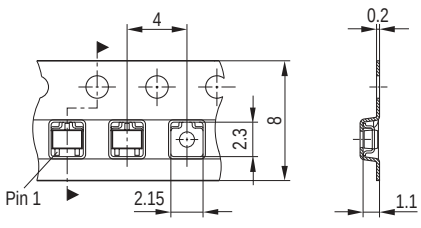

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