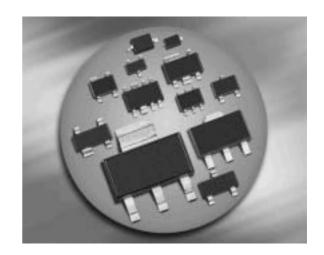


Silicon RF Switching Diode

- Low-loss VHF / UHF switch above 10 MHz
- PIN diode with low forward resistance
- Pb-free (RoHS compliant) package 1)
- Qualified according AEC Q101





BAT18-04 BAT18-05





Туре	Package	Configuration	L S(nH)	Marking
BAT18-04	SOT23	series	1.8	AUs
BAT18-05	SOT23	common cathode	1.8	ASs

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_{R}	35	V
Forward current	I _F	100	mA
Junction temperature	T_{i}	150	°C
Operating temperature range	Top	-55 125	
Storage temperature	T _{stg}	-55 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ²⁾	R _{thJS}	≤ 290	K/W
BAT18-04, BAT18-05			

1

¹Pb-containing package may be available upon special request

 $^{^2}$ For calculation of R_{thJA} please refer to Application Note Thermal Resistance



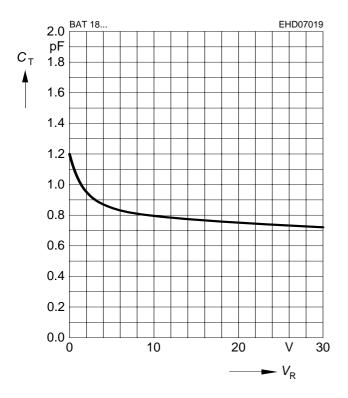
Electrical Characteristics at $T_A = 25$ °C, unless otherwise specified

Parameter	Symbol		Values		
		min.	typ.	max.	
DC Characteristics		•	•	•	
Reverse current	I _R				nA
$V_{R} = 20 \text{ V}$		-	-	20	
$V_{R} = 20 \text{ V}, T_{A} = 60 ^{\circ}\text{C}$		-	-	200	
Forward voltage	V _F	-	0.92	1.2	V
<i>I</i> _F = 100 mA					
AC Characteristics					
Diode capacitance	C _T	-	0.75	1	pF
$V_{R} = 20 \text{ V}, f = 1 \text{ MHz}$					
Forward resistance	r _f	-	0.4	0.7	Ω
$I_{\rm F} = 5 \text{ mA}, f = 100 \text{ MHz}$					
Charge carrier life time	τ _{rr}	-	120	-	ns
$I_{\rm F}$ = 10 mA, $I_{\rm R}$ = 6 mA, measured at $I_{\rm R}$ = 3 mA ,					
R_{L} = 100 Ω					
I-region width	W _I	-	3	-	μm



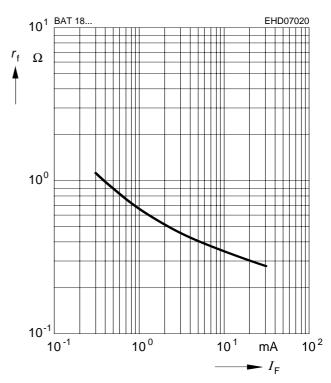
Diode capacitance $C_T = f(V_R)$

f = 1MHz



Forward resistance $r_f = f(I_F)$

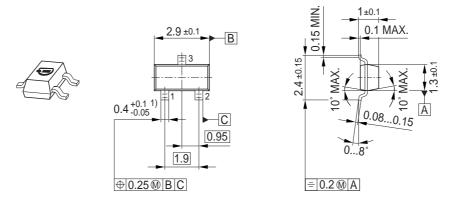
f = 100MHz



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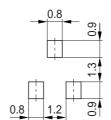


Package Outline

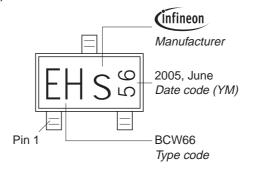


1) Lead width can be 0.6 max. in dambar area

Foot Print

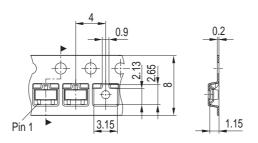


Marking Layout (Example)



Standard Packing

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



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