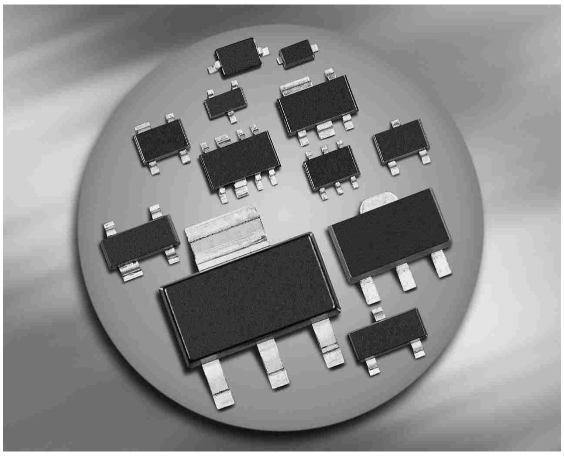
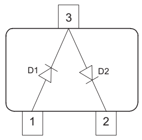
Silicon RF Switching Diode

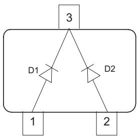
- Low-loss VHF / UHF switch above 10 MHz
- PIN diode with low forward resistance



BAT18-04



BAT18-05



Type	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_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)] BAT18-04, BAT18-05	R_{thJS}	≤ 290	K/W

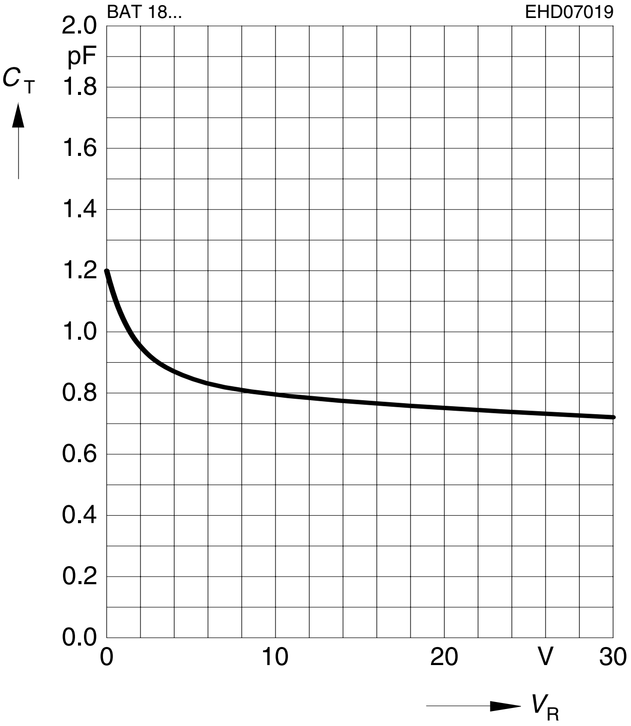
[1] For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	**Symbol**	**Values**			**Unit**
		min.	**typ.**	**max.**	
DC Characteristics					
Reverse current	I_R				nA
V_R = 20 V		-	-	20	
V_R = 20 V, T_A = 60 °C		-	-	200	
Forward voltage I_F = 100 mA	V_F	-	0.92	1.2	V
AC Characteristics					
Diode capacitance V_R = 20 V, f = 1 MHz	C_T	-	0.75	1	pF
Forward resistance I_F = 5 mA, f = 100 MHz	r_f	-	0.4	0.7	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}	-	120	-	ns
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