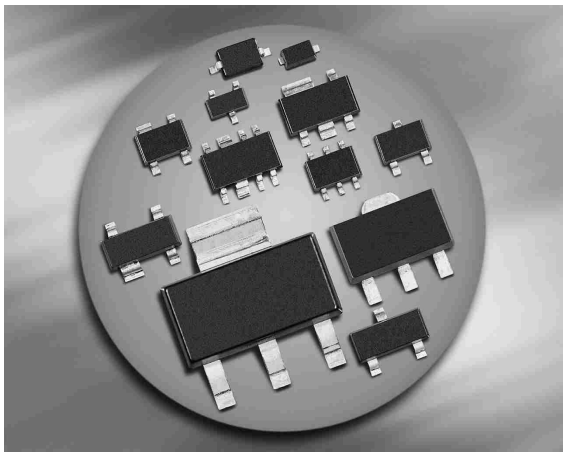
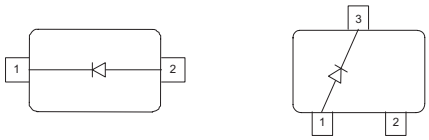
Silicon PIN Diode

- 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



BA595 **BA885**
BA895



Type	Package	Configuration	L_S(nH)	Marking
BA595	SOD323	single	1.8	white R
BA885	SOT23	single	1.8	PA
BA895	SCD80	single	0.8	RA

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[1)]	R_{thJS}		K/W
BA595, BA885		≤ 370	
BA895		≤ 95	

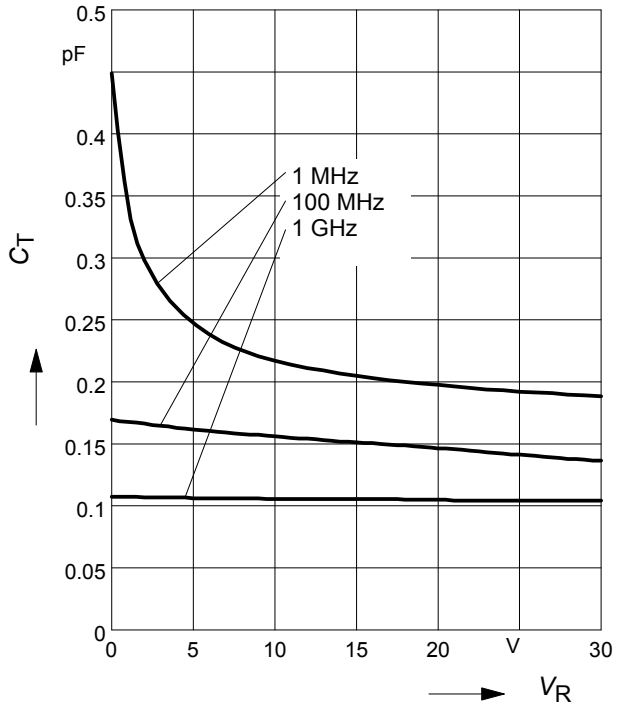
[1]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current V_R = 30 V	I_R	-	-	50	nA
Forward voltage I_F = 50 mA	V_F	-	-	1.1	V
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 0 V, f = 100 MHz		-	0.26	0.4	
V_R = 10 V, f = 1 MHz		-	0.22	0.6	
Reverse parallel resistance	R_P				kΩ
V_R = 1 V, f = 100 MHz		-	100	-	
V_R = 0 V, f = 1 GHz		-	10	-	
Forward resistance	r_f				Ω
I_F = 1.5 mA, f = 100 MHz		-	22	40	
I_F = 10 mA, f = 100 MHz		-	4.5	7	
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

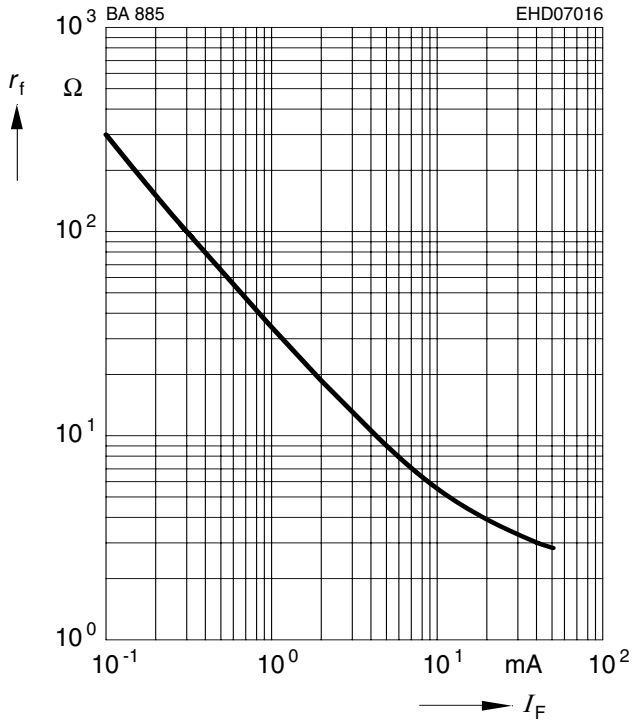
Diode capacitance $C_T = f(V_R)$

f = Parameter



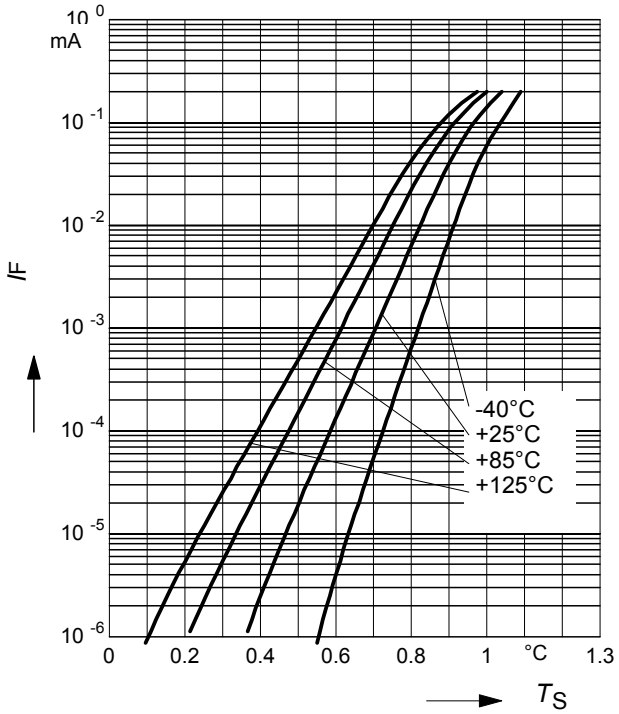
Forward resistance $r_f = f(I_F)$

f = Parameter



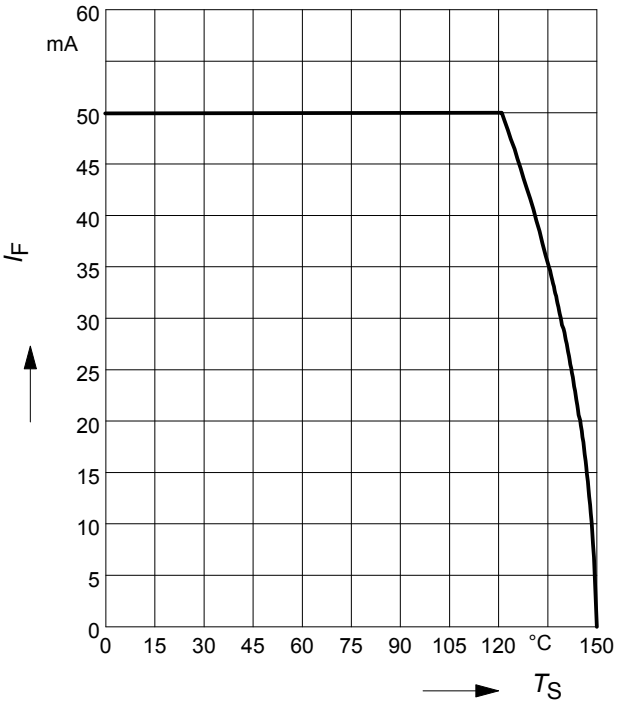
Forward current $I_F = f(V_F)$

T_A = Parameter



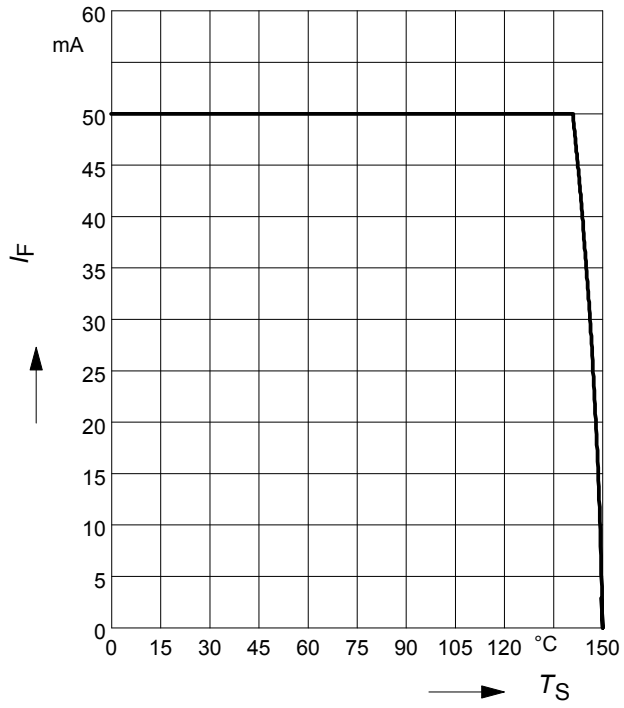
Forward current $I_F = f(T_S)$

BA595



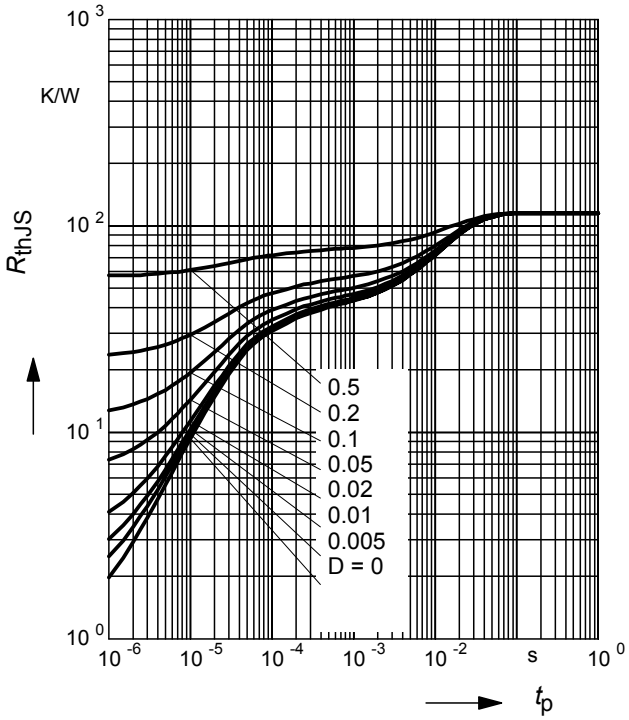
Forward current $I_F = f(T_S)$

BA895



Permissible Puls Load $R_{thJS} = f(t_p)$

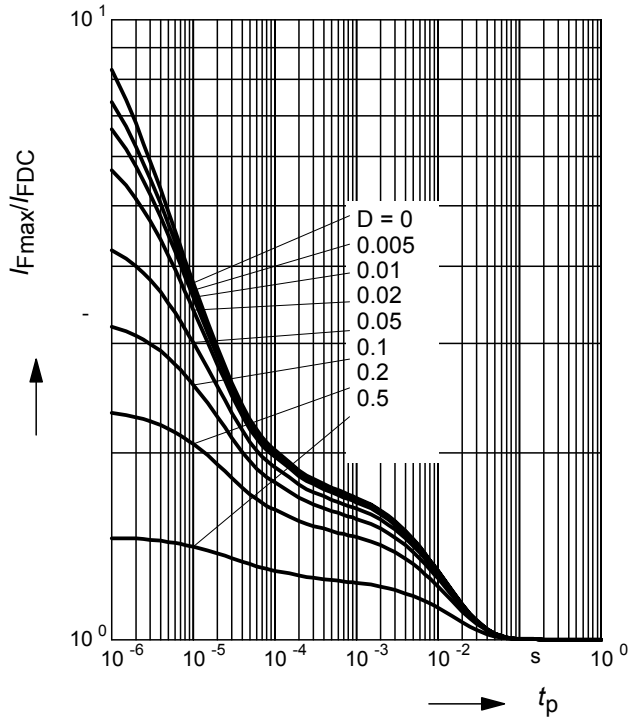
BA595



Permissible Pulse Load

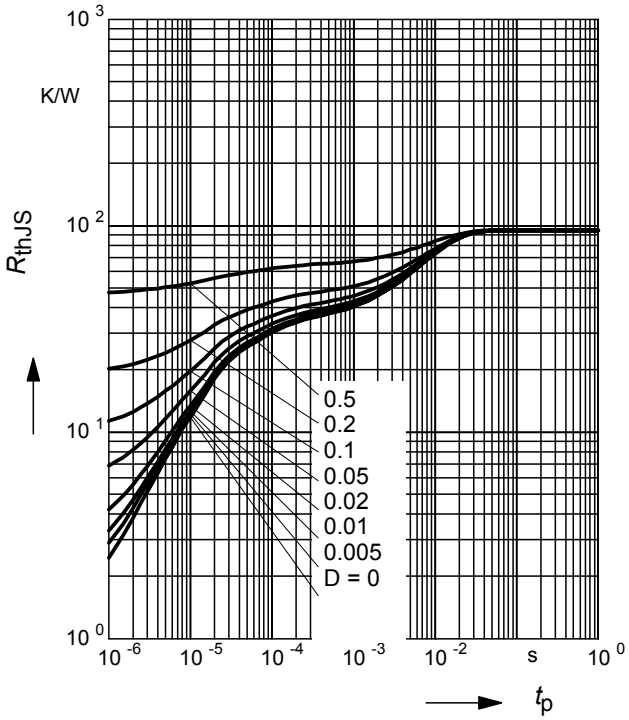
$I_{Fmax}/ I_{FDC} = f(t_p)$

BA595



Permissible Puls Load $R_{thJS} = f(t_p)$

BA595



Permissible Pulse Load

$I_{Fmax}/ I_{FDC} = f (t_p)$

BA895