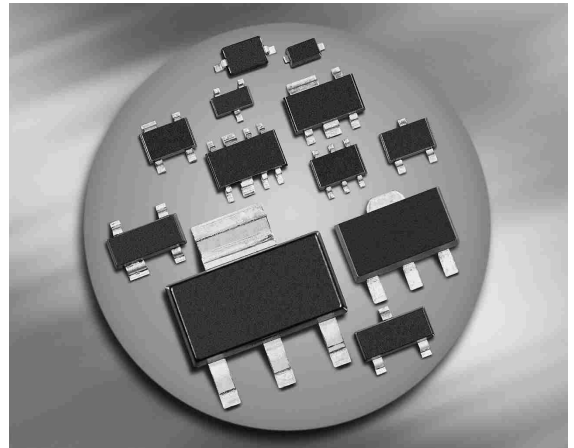


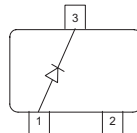
Silicon PIN Diode

- 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
BA895

BA885



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 $T_A = 25^\circ\text{C}$, 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	$^\circ\text{C}$
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	

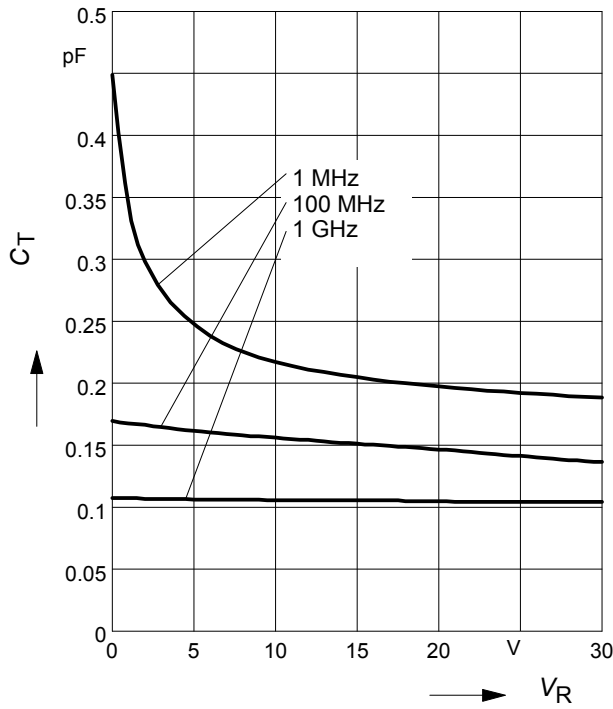
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

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

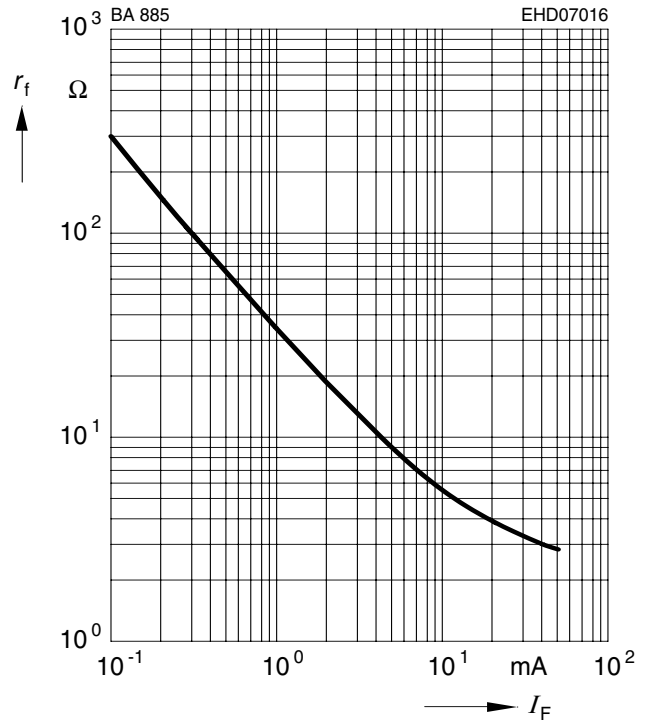
Diode capacitance $C_T = f(V_R)$

f = Parameter



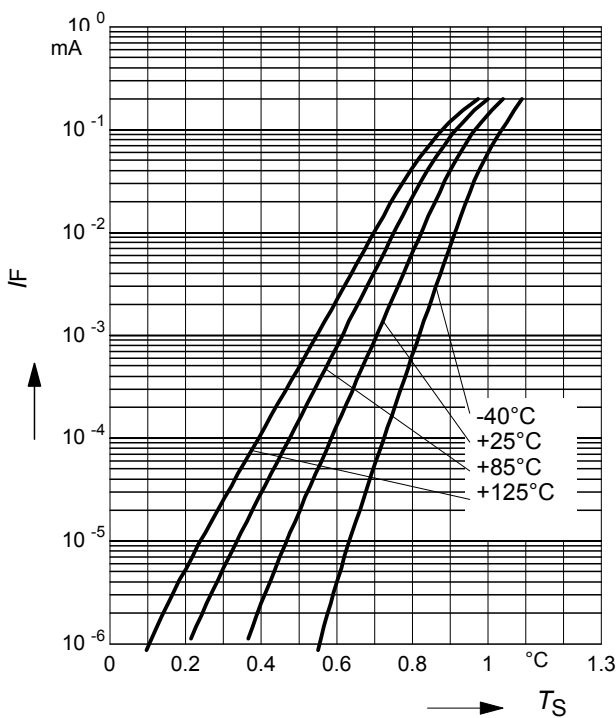
Forward resistance $r_f = f(I_F)$

f = Parameter



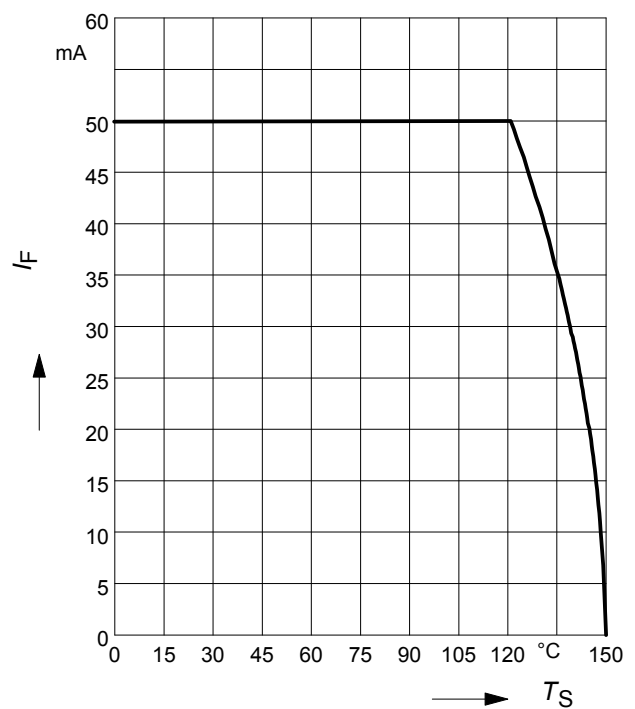
Forward current $I_F = f(V_F)$

T_A = Parameter



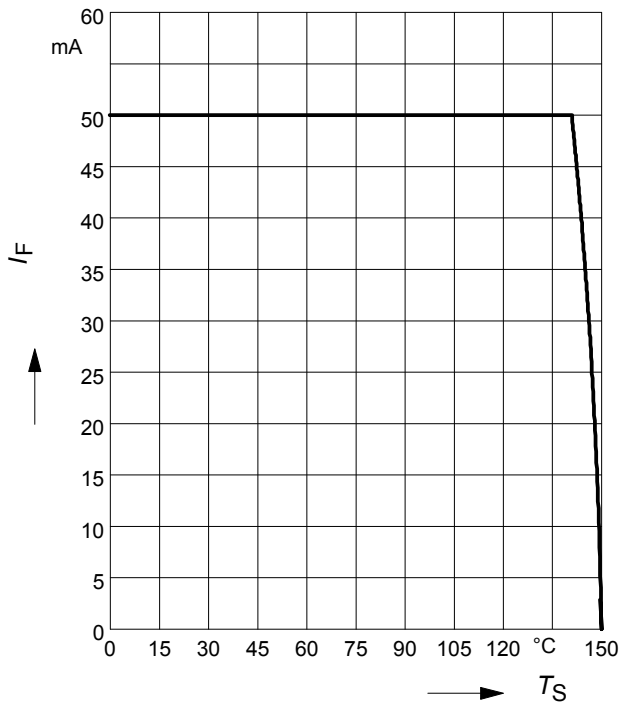
Forward current $I_F = f(T_S)$

BA595



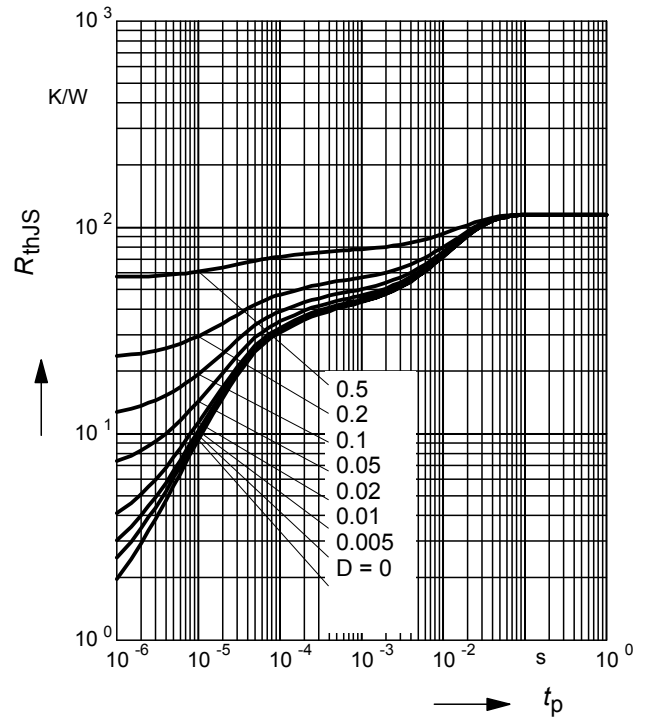
Forward current $I_F = f(T_S)$

BA895



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

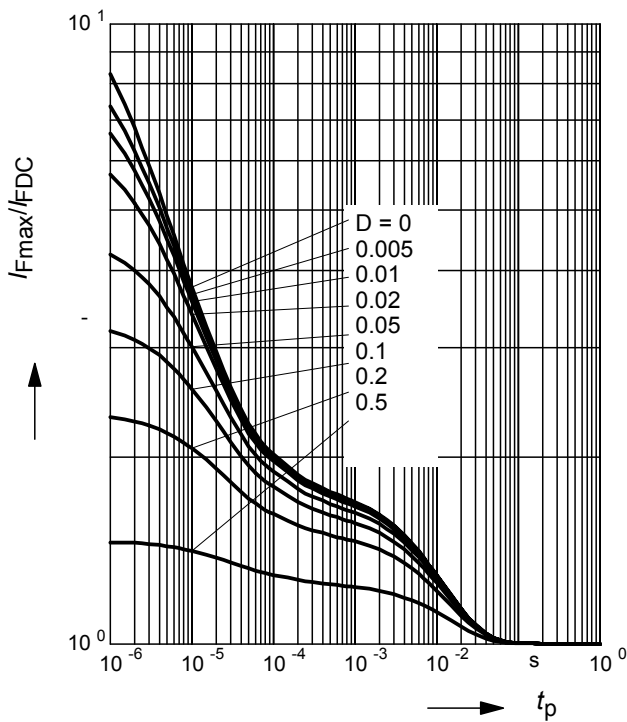
BA595



Permissible Pulse Load

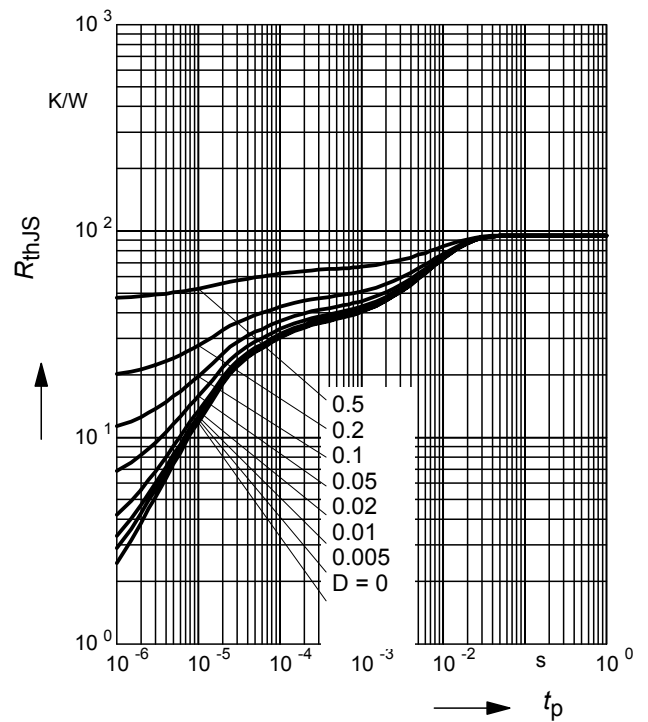
$I_{Fmax}/I_{FDC} = f(t_p)$

BA595



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

BA595



Permissible Pulse Load

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

BA895

