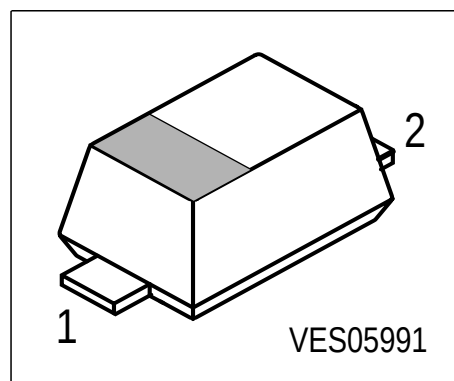


Silicon RF Switching Diode

- Low loss, low capacitance PIN-diode
- Band switch for TV-tuners
- Series diode for mobile communication transmit-receiver switch



Type	Marking	Pin Configuration		Package
BAR65-02W	N	1 = C	2 = A	SCD80

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	30	V
Forward current	I_F	100	mA
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Junction - soldering point ¹⁾	R_{thJS}	≤ 130	K/W
--	------------	------------	-----

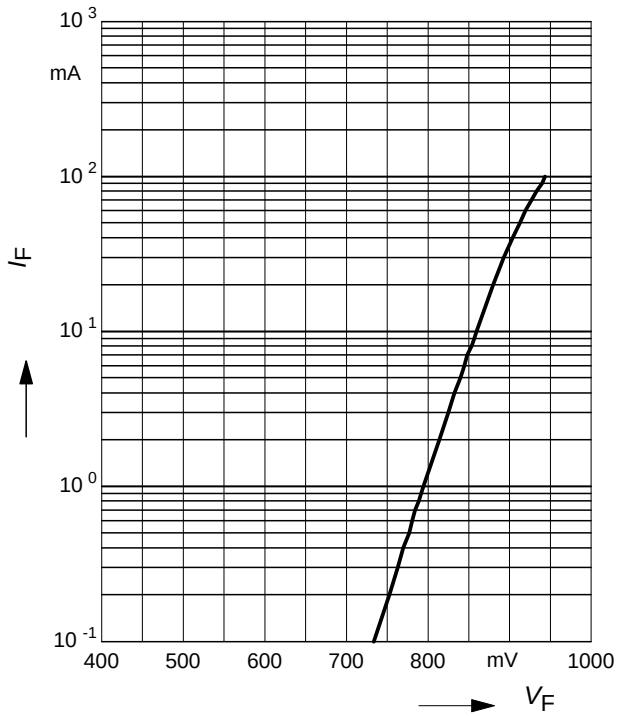
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current $V_R = 20\text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	0.93	1	V
AC Characteristics					
Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 3\text{ V}, f = 1\text{ MHz}$	C_T	- -	0.6 0.57	0.9 0.8	pF
Forward resistance $I_F = 5\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	r_f	- -	0.65 0.56	0.95 0.9	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}, I_R = 3\text{ mA}$	τ_{rr}	-	80	-	ns
Series inductance	L_S	-	0.6	-	nH

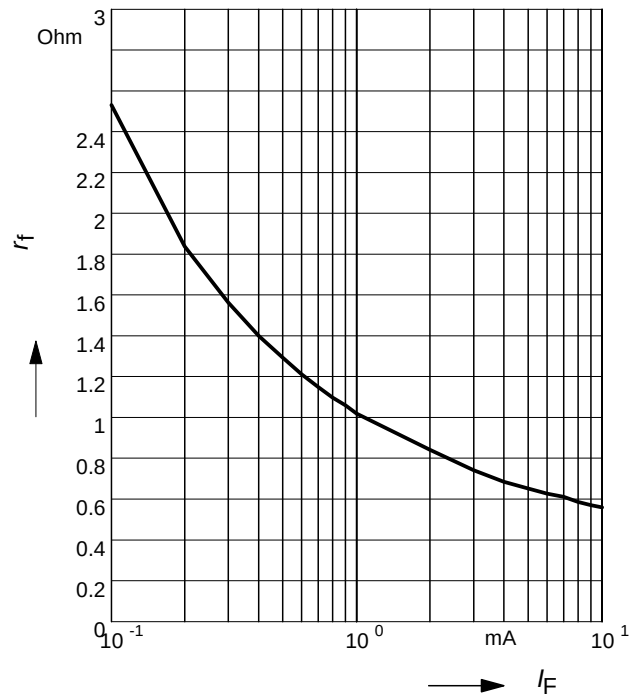
Forward current $I_F = f(V_F)$

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



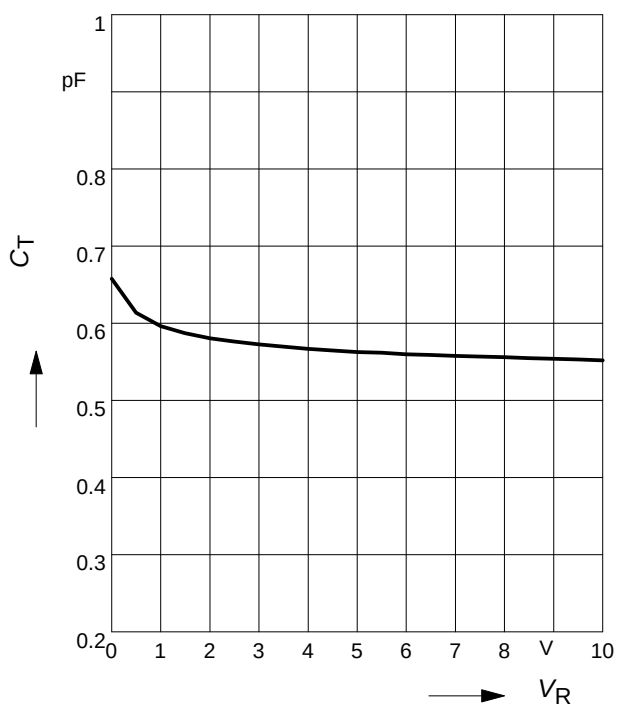
Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



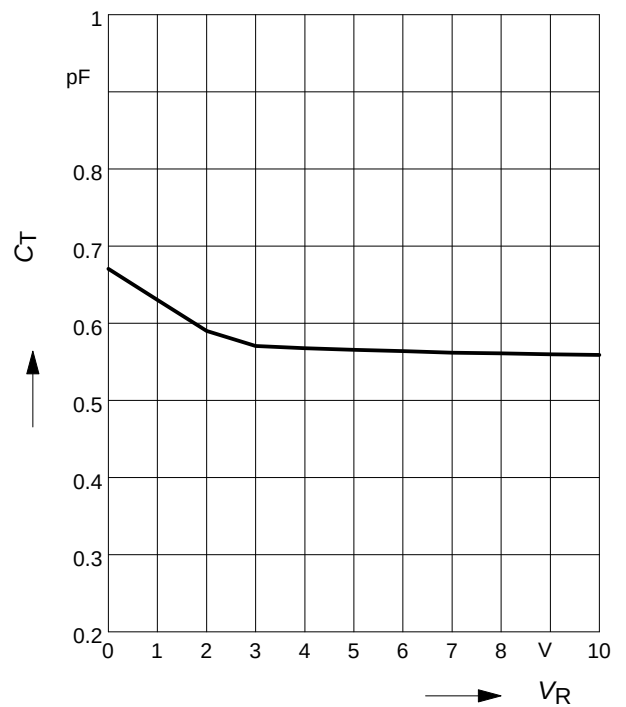
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

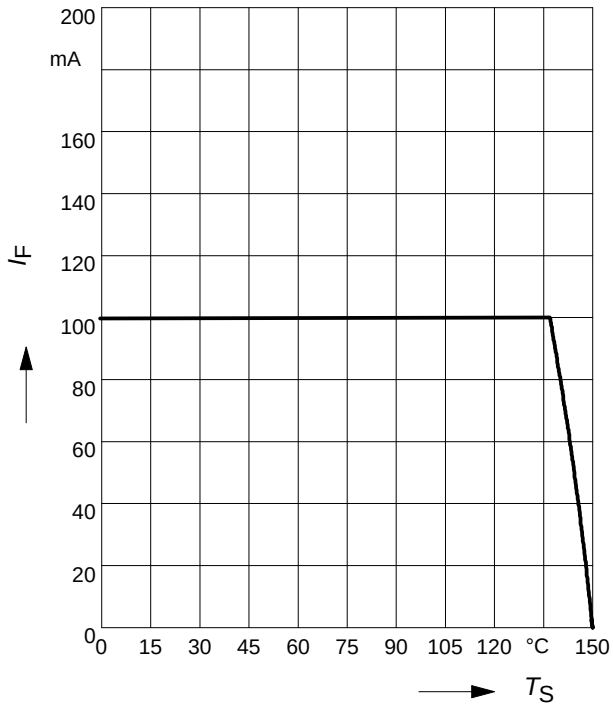


Diode capacitance $C_T = f(V_R)$

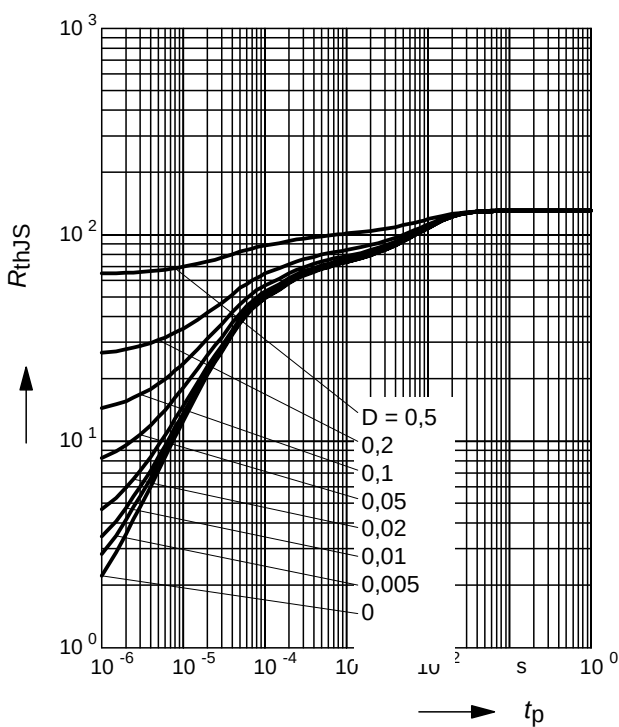
$f = 100\text{MHz}$



Forward current $I_F = f(T_S)$



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



Permissible Pulse Load

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

