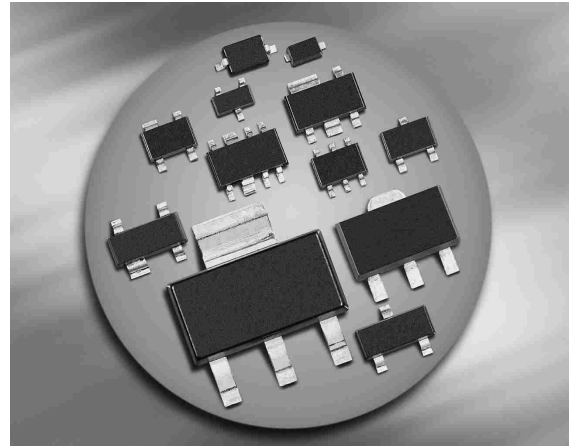
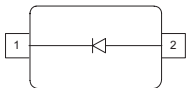


Silicon PIN Diode

- For low loss RF switches and attenuators
- Very low capacitance at zero volt reverse bias at frequencies above 1 GHz (typ. 0.25 pF)
- Low forward resistance (typ. 1.5 Ω @ 5mA)
- Low harmonics


BAR67-02V


Type	Package	Configuration	L_S (nH)	Marking
BAR67-02V	SC79	single	0.6	T

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	150	V
Forward current	I_F	200	mA
Total power dissipation $T_S \leq 118^\circ\text{C}$	P_{tot}	250	mW
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⁾ , BAR67-02V	R_{thJS}	≤ 115	K/W

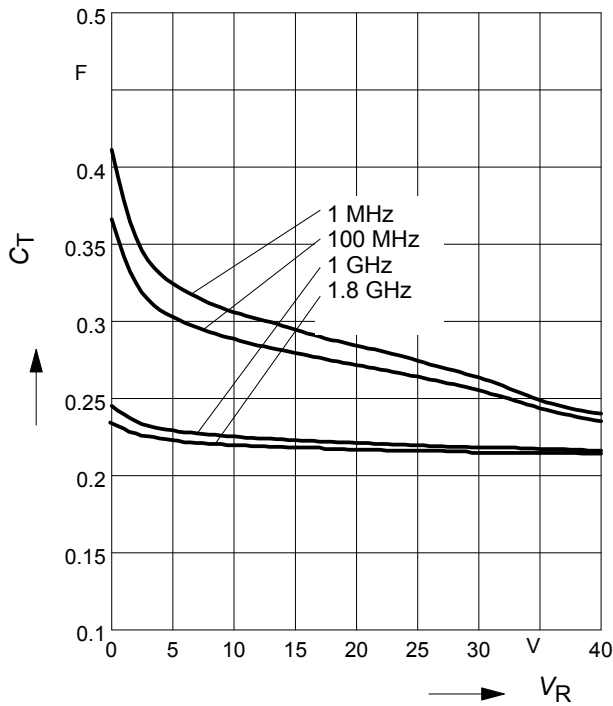
¹For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 5 \mu\text{A}$	$V_{(BR)}$	150	-	-	V
Reverse current $V_R = 100 \text{ V}$	I_R	-	-	20	nA
Forward voltage $I_F = 50 \text{ mA}$	V_F	-	0.95	1.2	V
AC Characteristics					
Diode capacitance $V_R = 5 \text{ V}, f = 1 \text{ MHz}$ $V_R = 0 \text{ V}, f = 100 \text{ MHz}$ $V_R = 0 \text{ V}, f = 1 \text{ GHz}$ $V_R = 0 \text{ V}, f = 1.8 \text{ GHz}$	C_T	-	0.35	0.55	pF
		-	0.35	0.9	
		-	0.25	-	
		-	0.23	-	
Reverse parallel resistance $V_R = 0 \text{ V}, f = 100 \text{ MHz}$ $V_R = 0 \text{ V}, f = 1 \text{ GHz}$ $V_R = 0 \text{ V}, f = 1.8 \text{ GHz}$	R_P	-	25	-	k Ω
		-	4	-	
		-	2.5	-	
Forward resistance $I_F = 5 \text{ mA}, f = 100 \text{ MHz}$ $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$	r_f	-	1.5	1.8	Ω
		-	1	-	
Charge carrier life time $I_F = 10 \text{ mA}, I_R = 6 \text{ mA}$, measured at $I_R = 3 \text{ mA}$, $R_L = 100 \Omega$	τ_{rr}	-	700	-	ns
I-region width	W_I	-	13	-	μm

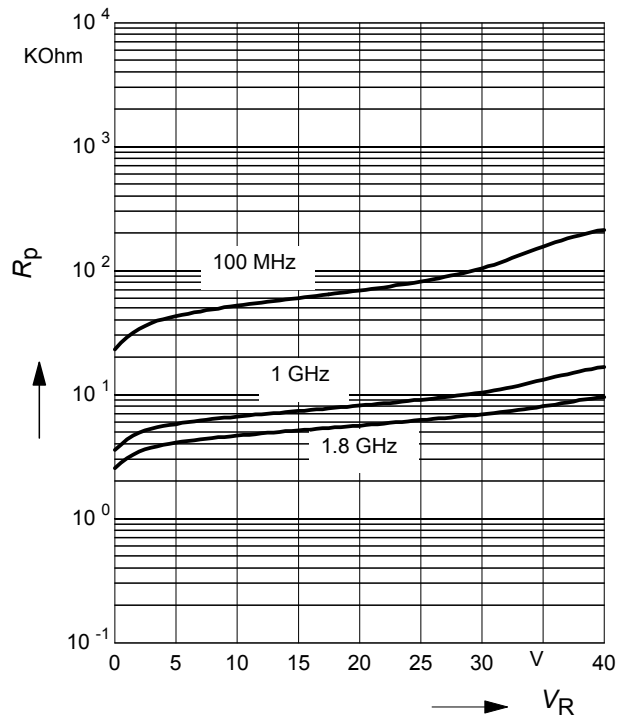
Diode capacitance $C_T = f(V_R)$

$f =$ Parameter



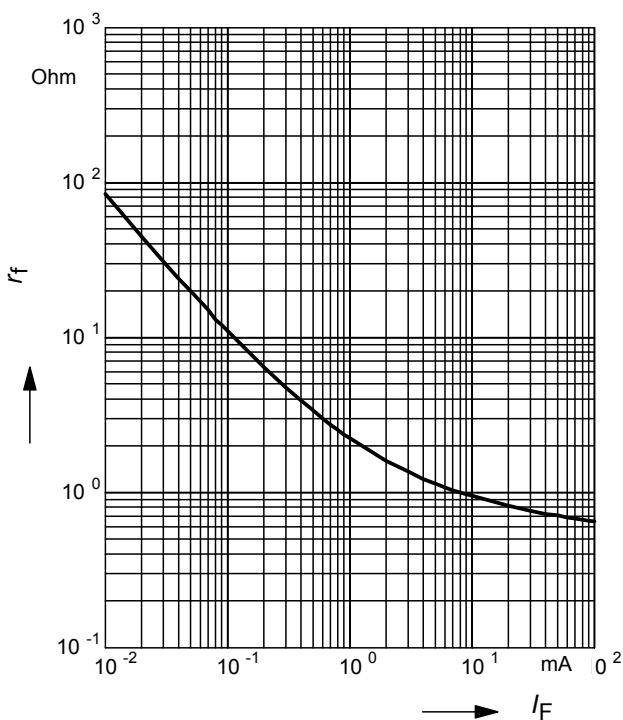
Reverse parallel resistance $R_P = f(V_R)$

$f =$ Parameter



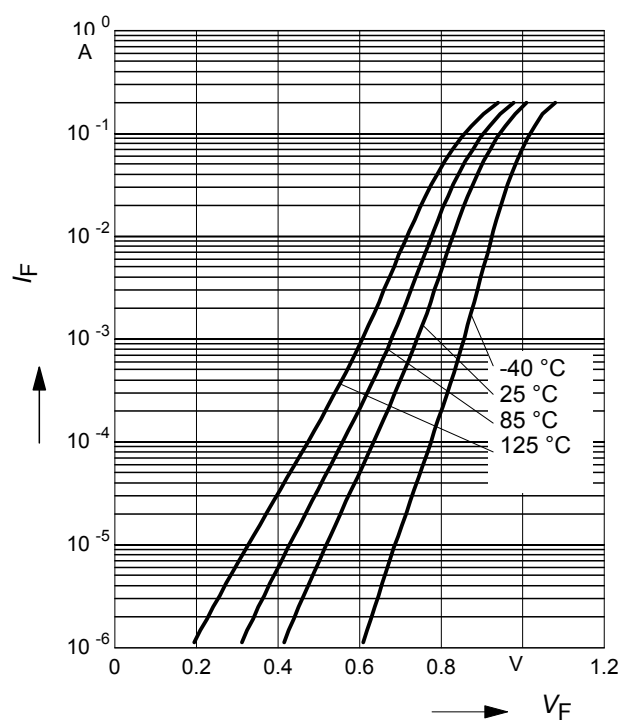
Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



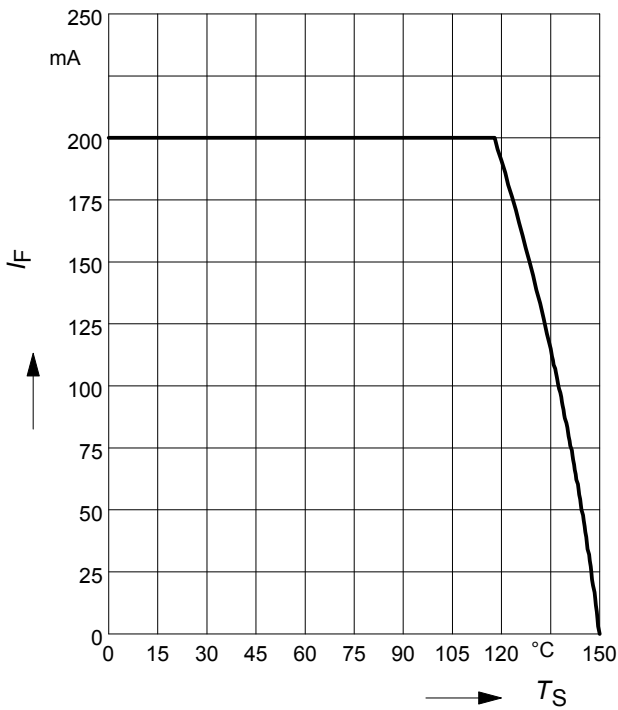
Forward current $I_F = f(V_F)$

$T_A =$ Parameter



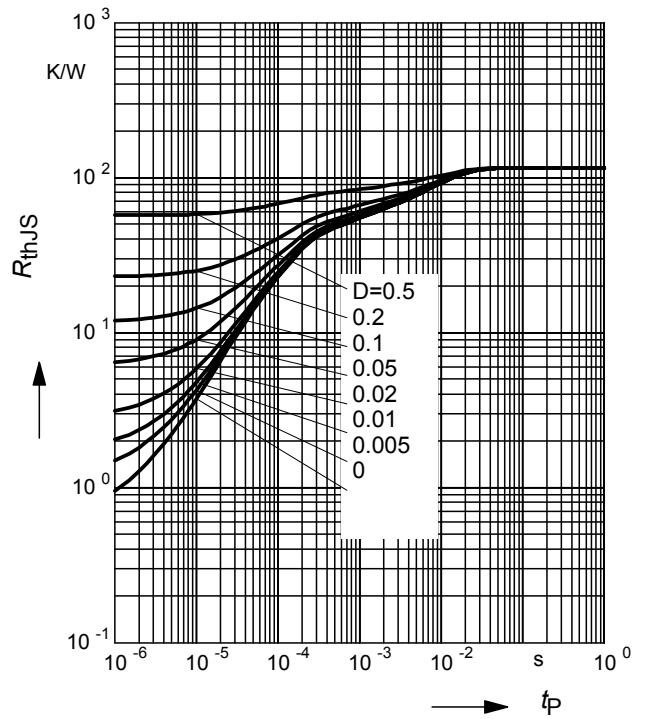
Forward current $I_F = f(T_S)$

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

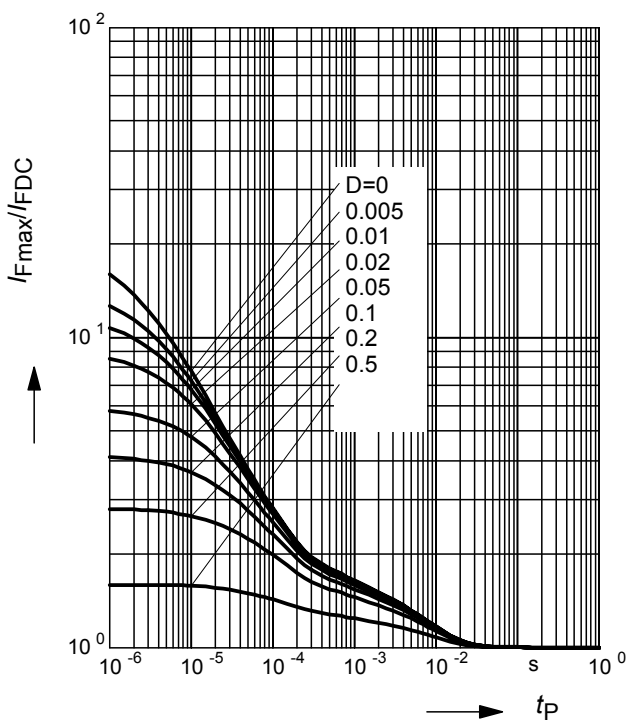
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Permissible Pulse Load

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

BAR67-02V





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