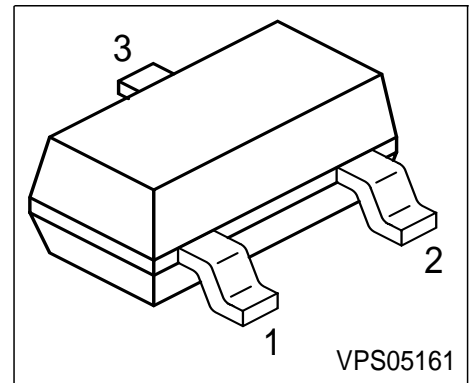
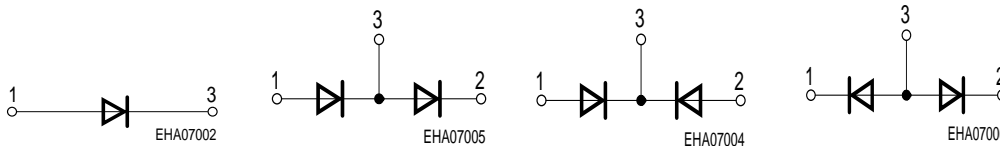


**Silicon PIN Diodes**

- High voltage current controlled  
RF resistor for RF attenuator and switches
- Frequency range above 1 MHz up to 3 GHz
- Low resistance and long carrier lifetime
- Very low capacitance at zero volts reverse bias at frequencies above 1 GHz
- Very low signal distortion


**BAR64**
**BAR64-04**
**BAR64-05**
**BAR64-06**


Type	Marking	Pin Configuration			Package
BAR64	POs	1 = A	2 n.c.	3 = C	SOT23
BAR64-04	PPs	1 = A1	2 = C2	3=C1/A2	SOT23
BAR64-05	PRs	1 = A1	2 = A2	3=C1/C2	SOT23
BAR64-06	PSs	1 = C1	2 = C2	3=A1/A2	SOT23

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	200	V
Forward current	$I_F$	100	mA
Total power dissipation	$P_{tot}$	250	mW
BAR64, $T_S \leq 90^\circ\text{C}$			
BAR64-04, BAR64-05, BAR64-06, $T_S \leq 65^\circ\text{C}$	$P_{tot}$	250	
Junction temperature	$T_j$	150	°C
Operating temperature range	$T_{op}$	-55 ... 150	
Storage temperature	$T_{stg}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BAR64		≤ 240	
BAR64-04, BAR64-05, BAR64-06		≤ 340	

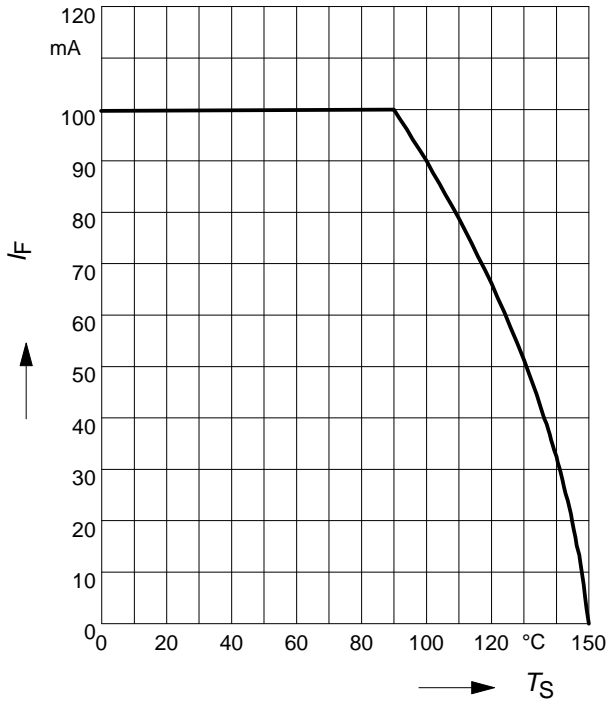
<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC characteristics</b>					
Breakdown voltage $I_{(BR)} = 5 \mu\text{A}$	$V_{(BR)}$	200	-	-	V
Reverse current $V_R = 80 \text{ V}$	$I_R$	-	-	50	nA
Forward voltage $I_F = 50 \text{ mA}$	$V_F$	-	-	1.1	V
<b>AC characteristics</b>					
Diode capacitance $V_R = 20 \text{ V}, f = 1 \text{ MHz}$	$C_T$	-	0.23	0.35	pF
Forward resistance $I_F = 1 \text{ mA}, f = 100 \text{ MHz}$ $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$ $I_F = 100 \text{ mA}, f = 100 \text{ MHz}$	$r_f$	-	12.5 2.1 0.85	20 3.8 1.35	$\Omega$
Charge carrier life time $I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, I_R = 3 \text{ mA}$	$\tau_{rr}$	-	1.55	-	$\mu\text{s}$
Series inductance	$L_S$	-	1.4	-	nH

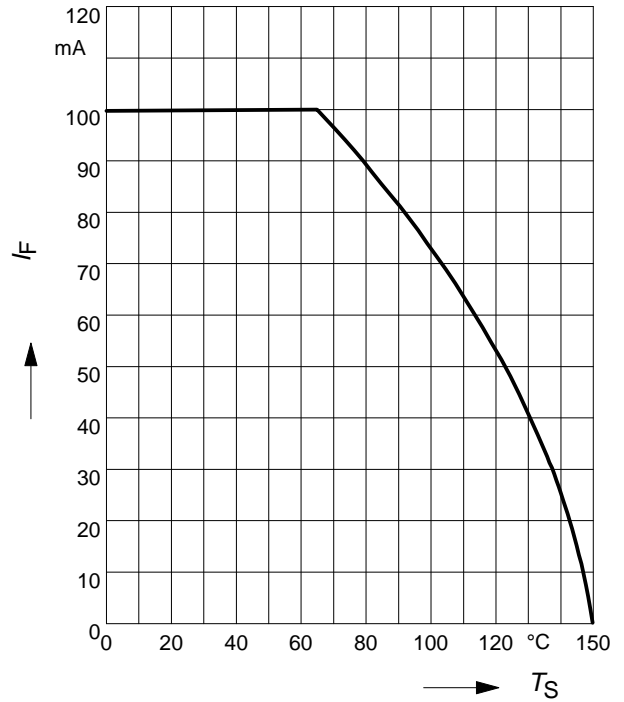
**Forward current  $I_F = f(T_S)$**

BAR64



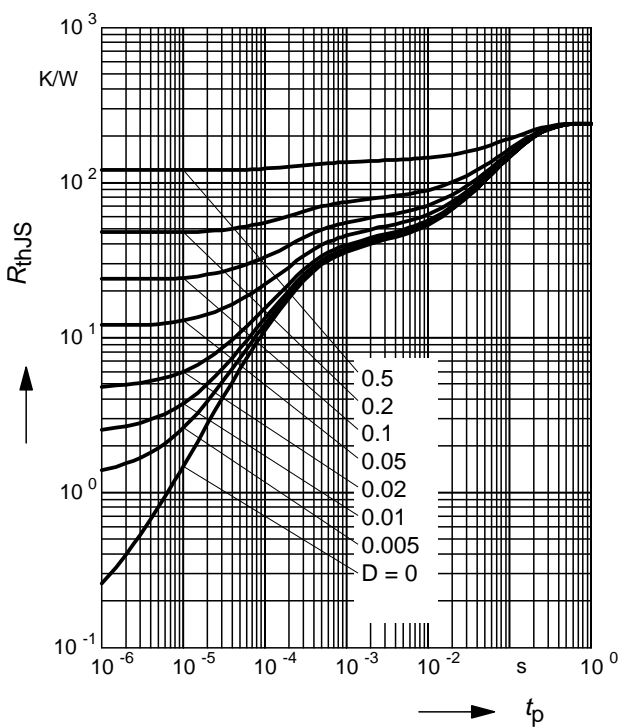
**Forward current  $I_F = f(T_S)$**

BAR64-04, BAR64-05, BAR64-06



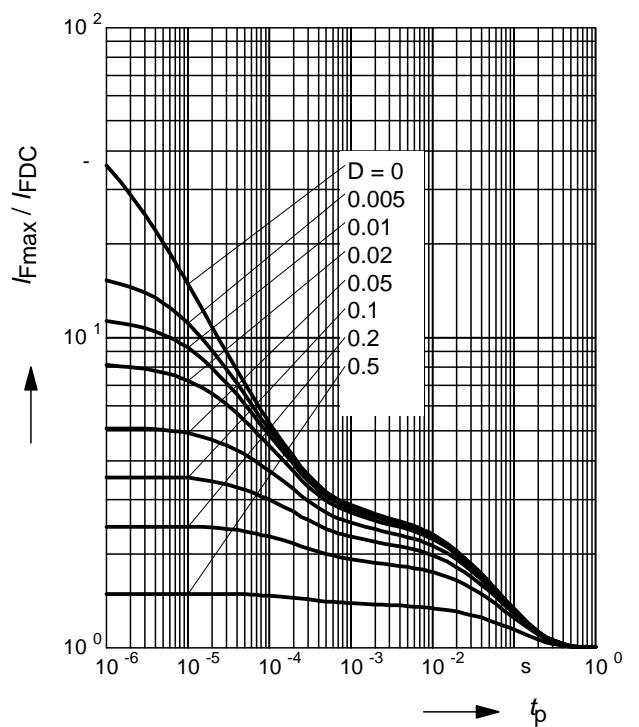
**Permissible Pulse Load  $R_{thJS} = f(t_p)$**

BAR64



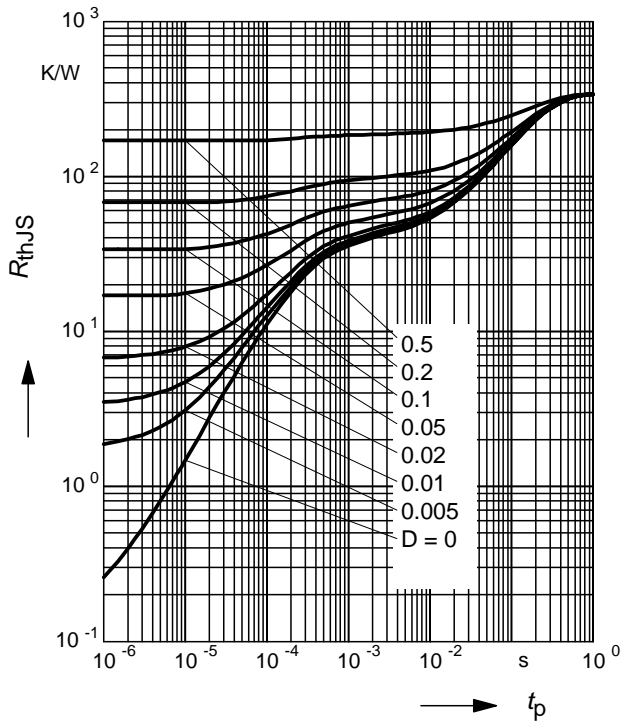
**Permissible Pulse Load  $I_{Fmax} / I_{FDC} = f(t_p)$**

BAR64



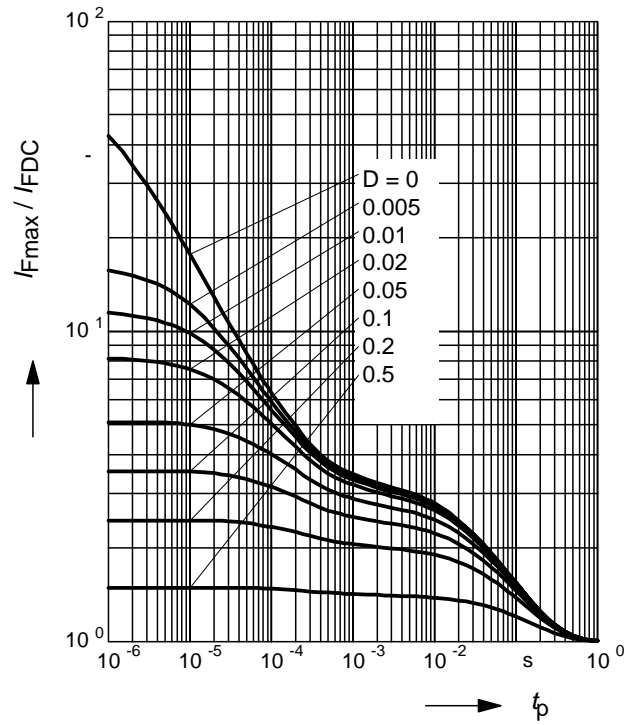
**Permissible Pulse Load  $R_{thJS} = f(t_p)$**

BAR64-04,-05,-06



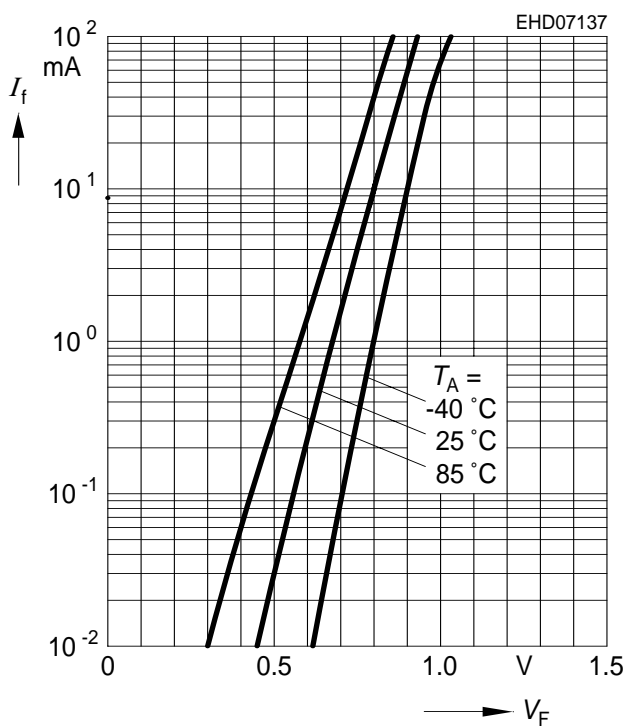
**Permissible Pulse Load  $I_{Fmax} / I_{FDC} = f(t_p)$**

BAR64-04,-05,-06



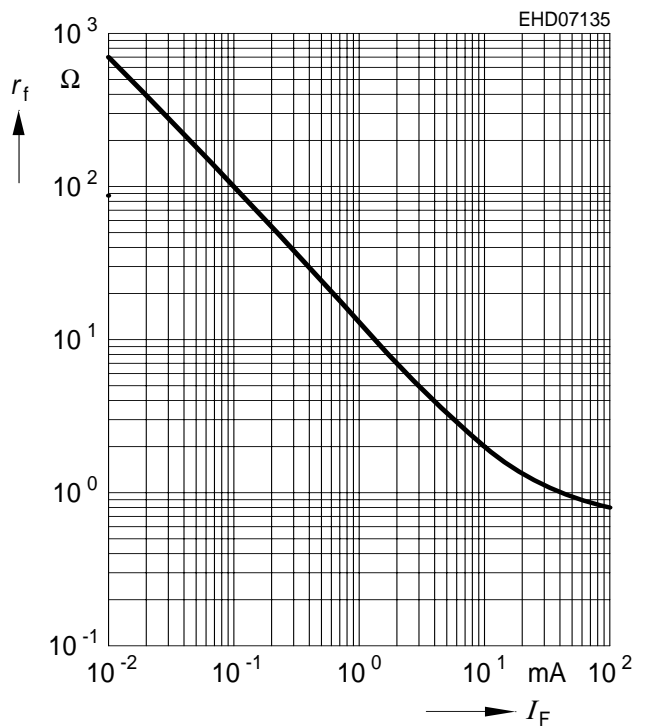
**Forward current  $I_F = f(V_F)$**

$T_A =$  Parameter



**Forward resistance  $r_f = f(I_F)$**

$f = 100\text{MHz}$



**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$

