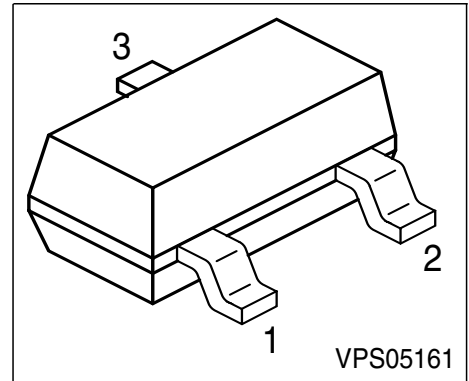
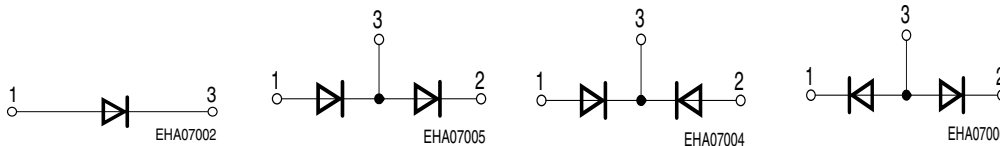


**Silicon PIN Diodes**

- PIN diode for high speed switching of RF signals
- Low forward resistance
- Very low capacitance
- For frequencies up to 3 GHz


**BAR 63**
**BAR 63-04**
**BAR 63-05**
**BAR 63-06**


Type	Marking	Pin Configuration			Package
BAR 63	G3s	1 = A	2 n.c.	3 = C	SOT-23
BAR 63-04	G4s	1 = A1	2 = C2	3=C1/A2	SOT-23
BAR 63-05	G5s	1 = A1	2 = A2	3=C1/C2	SOT-23
BAR 63-06	G6s	1 = C1	2 = C2	3=A1/A2	SOT-23

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	50	V
Forward current	$I_F$	100	mA
Total power dissipation BAR 63, $T_S \leq 80^\circ\text{C}$	$P_{\text{tot}}$	250	mW
BAR 63-04, BAR 63-05, BAR 63-06, $T_S \leq 55^\circ\text{C}$	$P_{\text{tot}}$	250	
Operating temperature range	$T_{\text{op}}$	-55 ... 150	$^\circ\text{C}$
Storage temperature	$T_{\text{stg}}$	-55 ... 150	

**Thermal Resistance**

Junction-ambient 1) BAR 63	$R_{\text{thJA}}$	$\leq 450$	K/W
Junction-ambient 1) BAR 63-04,05,06	$R_{\text{thJA}}$	$\leq 540$	
Junction-soldering point BAR 63	$R_{\text{thJS}}$	$\leq 280$	
Junction-soldering point BAR 63-04,05,06	$R_{\text{thJS}}$	$\leq 380$	

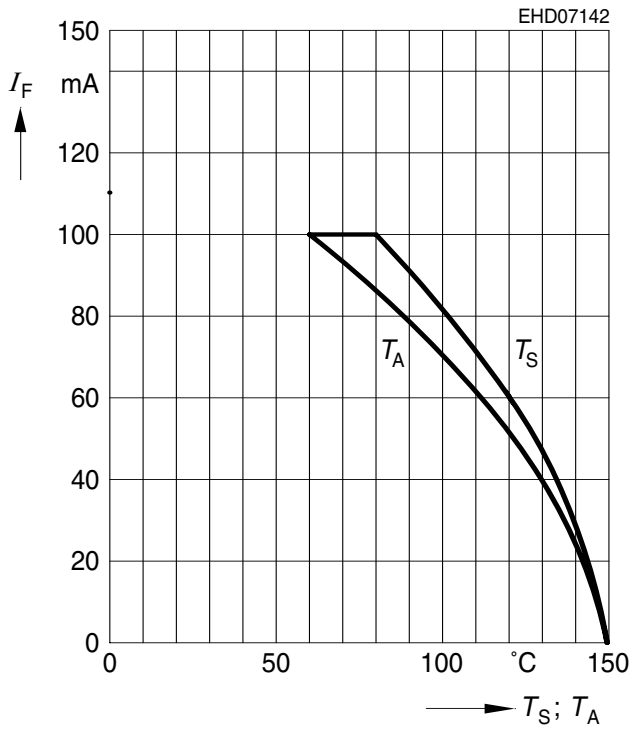
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

**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 $I_{(BR)} = 5 \mu\text{A}$	$V_{(BR)}$	50	-	-	V
Reverse current $V_R = 20 \text{ V}$	$I_R$	-	-	50	nA
Forward voltage $I_F = 100 \text{ mA}$	$V_F$	-	0.95	1.2	V
<b>AC characteristics</b>					
Diode capacitance $V_R = 0 \text{ V}, f = 100 \text{ MHz}$ $V_R = 5 \text{ V}, f = 1 \text{ MHz}$	$C_T$	- -	0.3 0.21	- 0.3	pF
Forward resistance $I_F = 5 \text{ mA}, f = 100 \text{ MHz}$ $I_F = 10 \text{ mA}, f = 100 \text{ MHz}$	$r_f$	- -	1.2 1	2 -	$\Omega$
Charge carrier life time $I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, I_R = 3 \text{ mA}$	$\tau_{rr}$	-	75	-	ns
Series inductance	$L_s$	-	1.8	-	nH

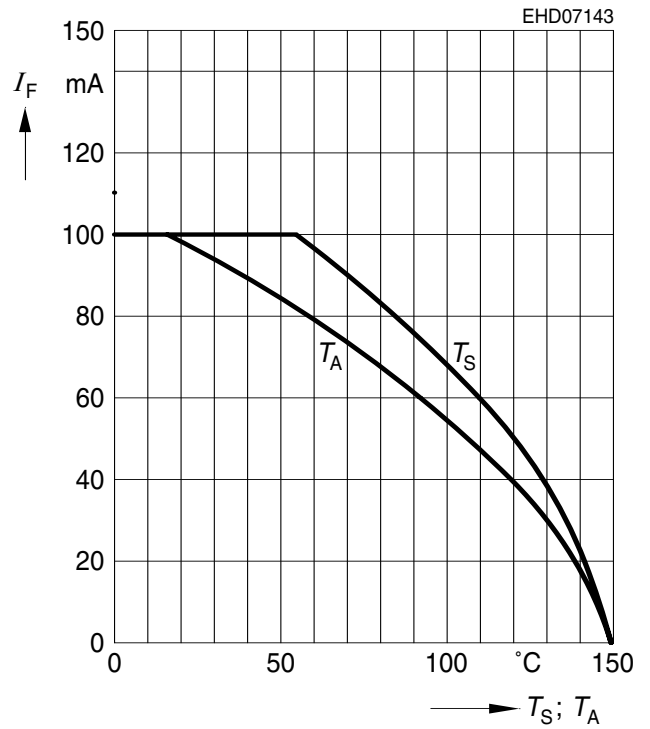
Forward current  $I_F = f(T_A; T_S)$

BAR 63



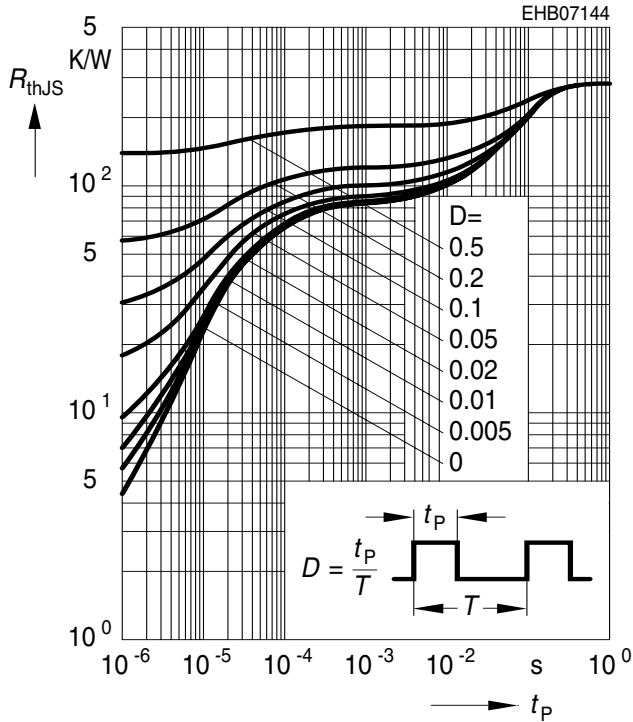
Forward current  $I_F = f(T_A; T_S)$

BAR 63-04, -05, -06



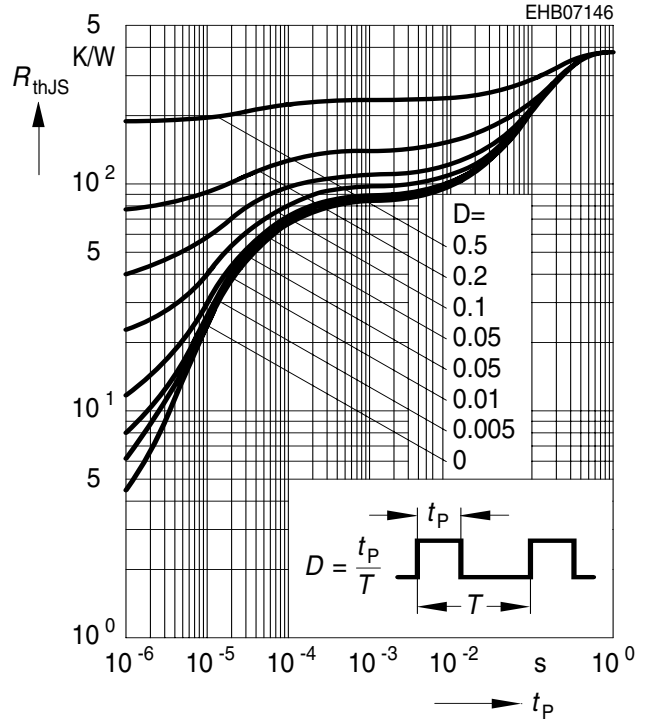
**Permissible pulse load  $R_{thJS} = f(t_p)$**

BAR 63



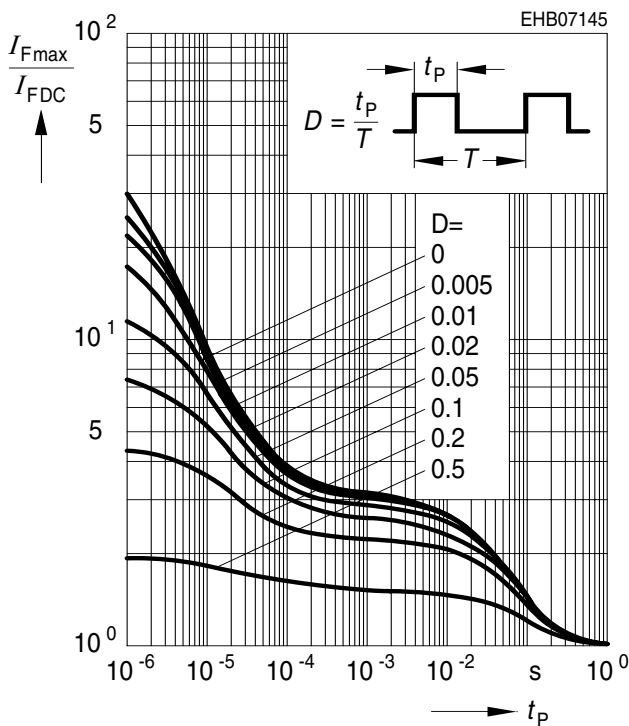
**Permissible pulse load  $R_{thJS} = f(t_p)$**

BAR 63-04, -05, -06



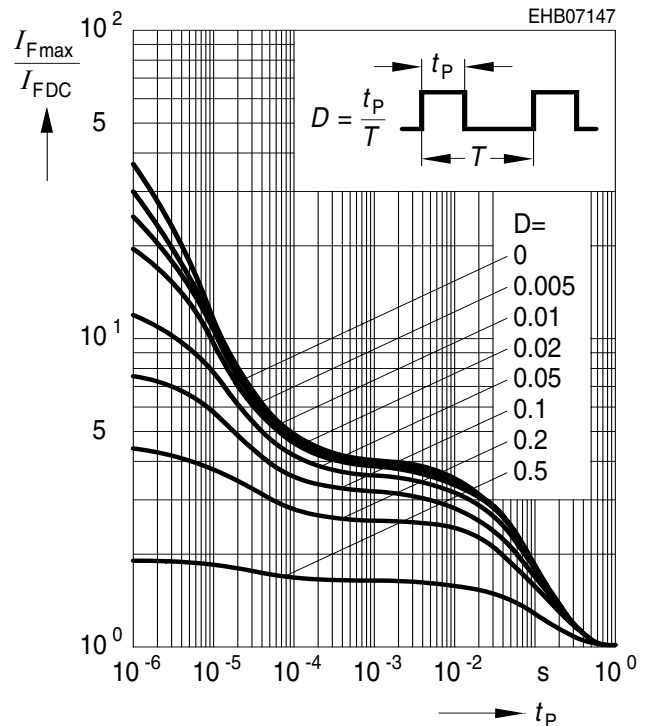
**Permissible pulse load  $I_{Fmax} / I_{FDC} = f(t_p)$**

BAR 63



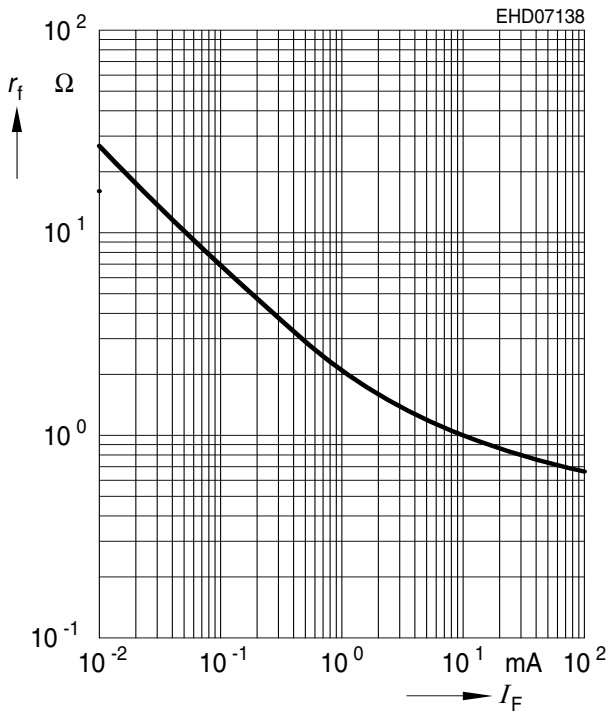
**Permissible pulse load  $I_{Fmax} / I_{FDC} = f(t_p)$**

BAR 63-04, -05, -06



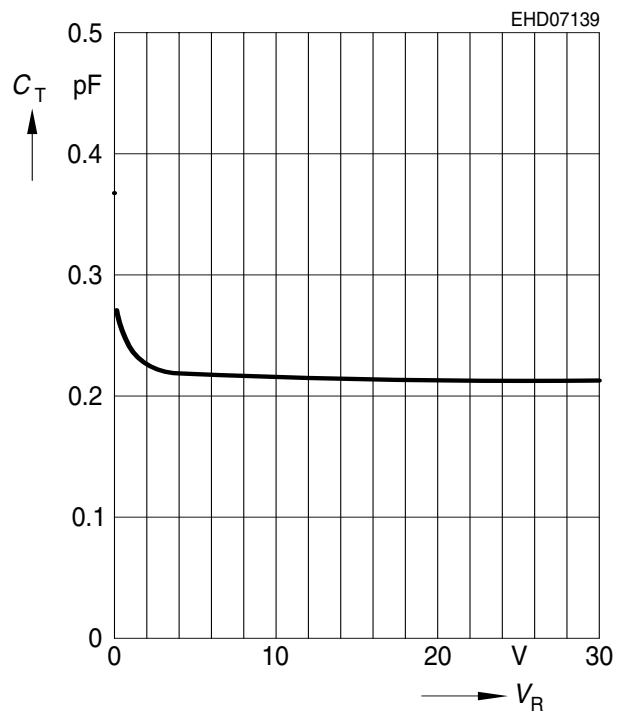
**Forward resistance  $r_f = f(I_F)$**

$f = 100\text{MHz}$



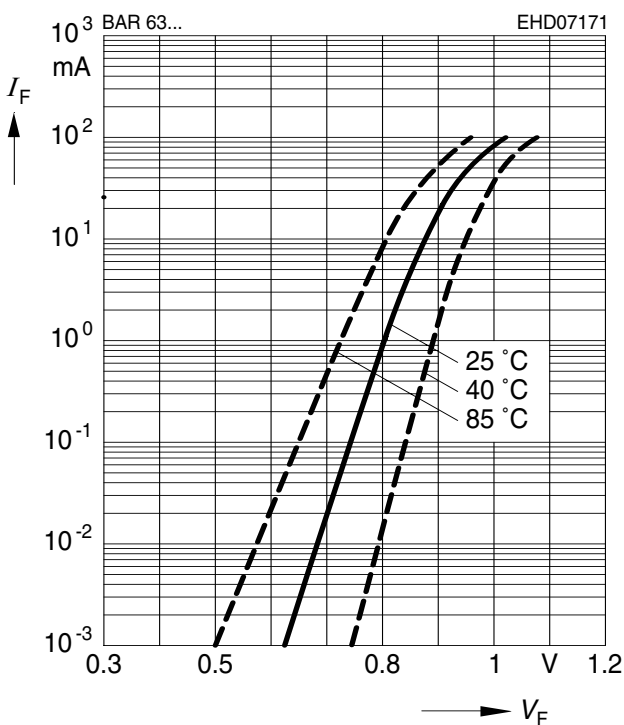
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



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

$T_A = \text{Parameter}$





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