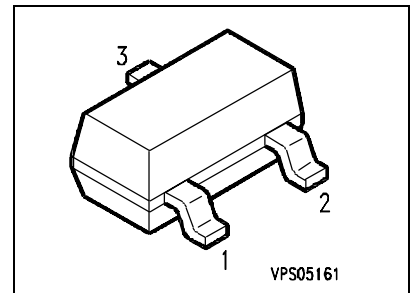


Silicon PIN Diode

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



Type	Marking	Ordering code (tape and reel)	Pin configuration			Package ¹⁾
			1	2	3	
BAR 63	G3	Q62702-A1036	A	-	C	SOT-23
BAR 63-04	G4	Q62702-A1037	A	C	C/A	
BAR 63-05	G5	Q62702-A1038	A	A	C/C	
BAR 63-06	G6	Q62702-A1039	C	C	A/A	

Maximum ratings

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

Thermal resistance

Parameter	Symbol	Value	Unit
Junction-ambient ¹⁾	$R_{th JA}$		K/W
BAR63		≤ 450	
BAR 63-04,-05,-06		≤ 540	
Junction-soldering point	$R_{th JS}$		
BAR64		≤ 280	
BAR63-04,-05,-06		≤ 380	

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

Electrical characteristics

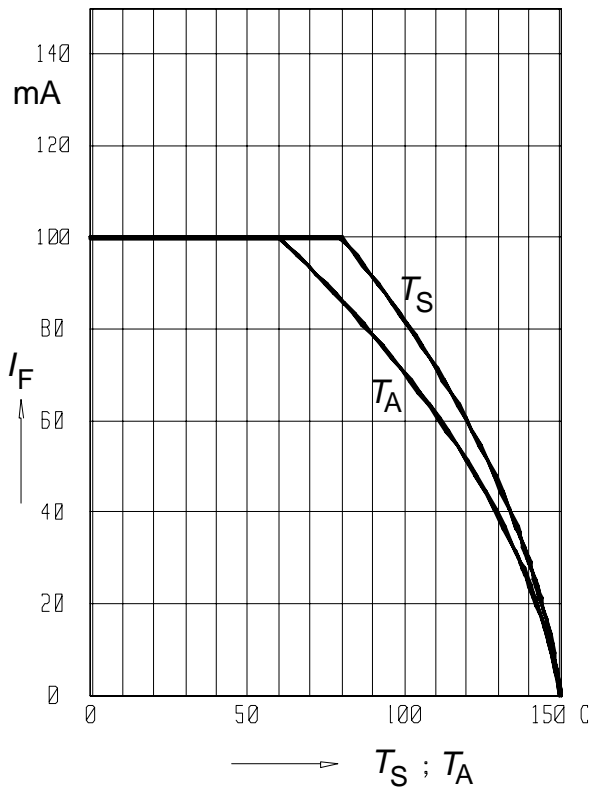
at $T_A = 25\text{ }^\circ\text{C}$, unless otherwise specified.

Parameter	Symbol	Value			Unit
		min.	typ.	max.	

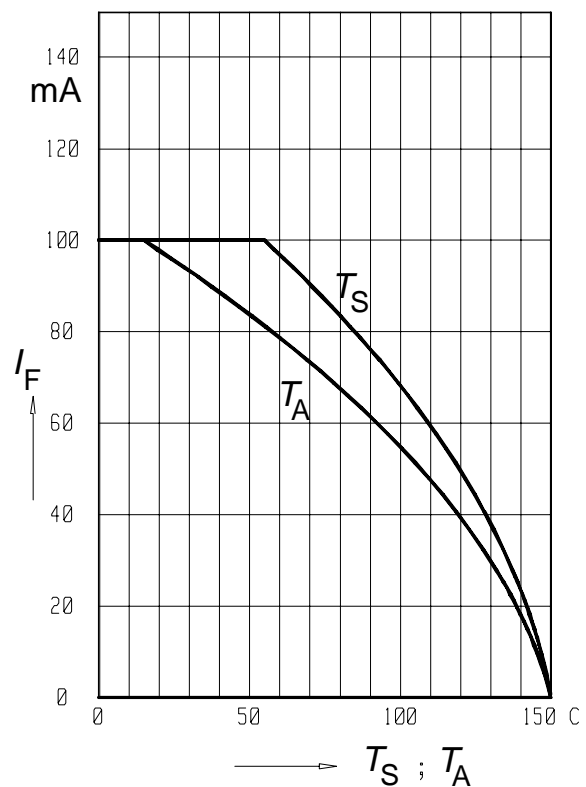
DC characteristics

Breakdown voltage $I_R = 5\text{ }\mu\text{A}$	$V_{(BR)}$	50	-	-	V
Reverse leakage $V_R = 20\text{ V}$	I_R	-	-	50	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	0.95	1.2	V
Diode capacitance $V_R = 0\text{ V}, f = 100\text{ MHz}$	C_T	-	0.3	-	pF
Diode capacitance $V_R = 5\text{ V}, f = 1\text{ MHz}$	C_T	-	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 -	Ω
Charge carrier lifetime $I_F = 10\text{ mA}, I_R = 6\text{ mA}, I_R = 3\text{ mA}$	τ_s	-	75	-	ns
Series inductance	L_s	-	1.4	-	nH

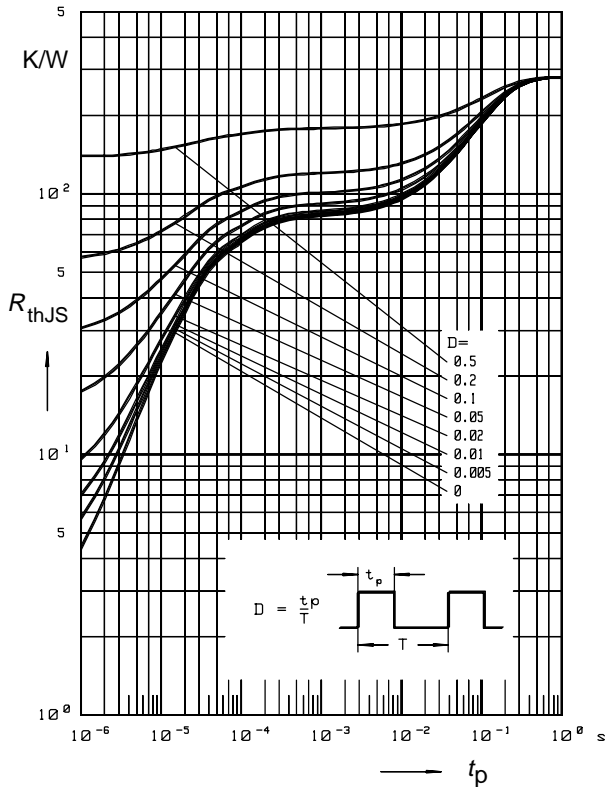
Forward current $I_F = f(T_A * T_S)$
BAR63



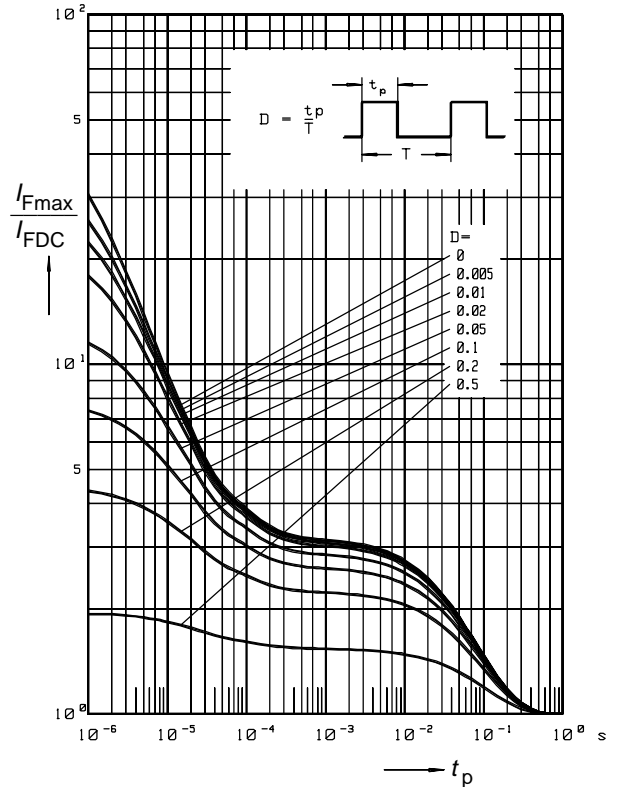
Forward current $I_F = f(T_A * T_S)$
per each Diode BAR63-04,-05,-06



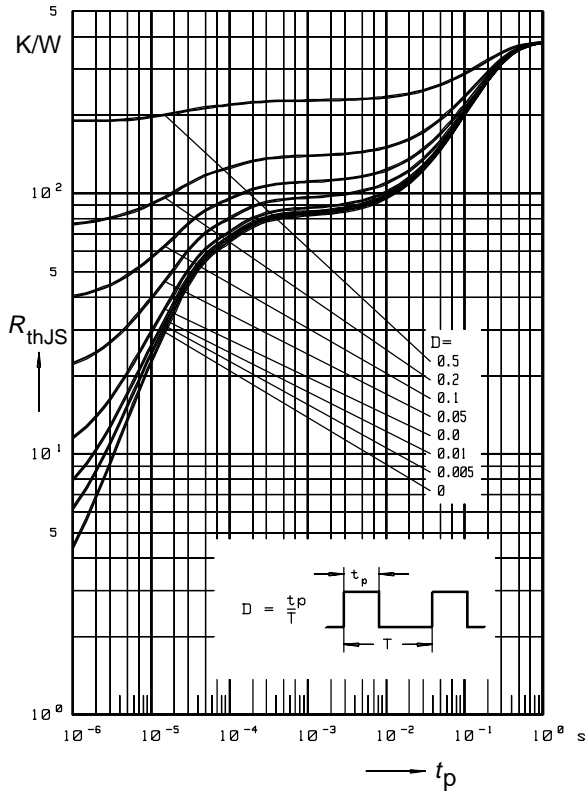
Permissible pulse load $R_{thJS} = f(t_p)$
BAR63



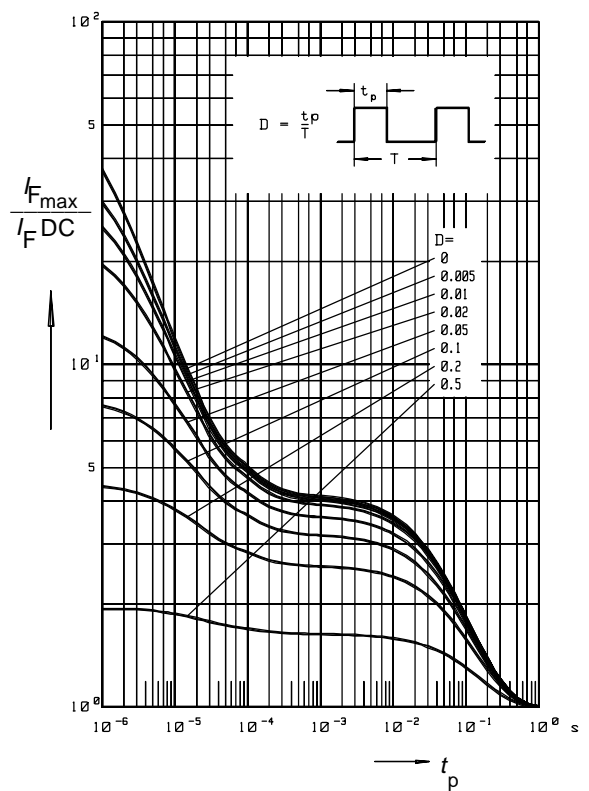
Permissible pulse load $I_{Fmax} / I_{FDC} = f(t_p)$
BAR63



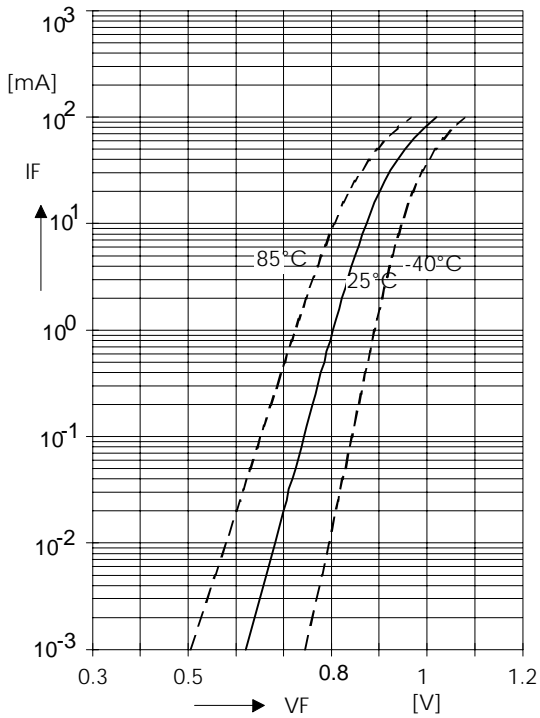
Permissible pulse load $R_{thJS} = f(t_p)$
BAR63-04,-05,-06



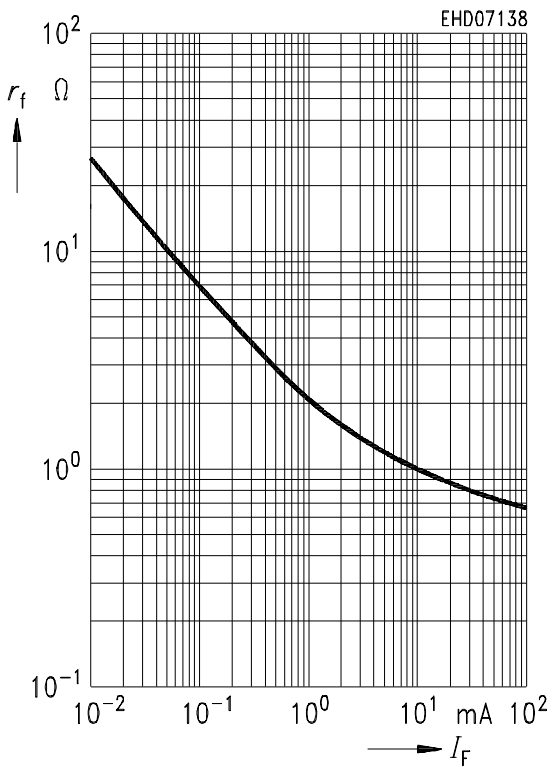
Permissible pulse load $I_{Fmax} / I_{FDC} = f(t_p)$
BAR63-04,-05,-06



Forward current $I_F = f(V_F)$



Forward resistance $r_f = f(I_F)$
 $f = 100 \text{ MHz}$



Diode capacitance $C_T = f(V_R)$
 $f = 1 \text{ MHz}$

