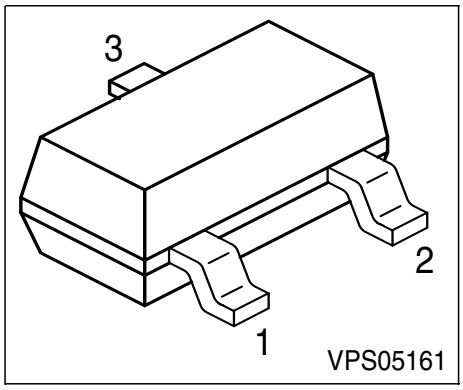
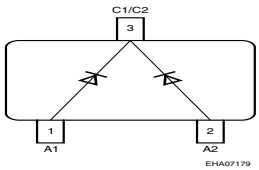
Silicon PIN Diode Array

Preliminary data

- Common cathode
- High power
- Low impedance





Type	Marking	Ordering Code	Pin Configuration			Package
BAR 68-05	PTs	upon request	1=A1	2=A2	3=C1/C2	SOT-23

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	50	V
Forward current	I_F	100	mA
Total power dissipation, T_S = tbd	P_{tot}	250	mW
Operating temperature range	T_{op}	-55 ... 150	°C
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Junction - ambient [1)]	R_{thJA}	≤ tbd	K/W
Junction - soldering point	R_{thJS}	≤ tbd	

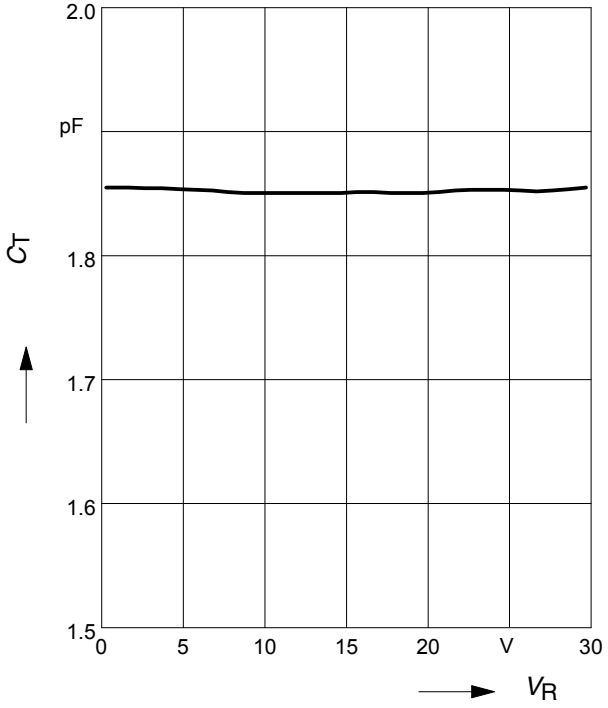
1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

Electrical Characteristics at T_A = 25 °C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)}$ = 5 µA	$V_{(BR)}$	50	-	-	V
Reverse current V_R = 30 V	I_R	-	-	10	nA
Forward voltage I_F = 50 mA	V_F	-	0.815	1	V
AC Characteristics					
Diode capacitance	C_T				pF
V_R = 5 V, f = 1 MHz		-	1.9	-	
V_R = 20 V, f = 1 MHz		-	1.8	-	
V_R = 0 V, f = 100 MHz		-	3	-	
Forward resistance	r_f				Ω
I_F = 1 mA, f = 100 MHz		-	1.2	-	
I_F = 10 mA, f = 100 MHz		-	0.25	-	
Charge carrier life time I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_{rr}	-	2.2	-	µs
Series inductance	L_s	-	1.8	-	nH
Intrinsic zone thickness	w	-	25	-	µm

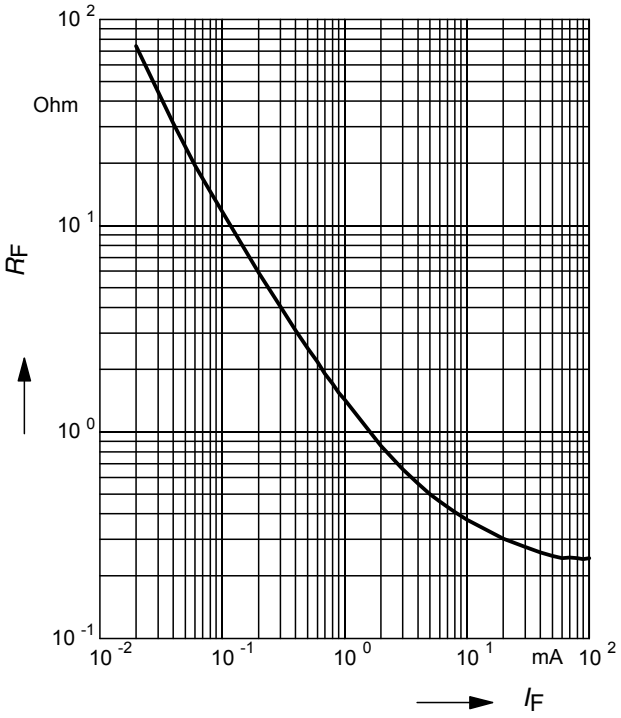
Diode capacitance $C_T = f(V_R)$

f = 1MHz



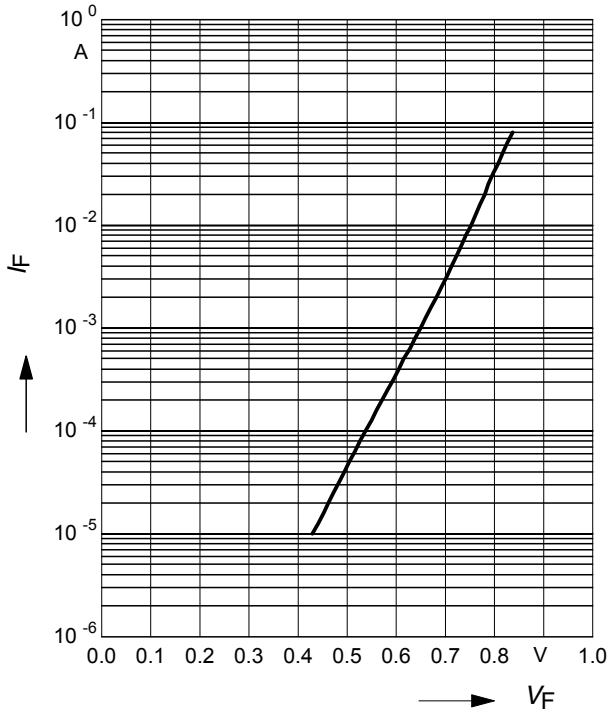
Forward resistance $r_f = f(I_F)$

f = 100MHz



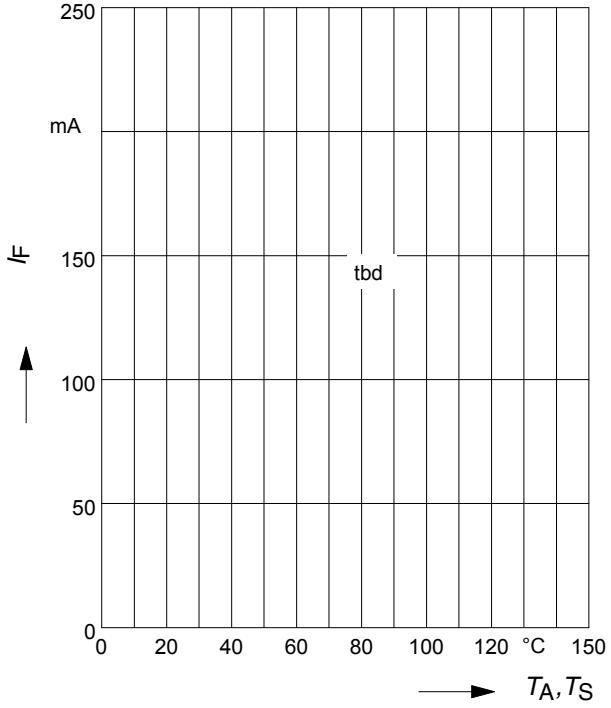
Forward current $I_F = f(V_F)$

T_A = 25°C

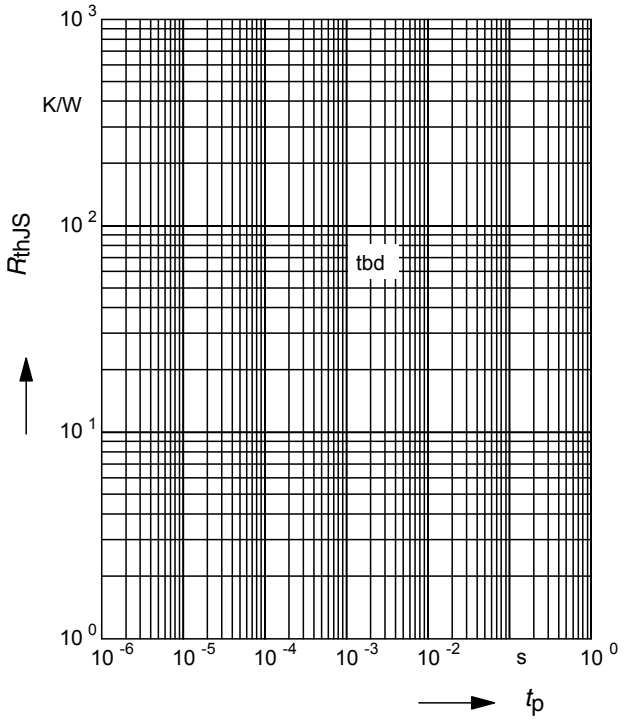


Forward current $I_F = f(T_A^*; T_S)$

*): mounted on alumina 15mm x 16.7mm x 0.7mı



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



Permissible Pulse Load

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