## Silicon PIN Diode

- High voltage current controlled
  RF resistor for RF attenuator and switches
- Frequency range above 1 MHz
- Low resistance and short carrier lifetime
- For frequencies up to 3 GHz

VSO05561
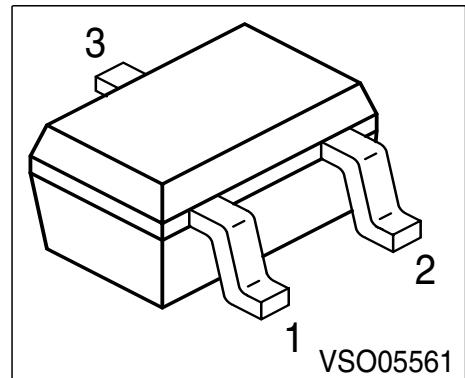
BAR 64-04W   **BAR 64-05W**   **BAR 64-06W**

EHA07181   EHA07179   EHA07187
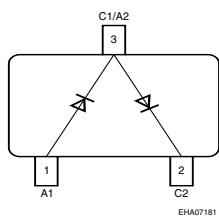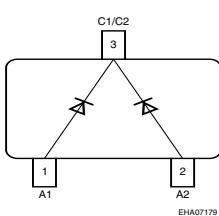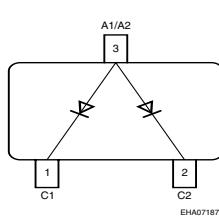
Type	Marking	Pin Configuration			Package
BAR 64-04W	PPs	1 = A1	2 = C2	3=C1/A2	SOT-323
BAR 64-05W	PRs	1 = A1	2 = C2	3 = C1/2	SOT-323
BAR 64-06W	PSs	1 = C1	2 = C2	3 = A1/2	SOT-323

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	150	V
Forward current	I_F	100	mA
Total power dissipation, $T_S \leq 115\ °C$	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

|	Symbol	Value	Unit
Junction - ambient [1]	R_{thJA}	≤ 300	K/W
Junction - soldering point	R_{thJS}	≤ 140	

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

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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	$V_{(BR)}$	150	-	-	V
Reverse current V_R = 20 V	I_R	-	-	50	nA
Forward voltage I_F = 50 mA	V_F	-	-	1.1	V
AC characteristics					
Diode capacitance V_R = 20 V, f = 1 MHz	C_T	-	0.23	0.35	pF
Forward resistance I_F = 1 mA, f = 100 MHz I_F = 10 mA, f = 100 MHz I_F = 100 mA, f = 100 MHz	r_f	 - - -	 12.5 2.1 0.85	 20 2.8 1.35	Ω
Charge carrier life time I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_{rr}	-	1.55	-	µs
Series inductance	L_S	-	1.2	-	nH

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

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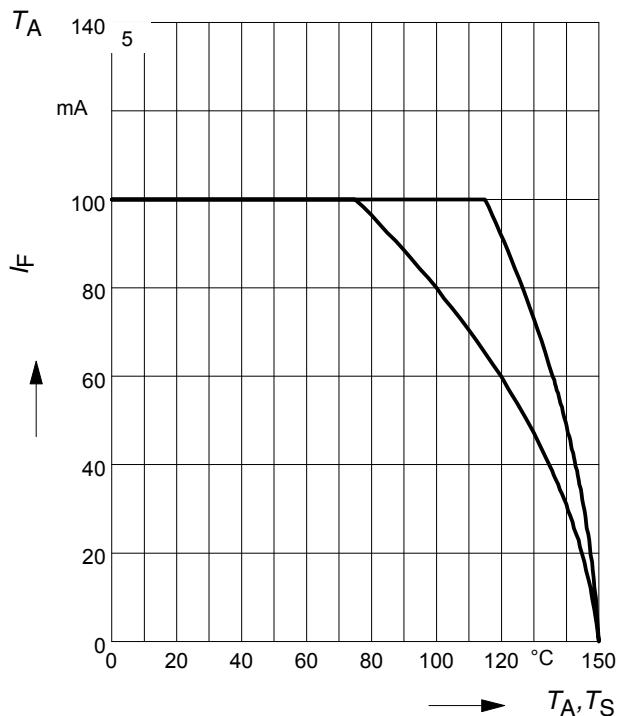
Permissible Pulse Load $R_{thJS} = f(t_p)$
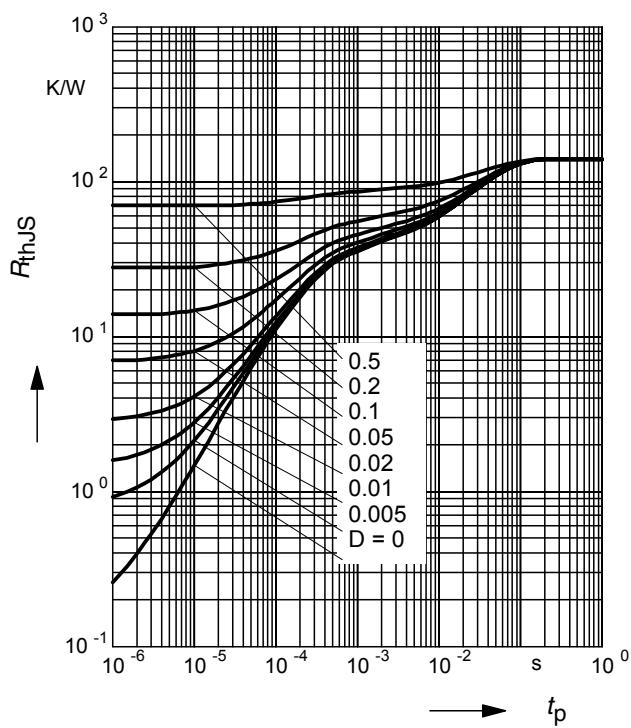
Permissible Pulse Load

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

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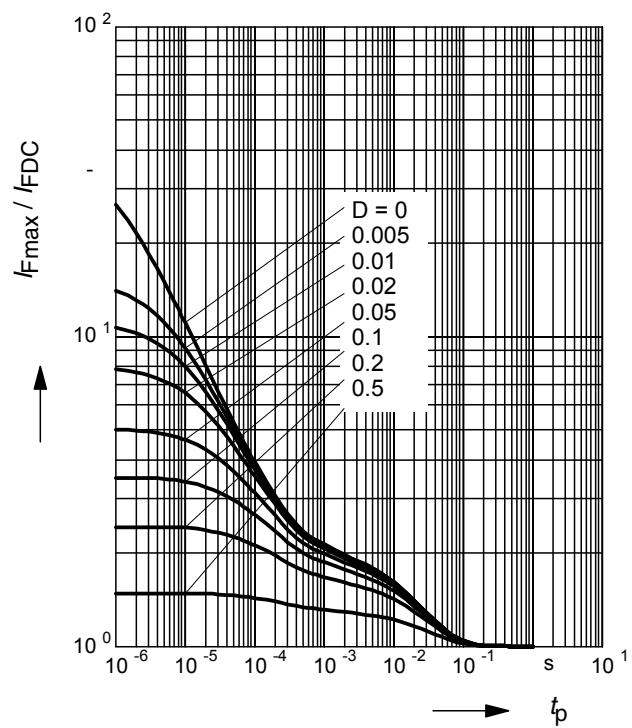
Diode capacitance $C_T = f(V_R)$

f = 1MHz
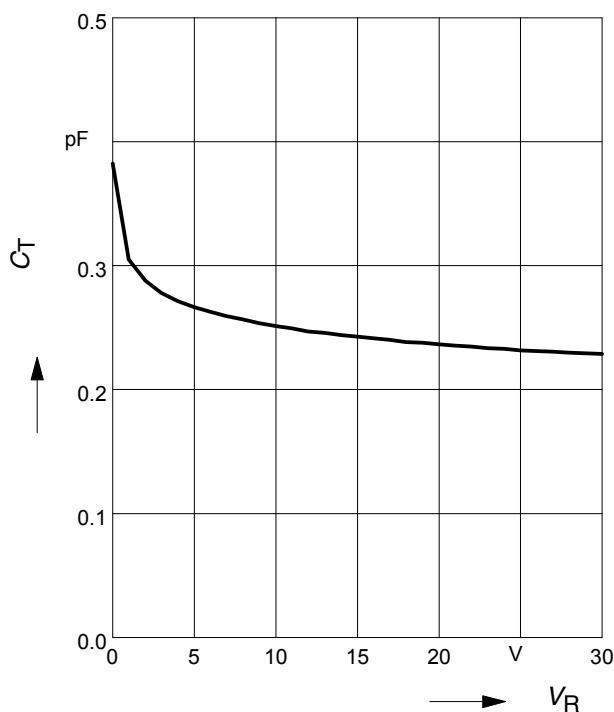
Forward resistance $r_f = f(I_F)$

f = 100MHz
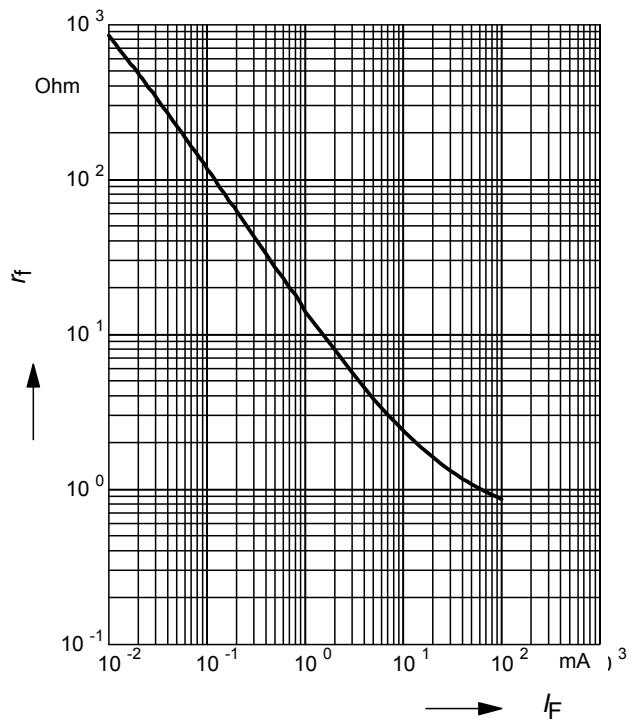
Forward current $I_F = f(V_F)$

T_A = parameter
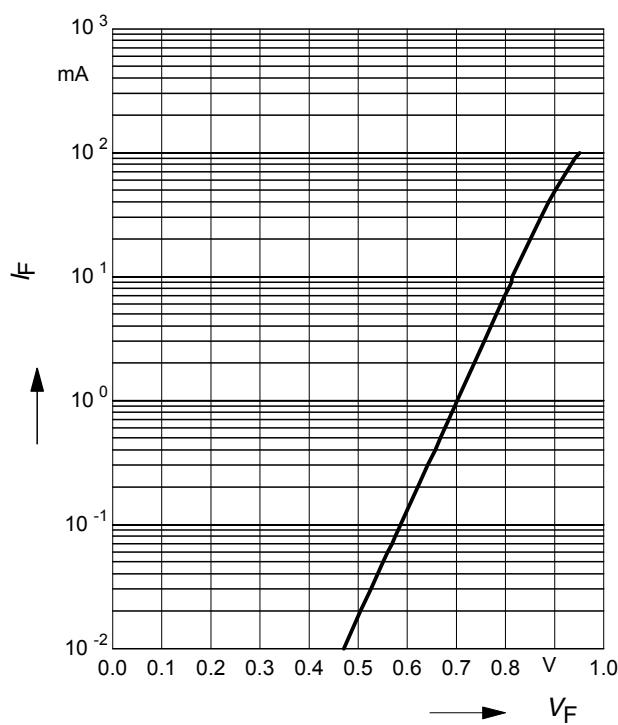
Intermodulation intercept point

$IP_3 = f(I_F)$

f = parameter

f=900MHz

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