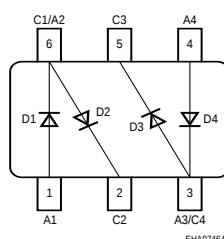
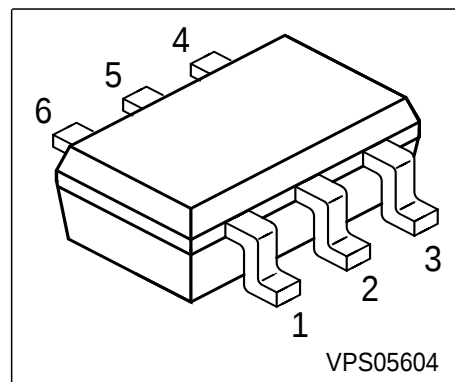


Silicon PIN Diode

Preliminary data

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



Type	Marking	Pin Configuration	Package
BAR64-04S	PPs	For pin configuration see figure above	SOT363

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	150	V
Forward current	I_F	100	mA
Total power dissipation $T_S = \text{tbd}$	P_{tot}	tbd	mW
Operating temperature range	T_{op}	-55 ... 125	°C
Storage temperature	T_{stg}	-55 ... 150	

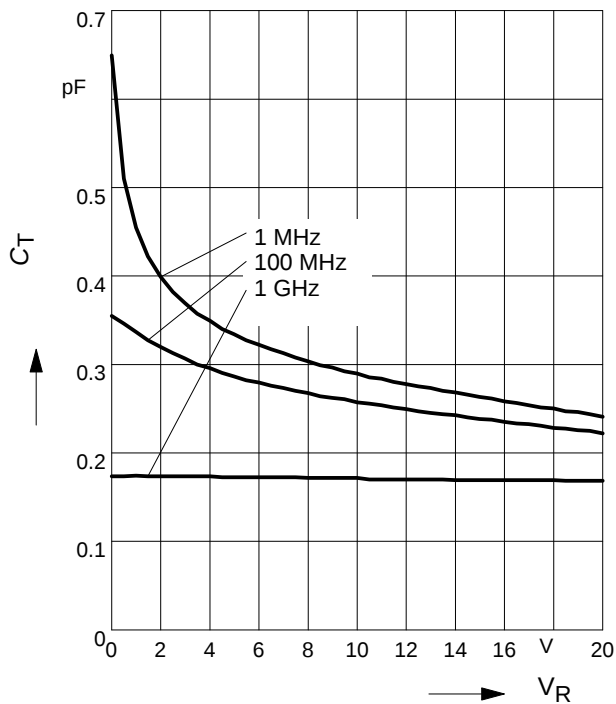
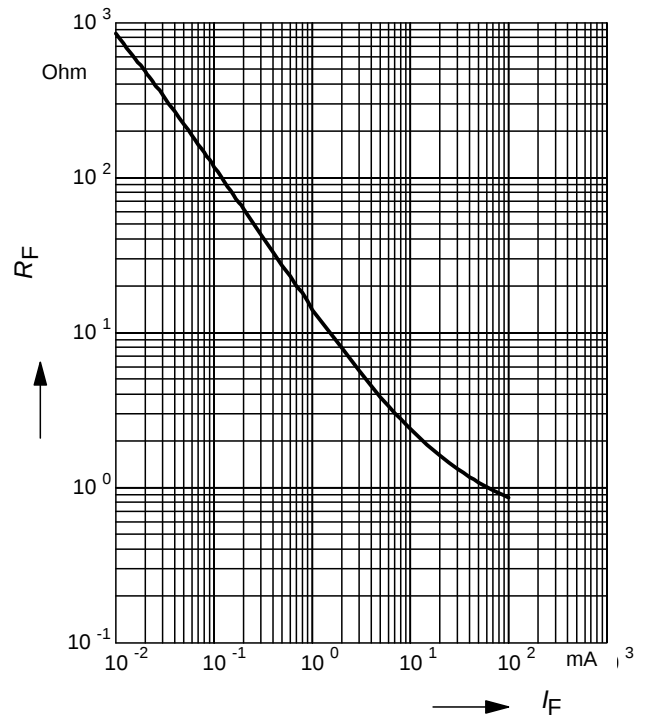
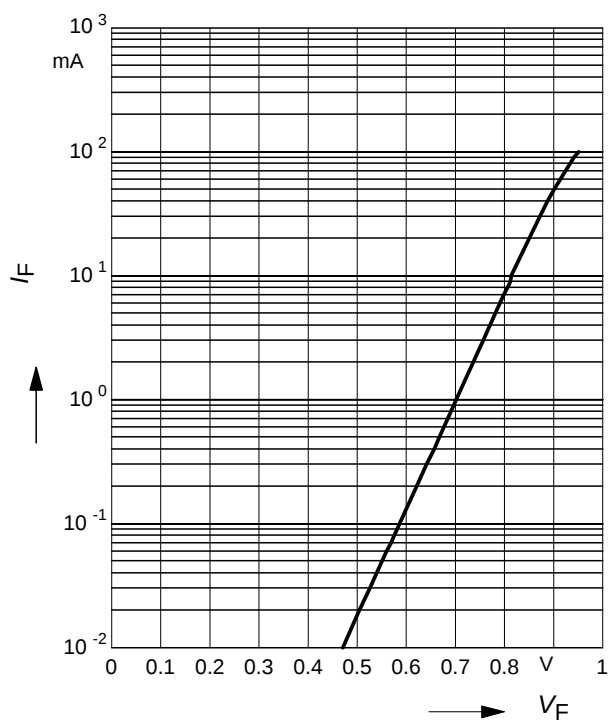
Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}	tbd	K/W

¹⁾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.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 5\text{ }\mu\text{A}$	$V_{(BR)}$	150	-	-	V
Forward voltage $I_F = 50\text{ mA}$	V_F	-	-	1.1	
AC Characteristics					
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	Ω
Charge carrier life time $I_F = 10\text{ mA}$, $I_R = 6\text{ mA}$, $I_R = 3\text{ mA}$	τ_{rr}	-	1.55	-	
Case capacitance $f = 1\text{ MHz}$	C_C	-	0.09	-	pF
Series inductance	L_S	-	0.6	-	nH

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

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

Forward current $I_F = f(V_F)$
 $T_A = 25^\circ\text{C}$

Intermodulation intercept point
 $IP_3 = f(I_F)$;

 $f = \text{Parameter}$
