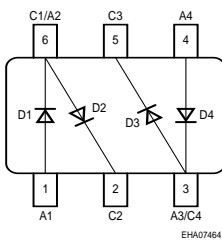
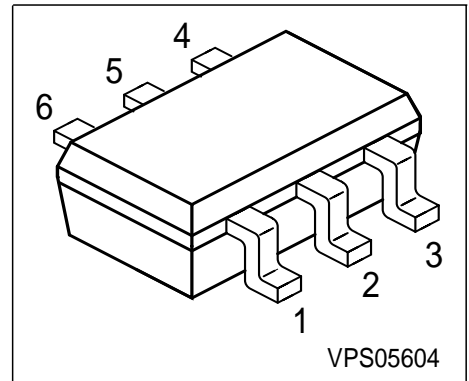


**Silicon PIN Diode**

## 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 $T_S = \text{tbd}$	$P_{\text{tot}}$	tbd	mW
Operating temperature range	$T_{\text{op}}$	-55 ... 125	°C
Storage temperature	$T_{\text{stg}}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{\text{thJS}}$	tbd	K/W

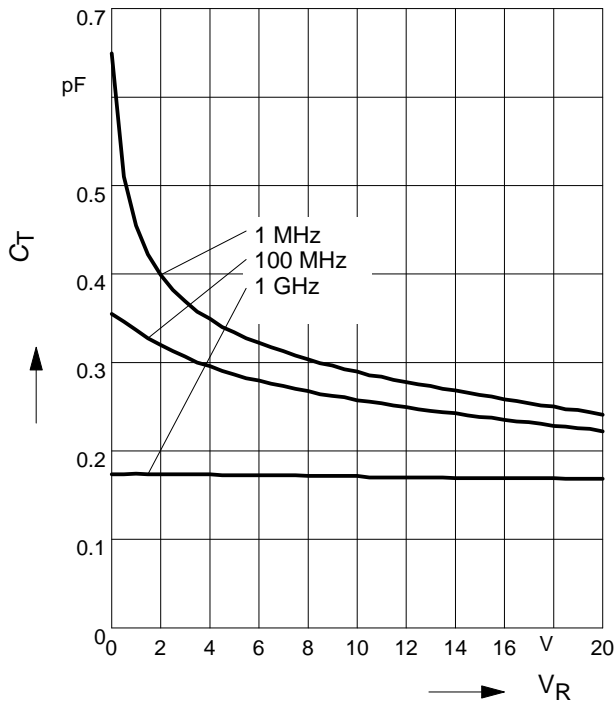
<sup>1)</sup>For calculation of  $R_{\text{thJA}}$  please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
Breakdown voltage $I_{(BR)} = 5 \mu\text{A}$	$V_{(BR)}$	150	-	-	V
Forward voltage $I_F = 50 \text{ mA}$	$V_F$	-	-	1.1	
<b>AC Characteristics</b>					
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	$\Omega$
Charge carrier life time $I_F = 10 \text{ mA}, I_R = 6 \text{ mA}, I_R = 3 \text{ mA}$	$\tau_{rr}$	-	1.55	-	$\mu\text{s}$
Case capacitance $f = 1 \text{ MHz}$	$C_C$	-	0.09	-	pF
Series inductance	$L_S$	-	0.6	-	nH

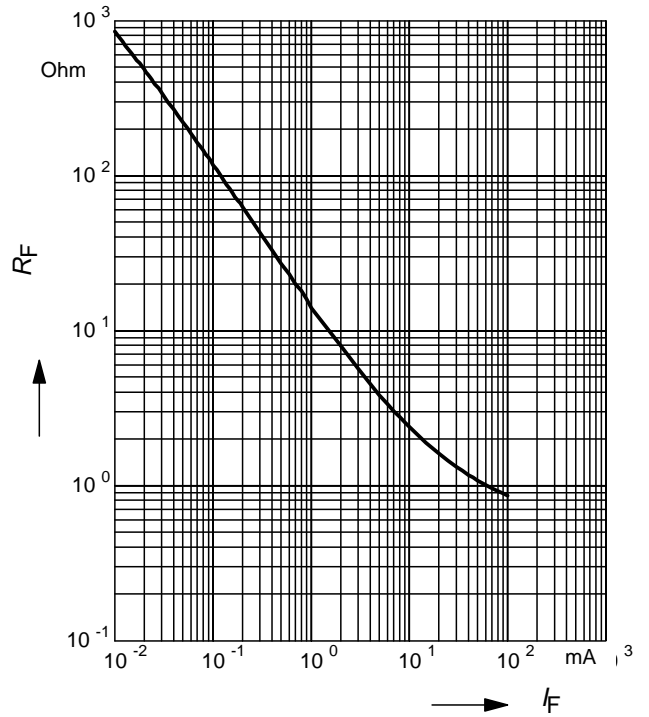
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



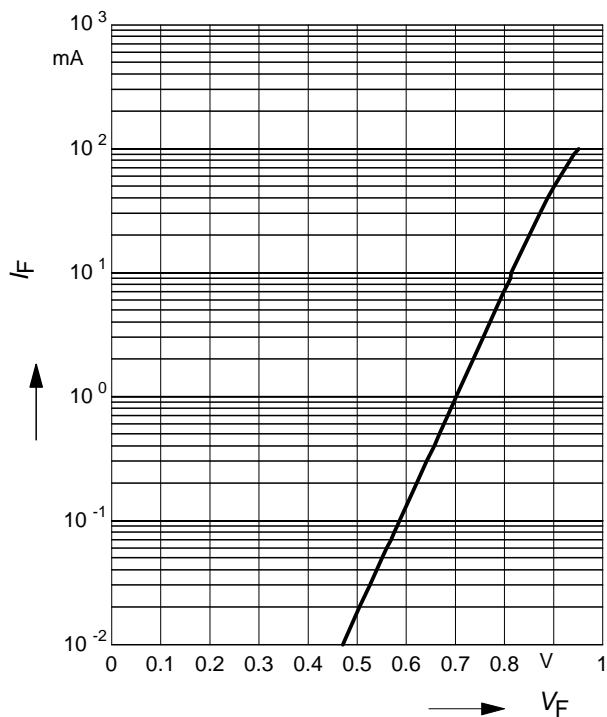
**Forward resistance  $r_f = f(I_F)$**

$f = 100\text{MHz}$



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

$T_A = 25^\circ\text{C}$



**Intermodulation intercept point**

$IP_3 = f(I_F)$ ;

$f = \text{Parameter}$

