## Silicon PIN Diodes

- RF switch, RF attenuator for frequencies above 10 MHz
- Low distortion faktor
- Long-term stability of electrical characteristics

VPS05161

BAR14-1	**BAR15-1**	**BAR16-1**

EHA07005 EHA07004 EHA07006
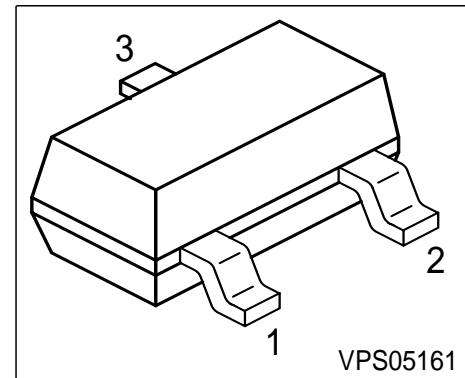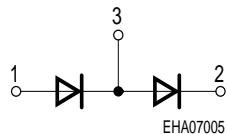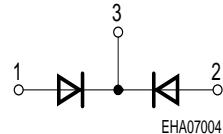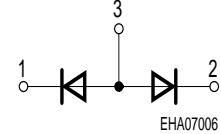
Type	Marking	Pin Configuration			Package
BAR14-1	L7s	1 = A1	2 = C2	3=C1/A2	SOT23
BAR15-1	L8s	1 = A1	2 = A2	3 = C1/2	SOT23
BAR16-1	L9s	1 = C1	2 = C2	3 = A1/2	SOT23

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	100	V
Forward current	I_F	140	mA
Total power dissipation, $T_S \leq 65°C$	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

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Junction - soldering point[1]	R_{thJS}	≤ 340	K/W

[1]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Reverse current V_R = 50 V	I_R	-	-	100	nA
Reverse current V_R = 100 V	I_R	-	-	1	μA
Forward voltage I_F = 100 mA	V_F	-	1.05	-	V
AC characteristics					
Diode capacitance V_R = 0 V, f = 100 MHz V_R = 50 V, f = 1 MHz	C_T	 - -	 0.2 0.25	 - 0.5	pF
Forward resistance I_F = 0.01 mA, f = 100 MHz I_F = 0.1 mA, f = 100 MHz I_F = 1 mA, f = 100 MHz I_F = 10 mA, f = 100 MHz	r_f	 - - - -	 2800 380 45 7	 - - - -	Ω
Zero bias conductance V_R = 0 V, f = 100 MHz	g_p	-	50	-	μS
Charge carrier life time I_F = 10 mA, I_R = 6 mA, I_R = 3 mA	τ_{rr}	0.7	1	-	μs

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

$T_A = 25°C$
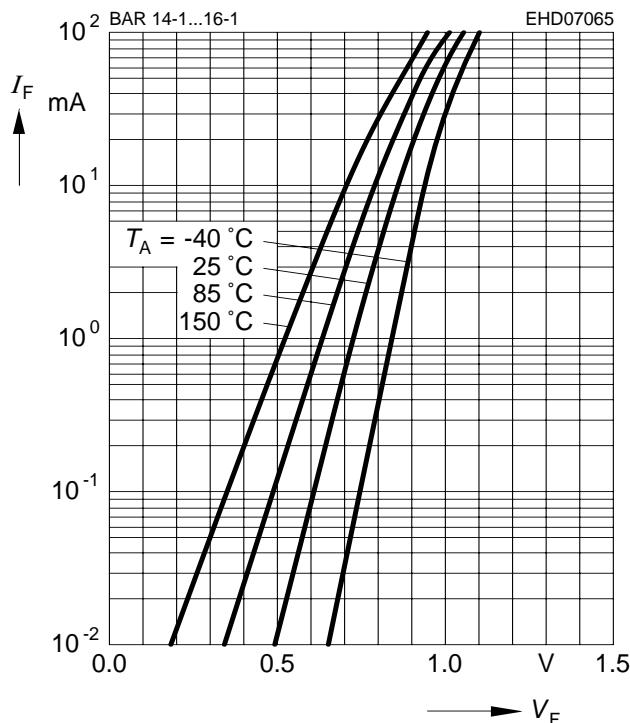
Forward current $I_F = f(T_S)$
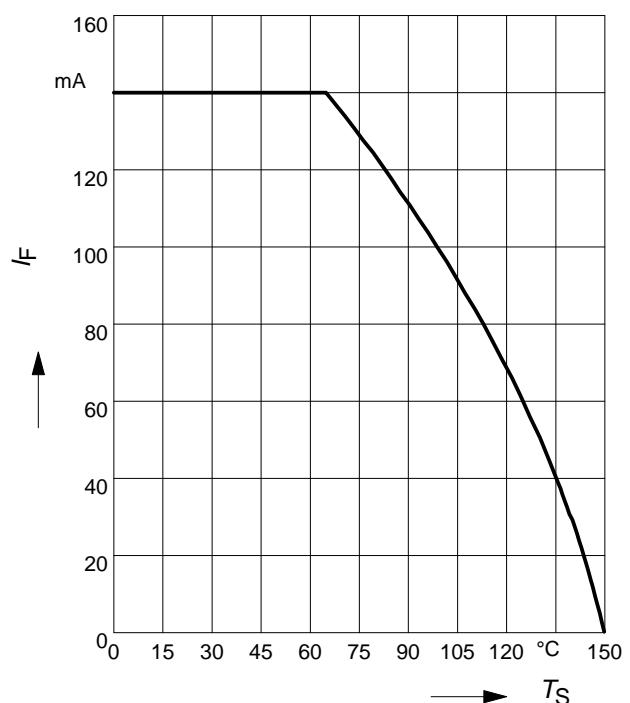
Forward resistance $r_f = f(I_F)$

$f = 100MHz$
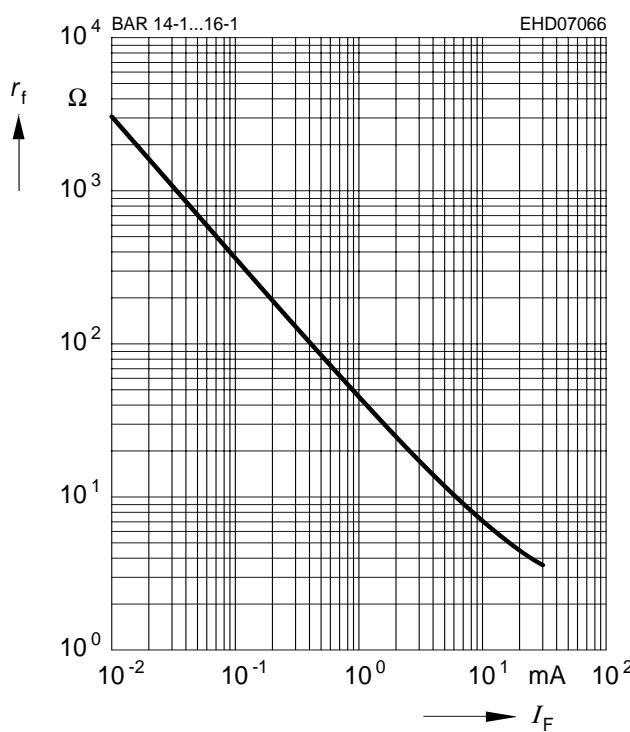
Diode capacitance $C_T = f(V_R)$

$f = $ Parameter

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