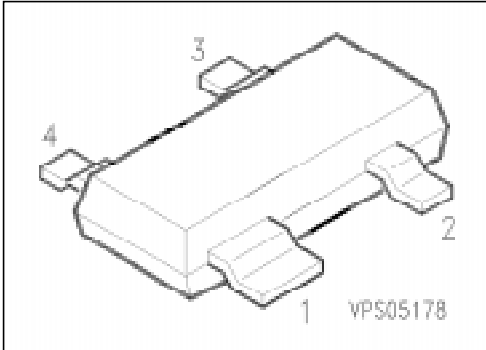


## Silicon PIN Diodes

**BAR 60**  
**BAR 61**

- RF switch
- RF attenuator for frequencies above 10 MHz



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package <sup>1)</sup>
BAR 60	60	Q62702-A786	<p>EHA07013</p>	SOT-143
BAR 61	61	Q62702-A120	<p>EHA07014</p>	

### Maximum Ratings per Diode

Parameter	Symbol	Values	Unit
Reverse voltage	$V_R$	100	V
Forward current	$I_F$	140	mA
Total power dissipation, $T_s \leq 65^\circ\text{C}^{2)}$	$P_{\text{tot}}$	250	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{\text{stg}}$	$-55 \dots +150$	
Operating temperature range	$T_{\text{op}}$	$-55 \dots +150$	

### Thermal Resistance

Junction - ambient <sup>2)</sup>	$R_{\text{th JA}}$	$\leq 580$	K/W
Junction - soldering point	$R_{\text{th JS}}$	$\leq 340$	

<sup>1)</sup> For detailed information see chapter Package Outlines.

<sup>2)</sup> Package mounted on alumina  $15\text{ mm} \times 16.7\text{ mm} \times 0.7\text{ mm}$ .

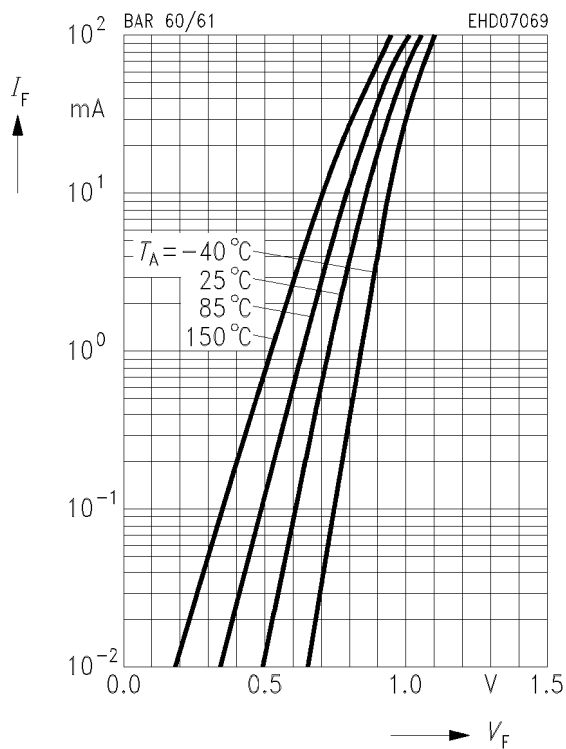
**Electrical Characteristics per Diode**  
at  $T_A = 25\text{ °C}$ , unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

**DC/AC Characteristics**

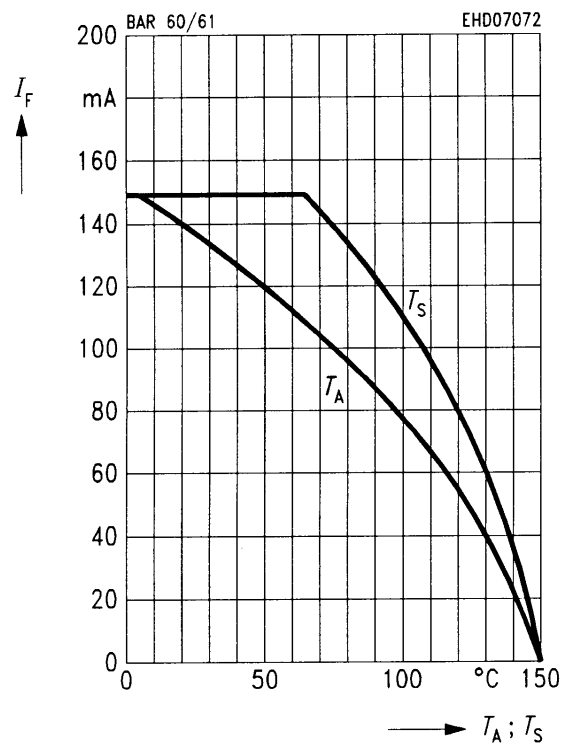
Reverse current $V_R = 50\text{ V}$ $V_R = 100\text{ V}$	$I_R$	— —	— —	100 1	nA $\mu\text{A}$
Forward voltage $I_F = 100\text{ mA}$	$V_F$	—	—	1.25	V
Diode capacitance $V_R = 50\text{ V}, f = 1\text{ MHz}$ $V_R = 0, f = 100\text{ MHz}$	$C_T$	— —	0.25 0.2	0.5 —	pF
Zero bias conductance $V_R = 0, f = 100\text{ MHz}$	$g_p$	—	50	—	$\mu\text{S}$
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$	$\tau_L$	—	1	—	$\mu\text{s}$
Differential forward resistance $f = 100\text{ MHz}, I_F = 0.01\text{ mA}$ $I_F = 0.1\text{ mA}$ $I_F = 1.0\text{ mA}$ $I_F = 10\text{ mA}$	$r_f$	— — — —	2800 380 45 7	— — — —	$\Omega$

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



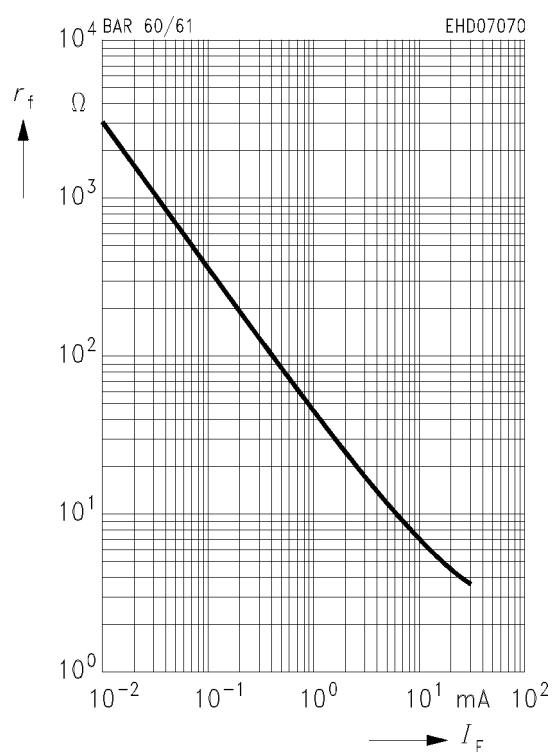
## Forward current $I_F = f(T_S; T_A^*)$

\*Package mounted on alumina

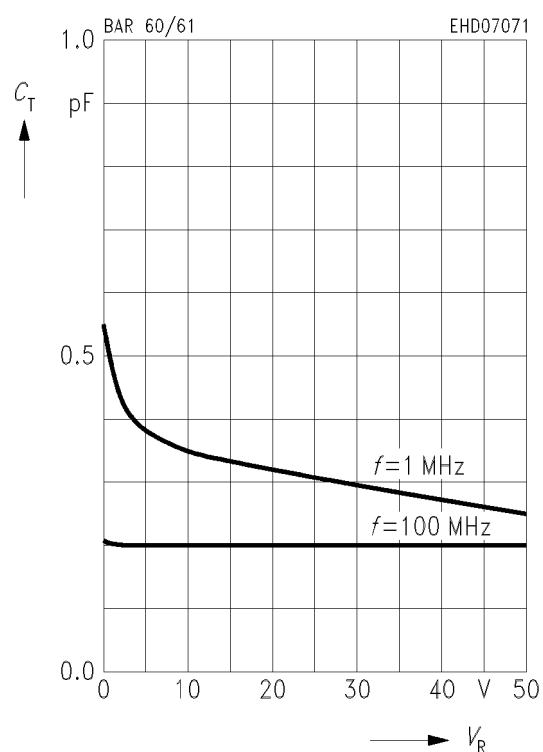


## Forward resistance $r_f = f(I_F)$

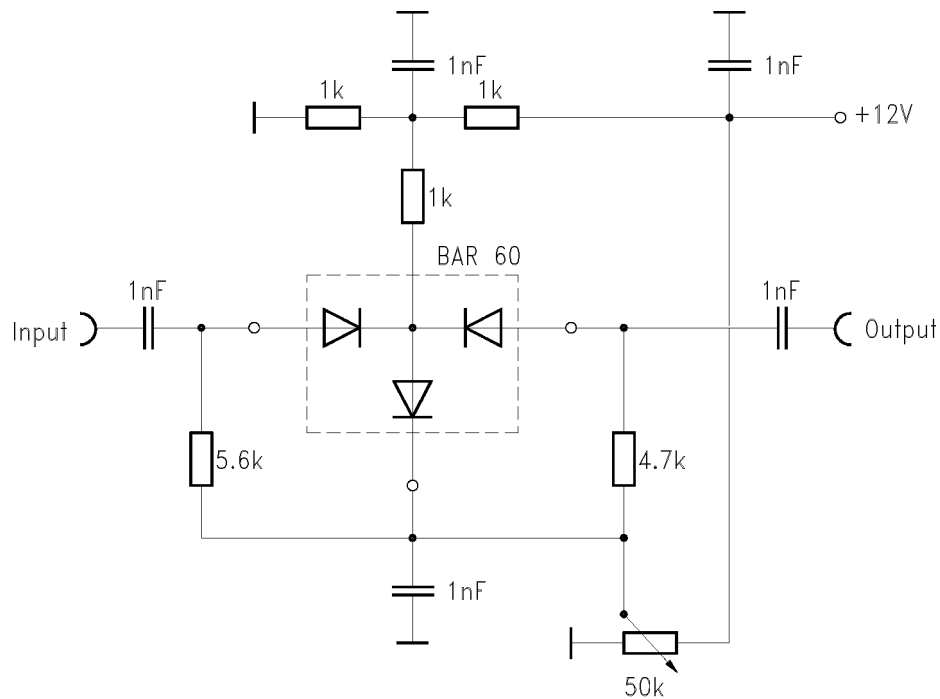
$f = 100 \text{ MHz}$



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

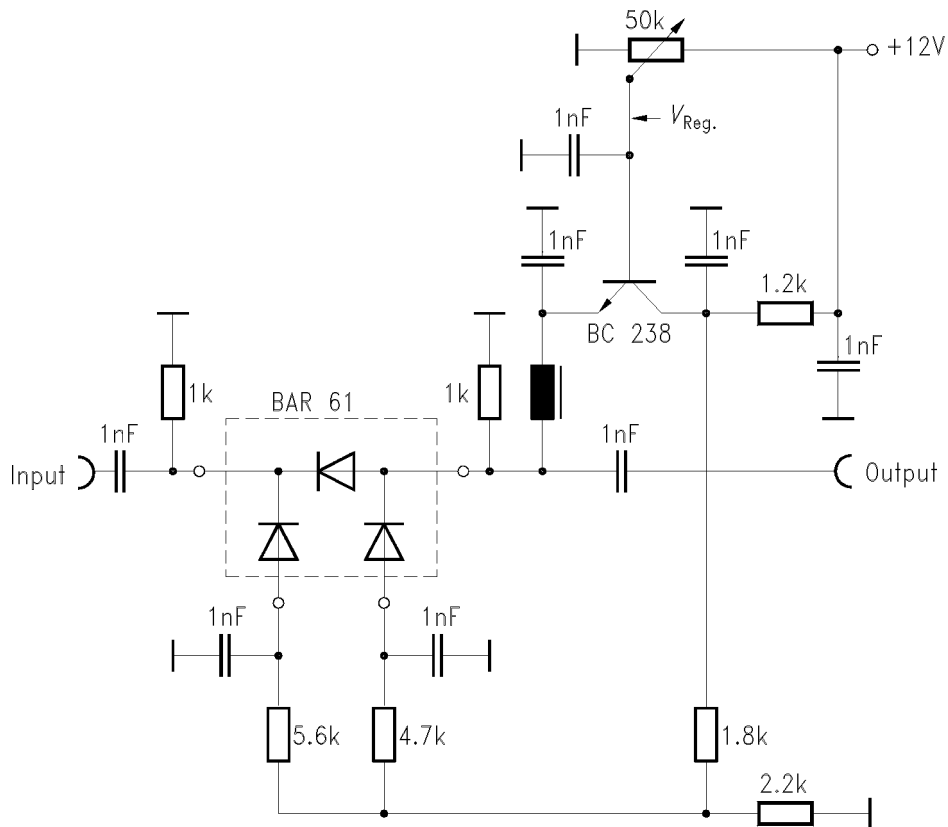


## Application circuit for attenuation networks with diode BAR 60



EHM07025

## Application circuit for attenuation networks with diode BAR 61



EHM07026