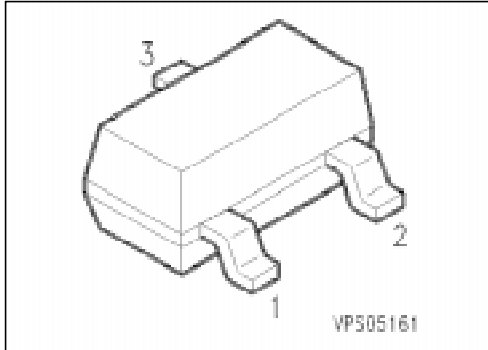


## Silicon PIN Diode

**BAR 17**

- RF switch
- RF attenuator for frequencies above 1 MHz
- Low distortion factor
- Long-term stability of electrical characteristics



Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package <sup>1)</sup>
BAR 17	L6	Q62702-A858		SOT-23

### Maximum Ratings

Parameter	Symbol	Values	Unit
Reverse voltage	$V_R$	100	V
Forward current	$I_F$	140	mA
Total power dissipation, $T_s \leq 95^\circ\text{C}^{2)}$	$P_{\text{tot}}$	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>	$R_{\text{th JA}}$	$\leq 295$	K/W
Junction - soldering point	$R_{\text{th JS}}$	$\leq 215$	

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

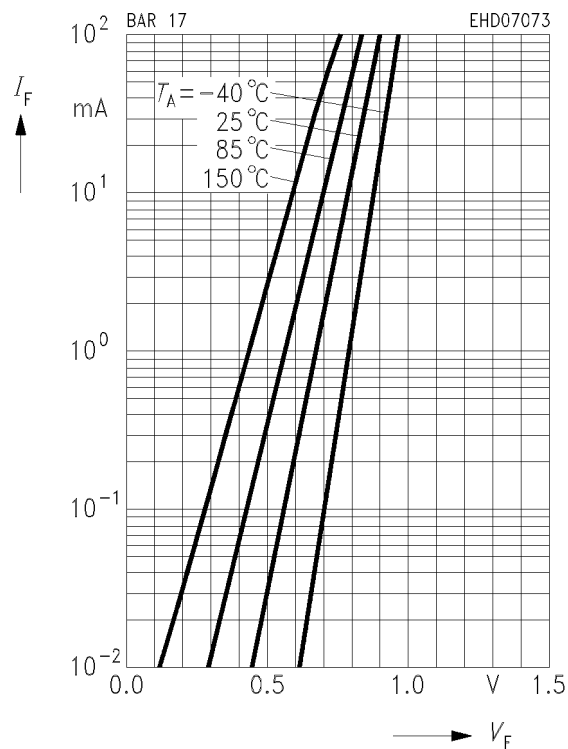
<sup>2)</sup> Package mounted on alumina  $15 \text{ mm} \times 16.7 \text{ mm} \times 0.7 \text{ mm}$ .

## Electrical Characteristics

at  $T_A = 25\text{ °C}$ , unless otherwise specified.

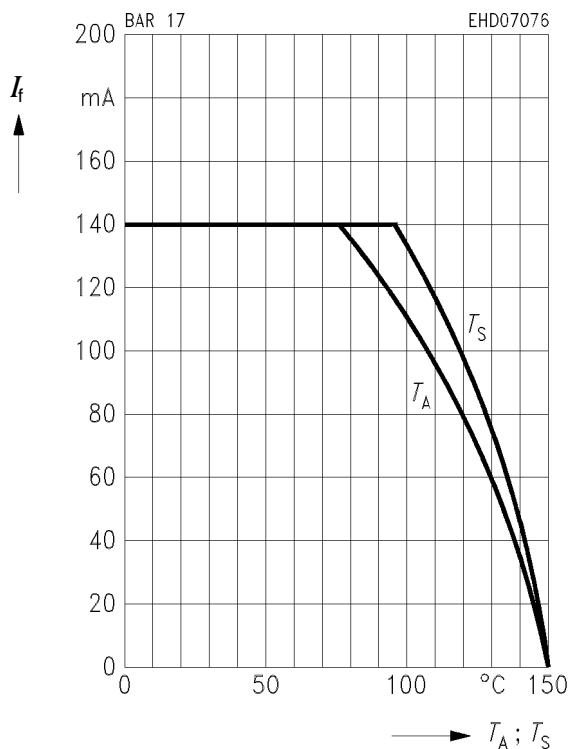
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse current $V_R = 50\text{ V}$ $V_R = 100\text{ V}$	$I_R$	— —	— —	50 1	nA $\mu\text{A}$
Forward voltage $I_F = 100\text{ mA}$	$V_F$	—	0.91	1	V
Diode capacitance $V_R = 50\text{ V}, f = 1\text{ MHz}$ $V_R = 0, f = 100\text{ MHz}$	$C_T$	— —	0.32 0.37	0.55 —	pF
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$	$\tau_L$	—	4	—	$\mu\text{s}$
Forward resistance $f = 100\text{ MHz}, I_F = 0.01\text{ mA}$ $I_F = 0.1\text{ mA}$ $I_F = 1.0\text{ mA}$ $I_F = 10\text{ mA}$	$r_f$	— — — —	1150 160 23 3.5	— — — —	$\Omega$

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



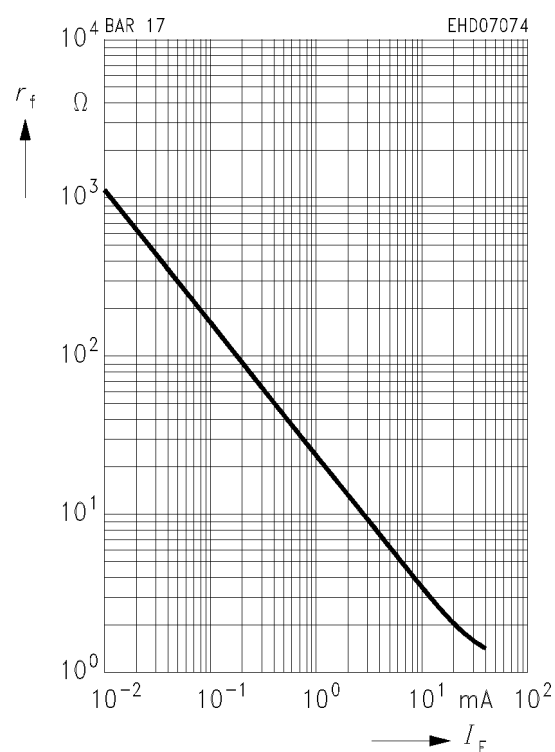
## Forward current $I_F = f(T_S; T_A^*)$

\*Package mounted on alumina

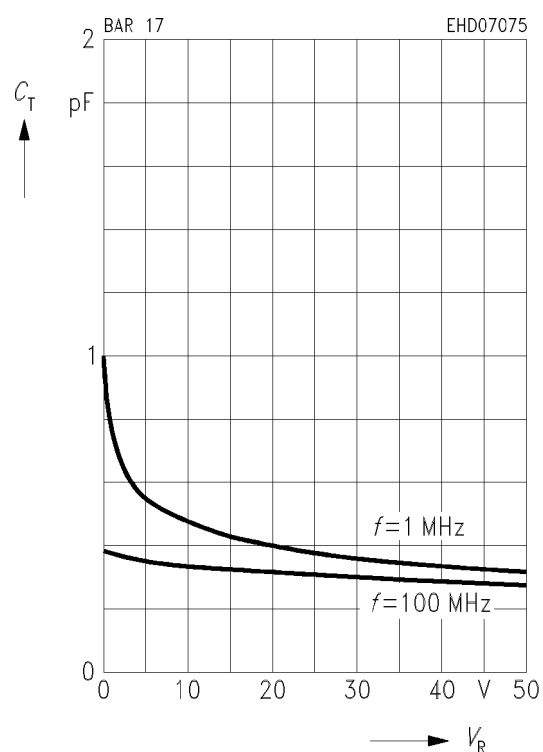


## Forward resistance $r_f = f(I_F)$

$f = 100$  MHz



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



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