

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 ¹⁾
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, $T_s \leq 95 \text{ }^\circ\text{C}^2)$	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	- 55 ... + 150	
Operating temperature range	T_{op}	- 55 ... + 150	

Thermal Resistance

Junction - ambient ²⁾	$R_{th JA}$	≤ 295	K/W
Junction - soldering point	$R_{th JS}$	≤ 215	

¹⁾ For detailed information see chapter Package Outlines.

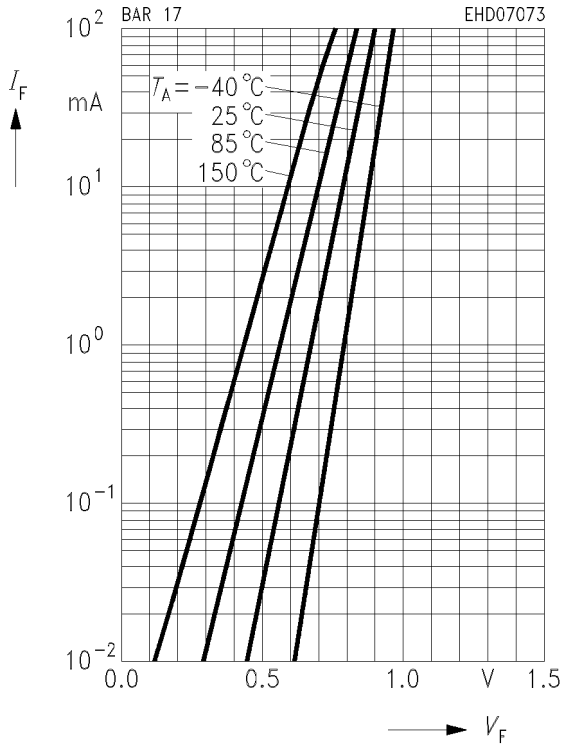
²⁾ Package mounted on alumina 15 mm × 16.7 mm × 0.7 mm.

Electrical Characteristics

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

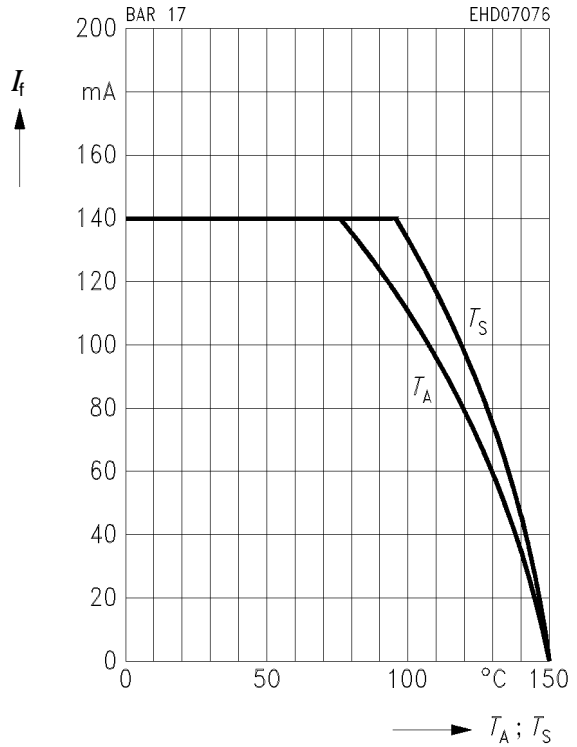
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Reverse current $V_R = 50\text{ V}$ $V_R = 100\text{ V}$	I_R	– –	– –	50 1	nA μA
Forward voltage $I_F = 100\text{ mA}$	V_F	–	0.91	1	V
Diode capacitance $V_R = 50\text{ V}, f = 1\text{ MHz}$ $V_R = 0, f = 100\text{ MHz}$	C_T	– –	0.32 0.37	0.55 –	pF
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$	τ_L	–	4	–	μs
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	– – – –	Ω

Forward current $I_F = f(V_F)$



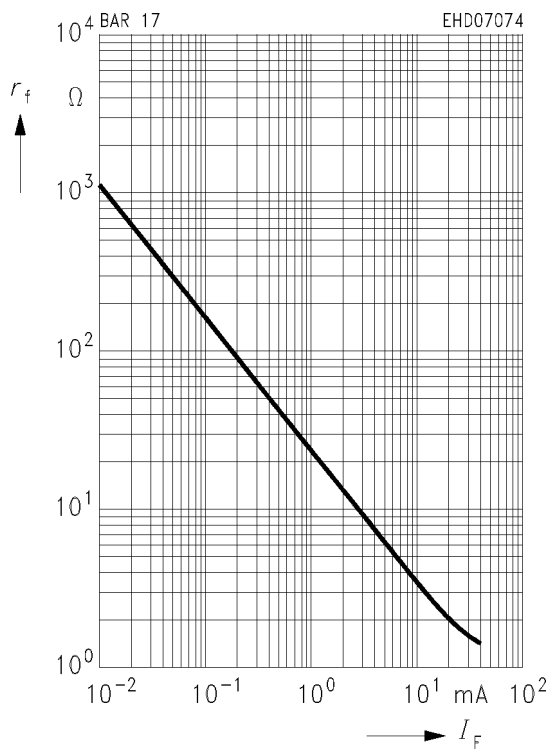
Forward current $I_F = f(T_S; T_A^*)$

*Package mounted on alumina



Forward resistance $r_f = f(I_F)$

$f = 100\text{ MHz}$



Diode capacitance $C_T = f(V_R)$

