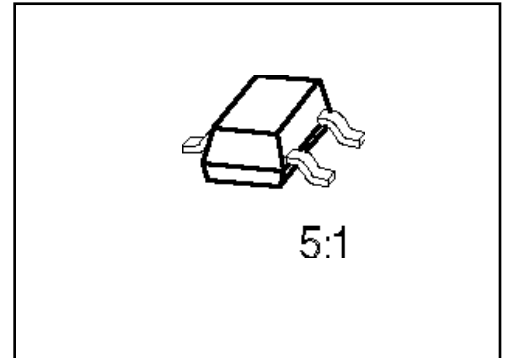



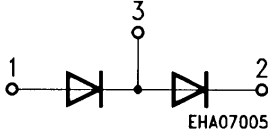
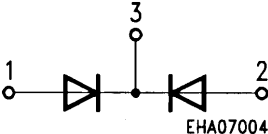
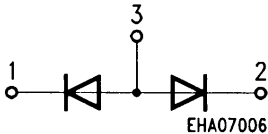
Silicon Schottky Diodes

BAS 40 ...

- General-purpose diodes for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing
- Available with CECC quality assessment



ESD: Electrostatic discharge sensitive device, observe handling precautions!

Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package ¹⁾
● BAS 40	43s	Q62702-D339		SOT-23
● BAS 40-04	44s	Q62702-D980		
● BAS 40-05	45s	Q62702-D979		
● BAS 40-06	46s	Q62702-D978		

¹⁾ For detailed information see chapter Package Outlines.

ESD: Electrostatic discharge sensitive device, observe handling precautions!

Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package ¹⁾
● BAS 40-07	47s	Q62702-D1314		SOT-143

Maximum Ratings per Diode

Parameter	Symbol	Values	Unit
Reverse voltage	V_R	40	V
Forward current	I_F	120	mA
Surge forward current, $t \leq 10$ ms	I_{FSM}	200	
Total power dissipation BAS 40 $T_s \leq 81$ °C BAS 40-04 ... $T_s \leq 55$ °C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	- 55 ... + 150	
Storage temperature range	T_{stg}	- 55 ... + 150	

Thermal Resistance

Junction - ambient ²⁾ BAS 40 BAS 40-04 ...	$R_{th JA}$	≤ 345 ≤ 515	K/W
Junction - soldering point BAS 40 BAS 40-04 ...	$R_{th JS}$	≤ 275 ≤ 375	

1) For detailed information see chapter Package Outlines.

2) Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

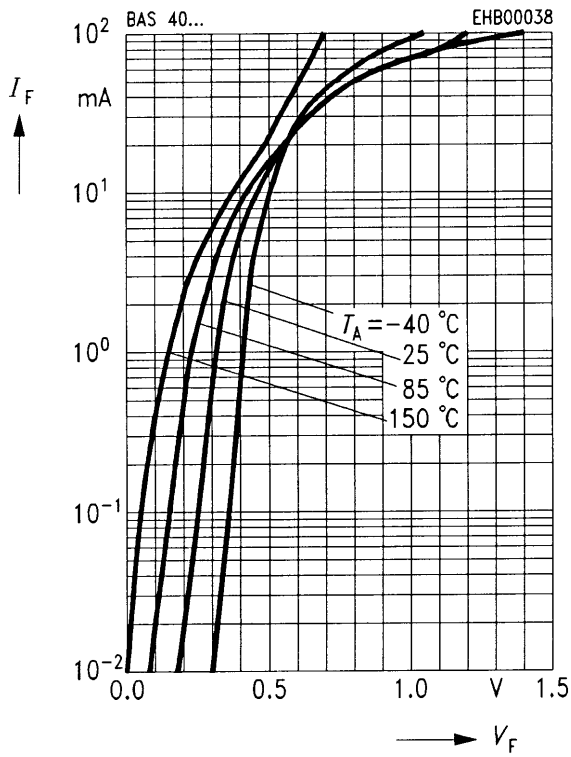
Electrical Characteristics per Diode

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

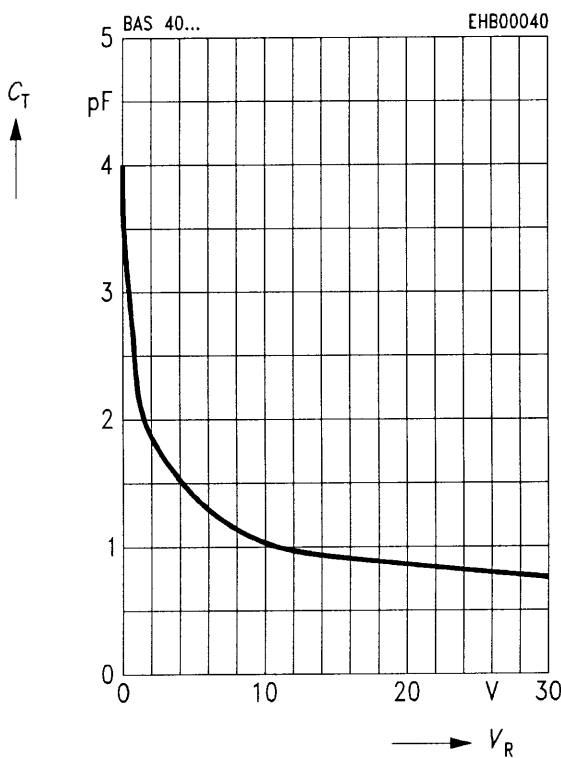
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_R = 10\text{ }\mu\text{A}$	$V_{(BR)}$	40	–	–	V
Reverse current $V_R = 30\text{ V}$ $V_R = 40\text{ V}$	I_R	– –	– –	1 10	μA
Forward voltage $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 40\text{ mA}$	V_F	– – –	310 450 720	380 500 1000	mV
Diode capacitance $V_R = 0, f = 1\text{ MHz}$	C_T	–	4	5	pF
Charge carrier life time $I_F = 25\text{ mA}$	τ	–	–	100	ps
Differential forward resistance $I_F = 10\text{ mA}, f = 10\text{ kHz}$	r_f	–	10	–	Ω

Characteristics per Diode at $T_j = 25\text{ }^\circ\text{C}$, unless otherwise specified.

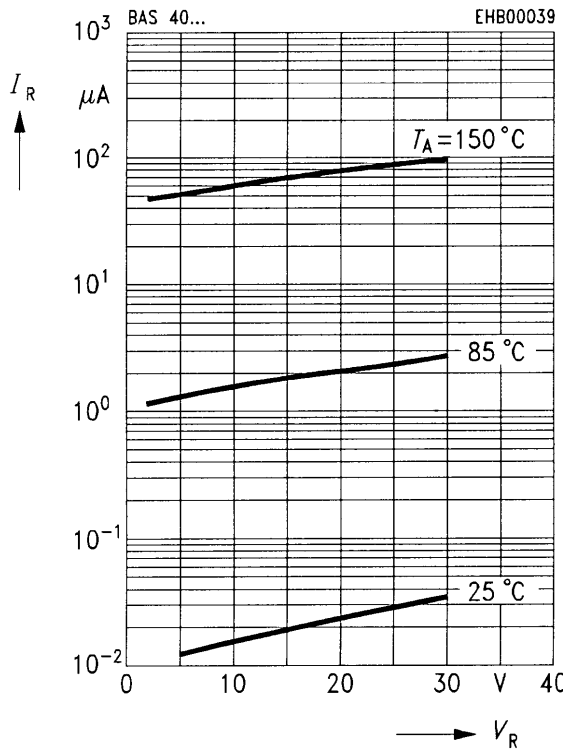
Forward current $I_F = f(V_F)$



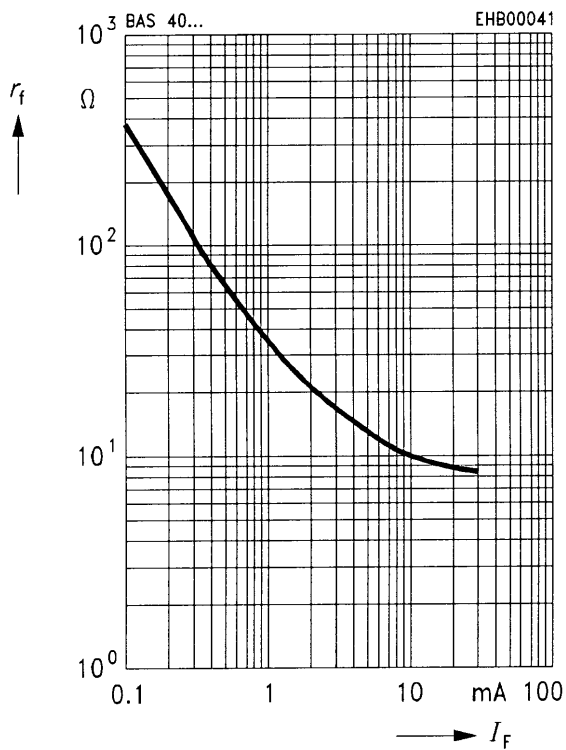
Diode capacitance $C_T = f(V_R)$
 $f = 1 \text{ MHz}$



Reverse current $I_R = f(V_R)$



Differential forward resistance $r_f = f(I_F)$
 $f = 10$ kHz



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

* Package mounted on epoxy

