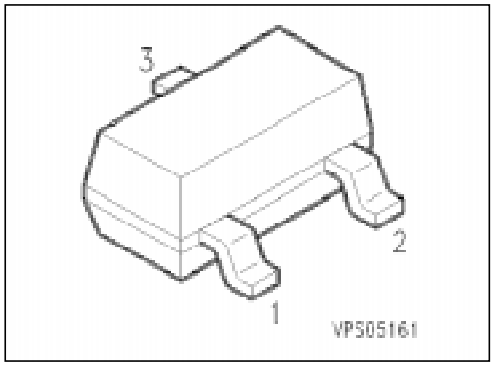
SIEMENS

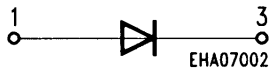
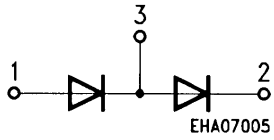
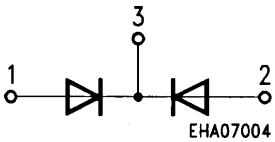
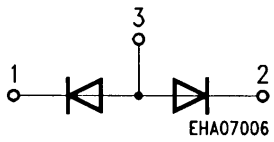
Silicon Schottky Diodes

BAS 40 ...

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

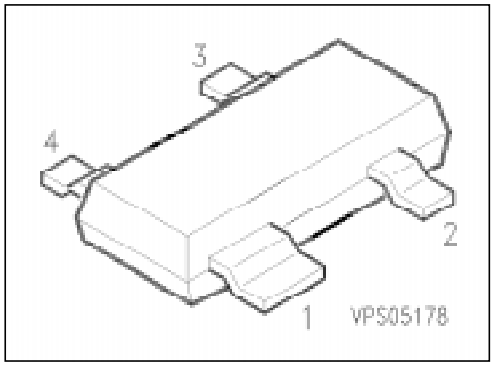


ESD: **E**lectro**s**tatic **d**ischarge sensitive device, observe handling precautions!

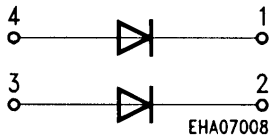
Type	Marking	Ordering Code (tape and reel)	Pin Configuration	Package[1)]
BAS 40	43s	Q62702-D339		SOT-23
BAS 40-04	44s	Q62702-D980		
BAS 40-05	45s	Q62702-D979		
BAS 40-06	46s	Q62702-D978		

1) For detailed information see chapter Package Outlines.

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



ESD: **E**lectro**s**tatic **d**ischarge 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.

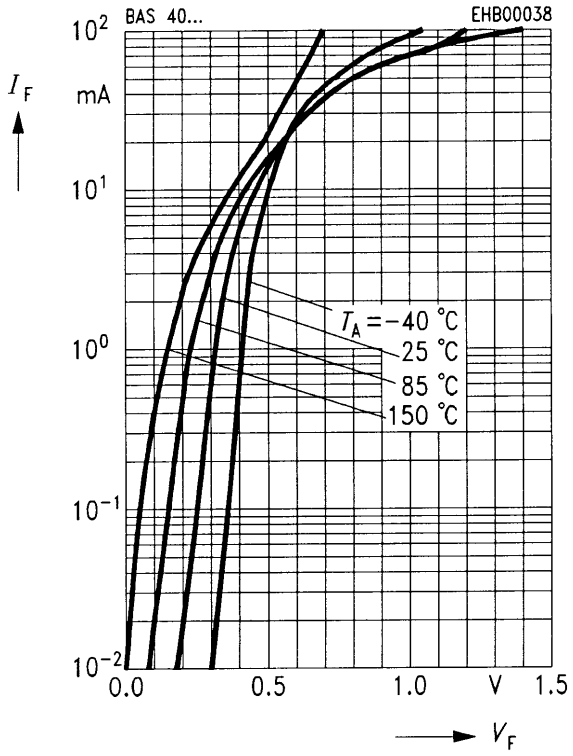
2) Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

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

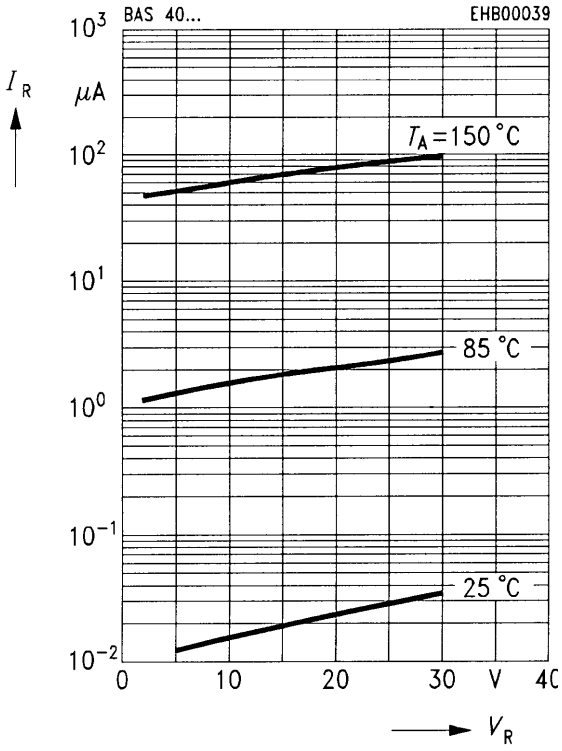
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage I_R = 10 µA	$V_{(BR)}$	40	–	–	V
Reverse current V_R = 30 V V_R = 40 V	I_R	 – –	 – –	 1 10	µA
Forward voltage I_F = 1 mA I_F = 10 mA I_F = 40 mA	V_F	 – – –	 310 450 720	 380 500 1000	mV
Diode capacitance V_R = 0,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

Characteristics per Diode at T_j = 25 °C, unless otherwise specified.

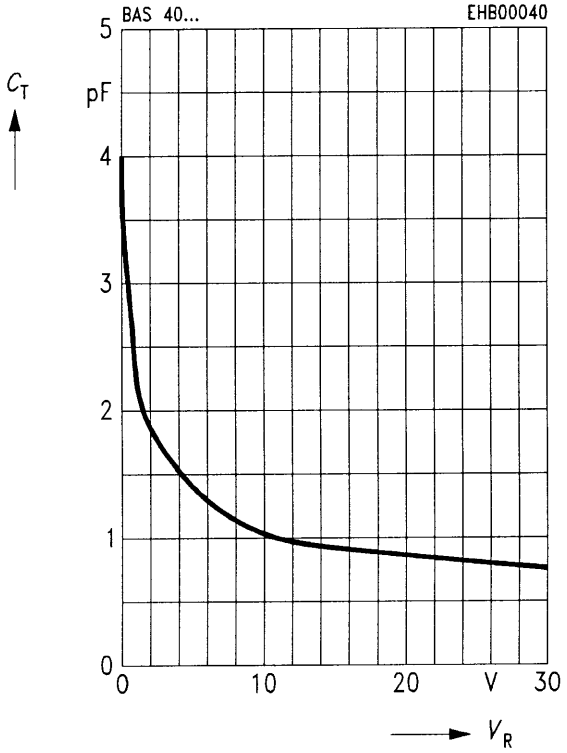
Forward current $I_F = f(V_F)$



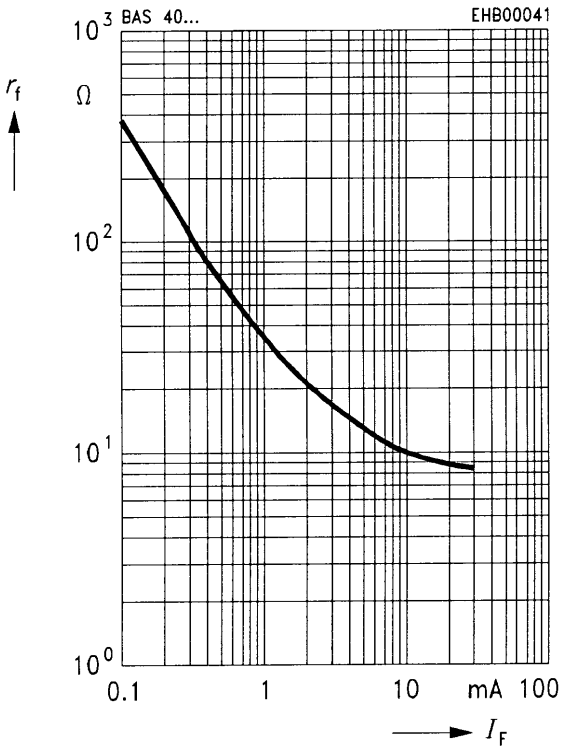
Reverse current $I_R = f(V_R)$



Diode capacitance $C_T = f(V_R)$
f= 1 MHz



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



Forward current $I_F = f(T_A^*; T_S)$
* Package mounted on epoxy