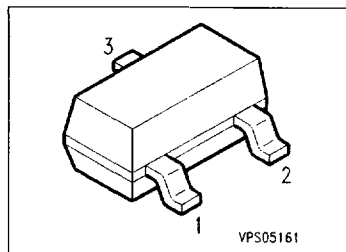


Silicon Schottky Diodes

BAS 40 ...

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

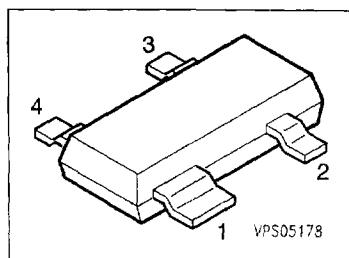


ESD: Electrostatic discharge sensitive device, observe handling precautions!

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.

- 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 40-07	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_{sig}	- 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.

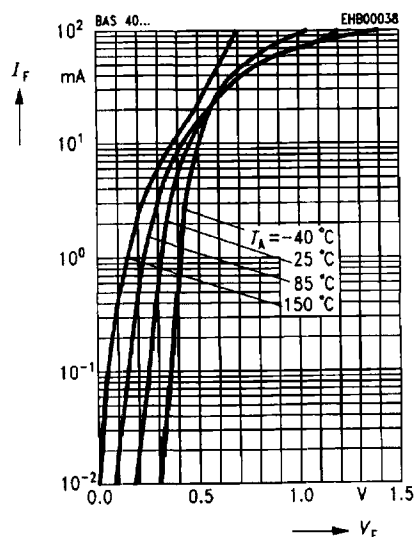
²⁾ Package mounted on epoxy pcb 40 mm × 40 mm × 1.5 mm/6 cm² Cu.

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

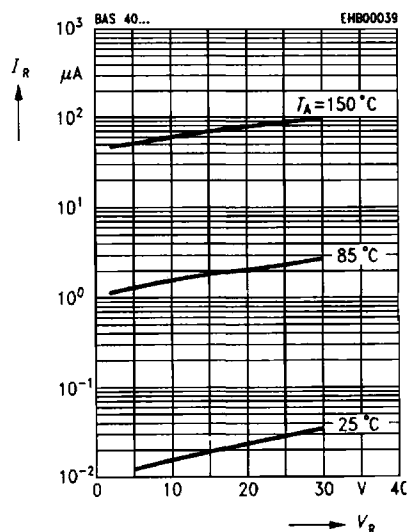
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_R = 10\ \mu\text{A}$	$V_{(BR)}$	40	—	—	V
Reverse current $V_R = 30\ \text{V}$ $V_R = 40\ \text{V}$	I_R	— —	— —	1 10	μA
Forward voltage $I_F = 1\ \text{mA}$ $I_F = 10\ \text{mA}$ $I_F = 40\ \text{mA}$	V_F	— — —	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_n	—	10	—	Ω

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

Forward current $I_F = f(V_F)$

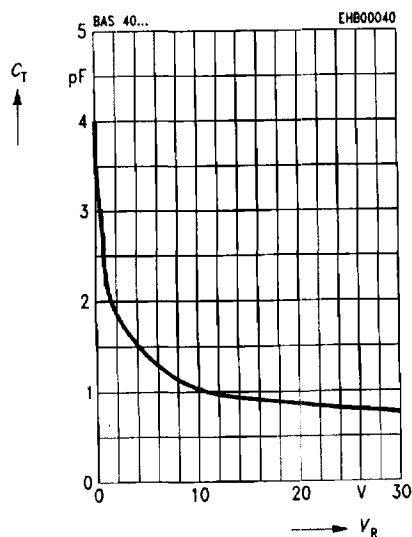


Reverse current $I_R = f(V_R)$



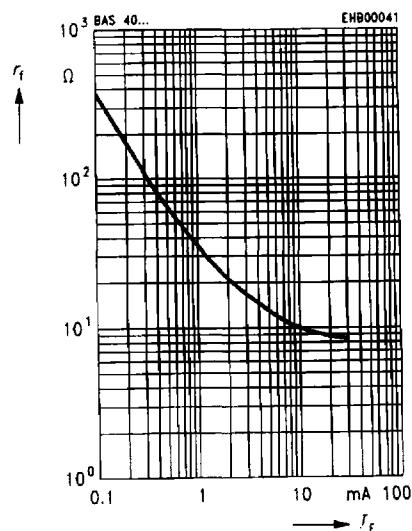
Diode capacitance $C_T = f(V_R)$

$f = 1\text{ MHz}$



Differential forward resistance $r_f = f(I_F)$

$f = 10\text{ kHz}$



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

* Package mounted on epoxy

