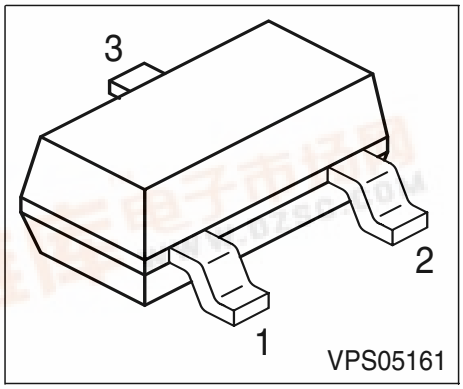
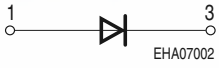
Silicon Schottky Diodes

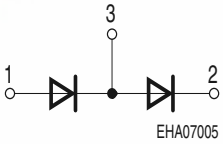
- General-purpose diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing



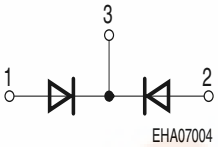
BAS 40



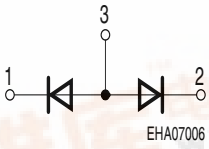
BAS 40-04



BAS 40-05



BAS 40-06



Type	Marking	Pin Configuration		Package
BAS 40	43s	1 = A	2 n.c.	SOT-23
BAS 40-04	44s	1 = A1	2 = C2	SOT-23
BAS 40-05	45s	1 = A1	2 = A2	SOT-23
BAS 40-06	46s	1 = C1	2 = C2	SOT-23

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode 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	P_{tot}	250	mW
BAS 40-04, BAS 40-05, BAS 40-06 , $T_S \leq 55$°C	P_{tot}	250	
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Junction - ambient [1] BAS 40	R_{thJA}	≤ 345	K/W
Junction - ambient BAS 40-04 ...	R_{thJA}	≤ 515	
Junction - soldering point BAS 40	R_{thJS}	≤ 275	
Junction - soldering point BAS 40-04 ...	R_{thJS}	≤ 375	

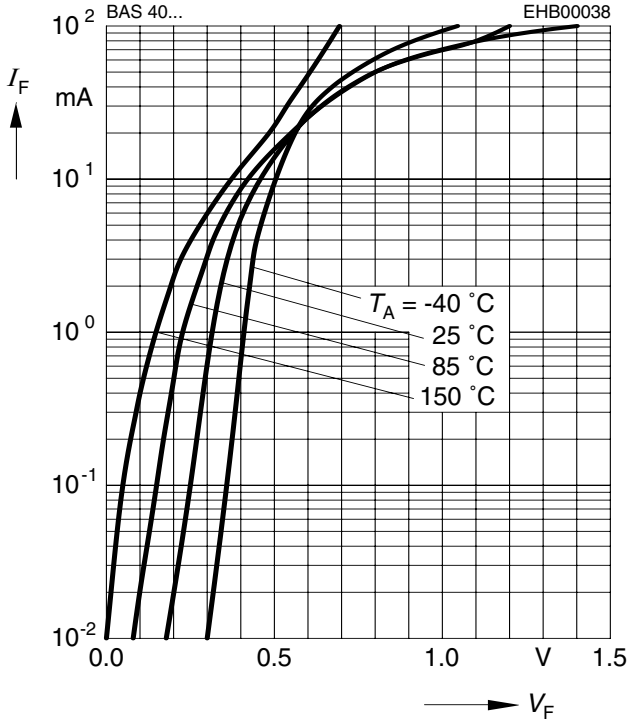
1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 6cm^2 Cu

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)}$ = 10 µA	$V_{(BR)}$	40	-	-	V
Reverse current	I_R				µA
V_R = 30 V		-	-	1	
V_R = 40 V		-	-	10	
Forward voltage	V_F				mV
I_F = 1 mA		-	310	380	
I_F = 10 mA		-	450	500	
I_F = 40 mA		-	720	1000	
AC characteristics					
Diode capacitance V_R = 0 V, 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

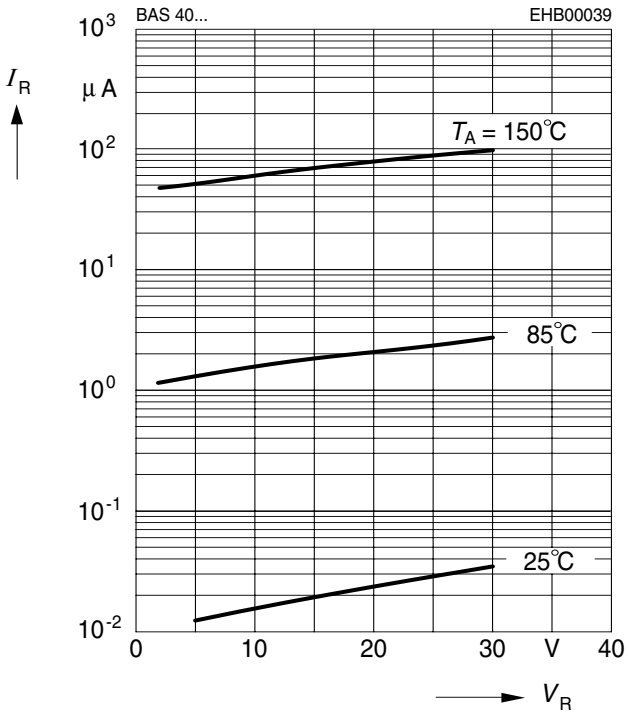
Forward current $I_F = f(V_F)$

T_A = 25°C



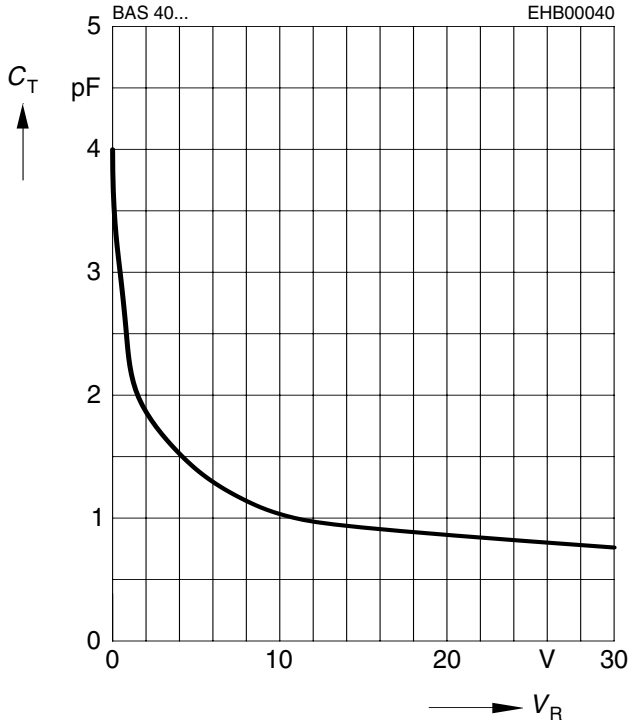
Reverse current $I_R = f(V_R)$

T_A = Parameter



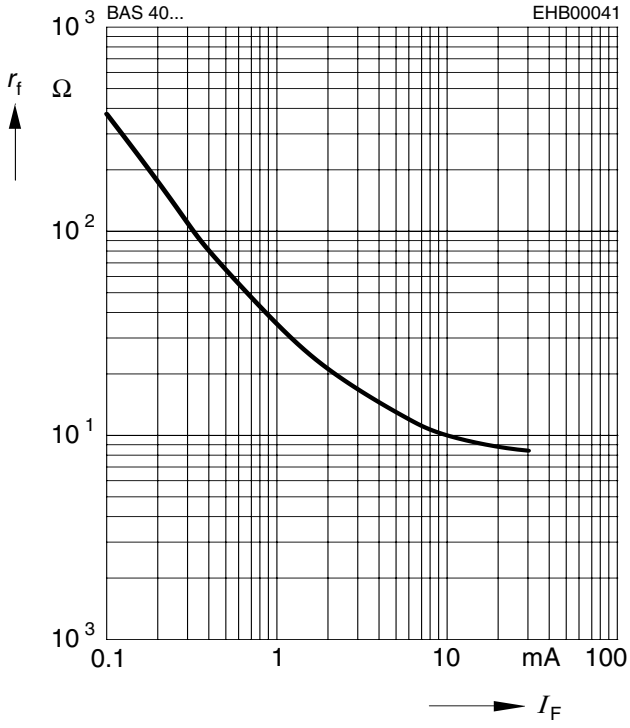
Diode capacitance $C_T = f(V_R)$

f = 1MHz



Differential forward resistance $r_f = f(I_F)$

f = 10 kHz



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

* Package mounted on epoxy