Silicon Schottky Diodes

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

VPS05161

BAS 40   **BAS 40-04**   **BAS 40-05**   **BAS 40-06**
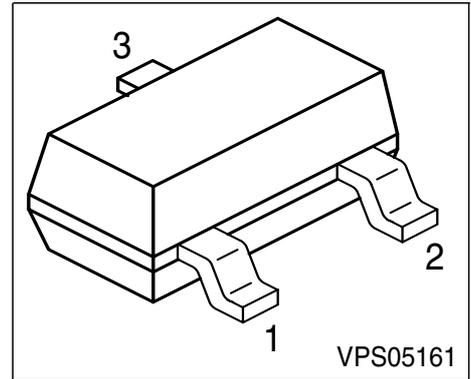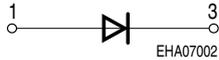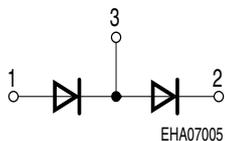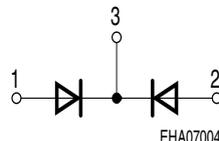
EHA07002   EHA07005   EHA07004   EHA07006
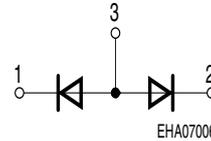
Type	Marking	Pin Configuration		Package
BAS 40	43s	1 = A	2 n.c.	SOT-23
BAS 40-04	44s	1 = A1	2 = C2	SOT-23
BAS 40-05	45s	1 = A1	2 = A2	SOT-23
BAS 40-06	46s	1 = C1	2 = C2	SOT-23

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

| Parameter	Symbol	Value	Unit
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

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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 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
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

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Forward current $I_F = f(V_F)$

$T_A = 25°C$
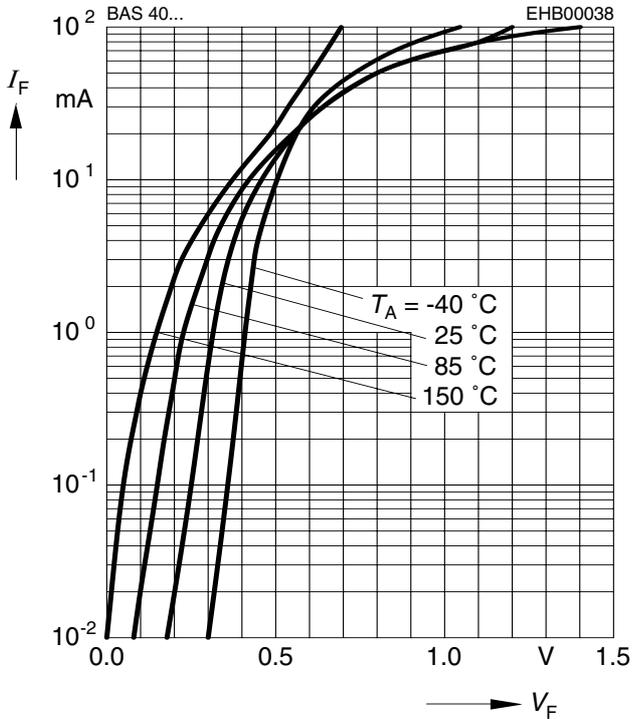
Reverse current $I_R = f(V_R)$

T_A = Parameter
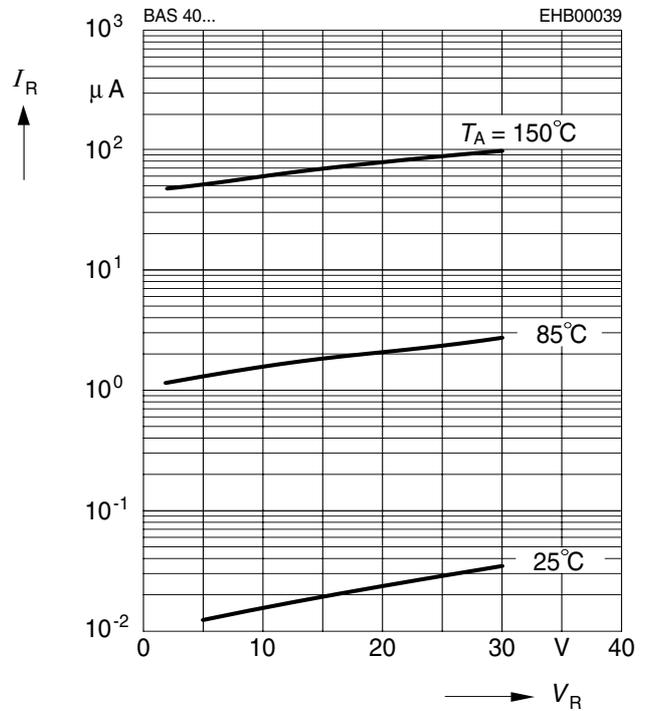
Diode capacitance $C_T = f(V_R)$

f = 1MHz
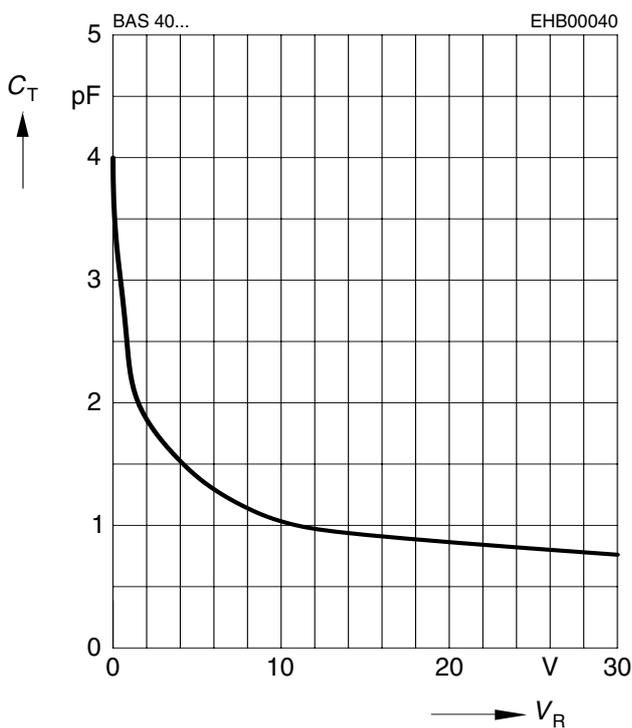
Differential forward resistance $r_f = f(I_F)$

f = 10 kHz

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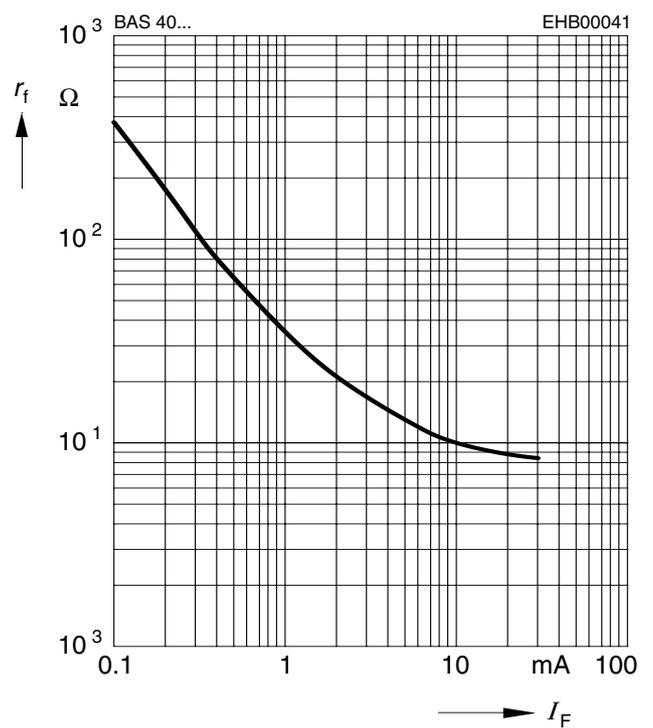
Forward current $I_F = f(T_A*; T_S)$

* Package mounted on epoxy

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