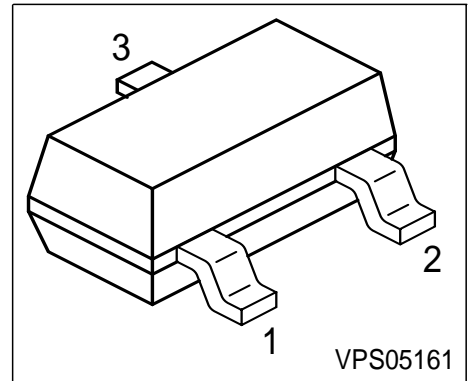
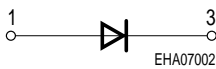
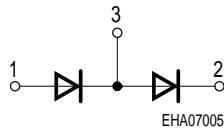
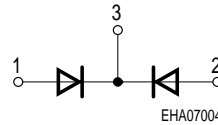
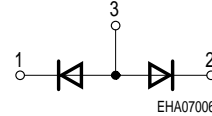


Silicon Schottky Diodes

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


BAS40

BAS40-04

BAS40-05

BAS40-06


Type	Marking	Pin Configuration			Package
BAS40	43s	1 = A	2 n.c.	3=C	SOT23
BAS40-04	44s	1 = A1	2 = C2	3=C1/A2	SOT23
BAS40-05	45s	1 = A1	2 = A2	3=C1/2	SOT23
BAS40-06	46s	1 = C1	2 = C2	3=A1/2	SOT23

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	P_{tot}		mW
$T_S \leq 81^\circ\text{C}$, BAS40		250	
$T_S \leq 56^\circ\text{C}$, BAS40-04; BAS40-06		250	
$T_S \leq 31^\circ\text{C}$, BAS40-05		250	
Junction temperature	T_j	150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}		K/W
BAS40		≤ 275	
BAS40-04; BAS40-06		≤ 375	
BAS40-05		≤ 475	

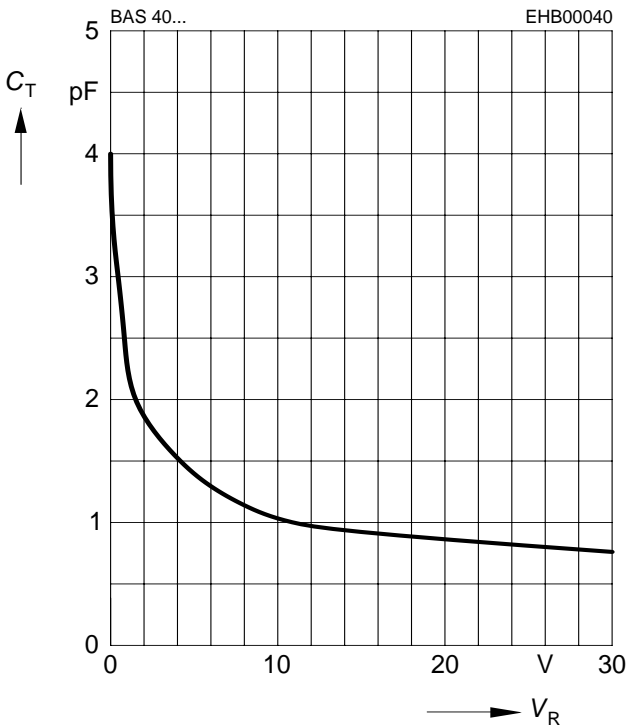
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Breakdown voltage $I_{(BR)} = 10 \mu\text{A}$	$V_{(BR)}$	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
AC Characteristics					
Diode capacitance- $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	C_T	-	3	5	pF
Differential forward resistance $I_F = 10 \text{ mA}, f = 10 \text{ kHz}$	R_F	-	10	-	Ω
Charge carrier life time $I_F = 25 \text{ mA}$	τ_{rr}	-	-	100	ps

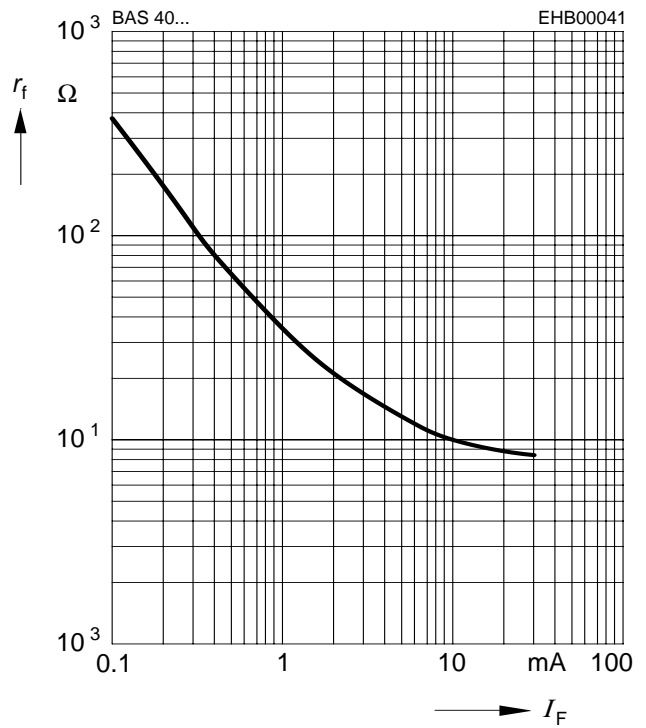
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



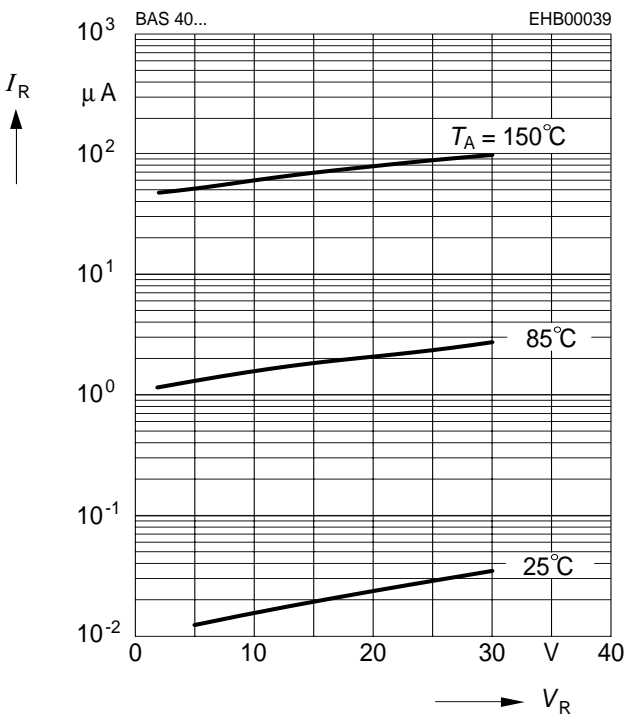
Differential forward resistance $R_f = f(I_F)$

$f = 10\text{kHz}$



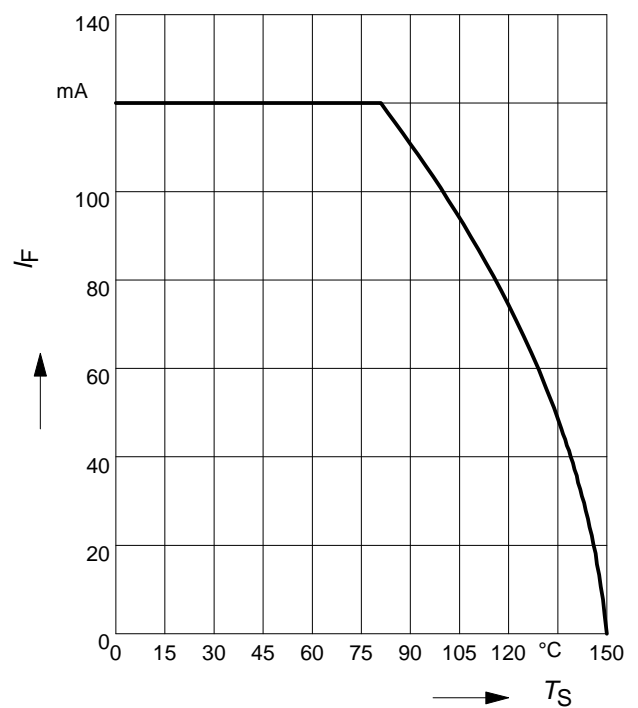
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



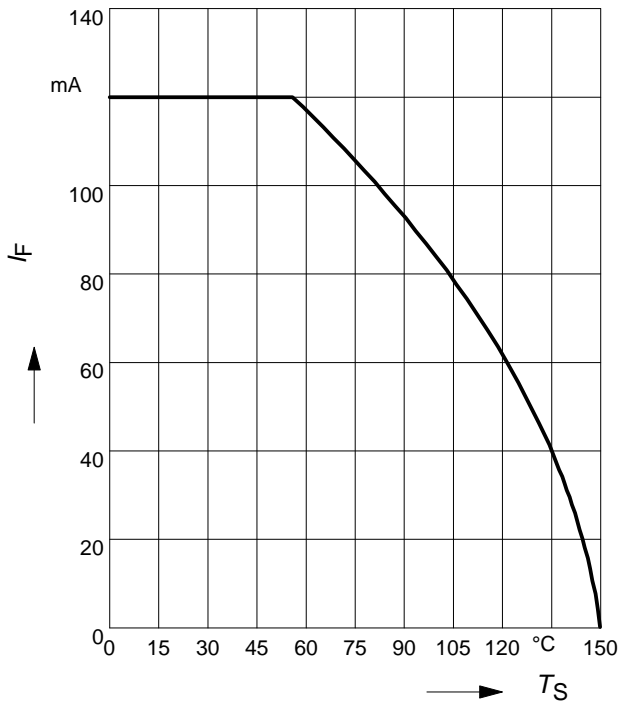
Forward current $I_F = f(T_S)$

BAS40



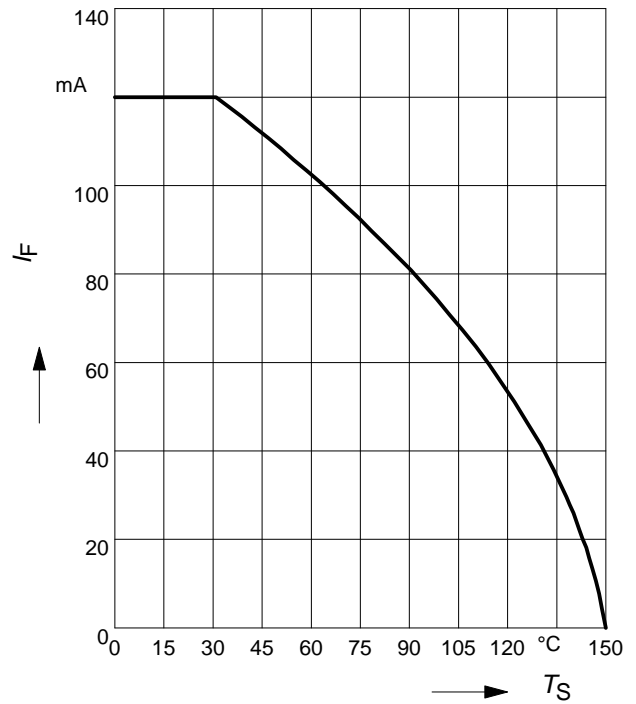
Forward current $I_F = f(T_S)$

BAS40-04, BAS40-06



Forward current $I_F = f(T_S)$

BAS40-05



Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$

