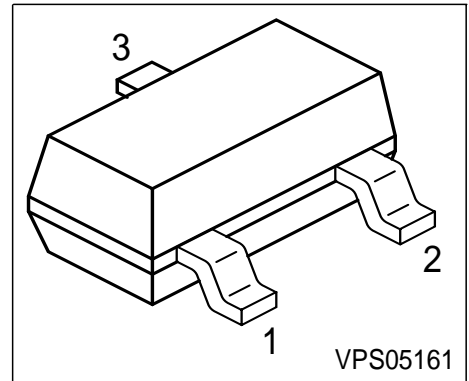
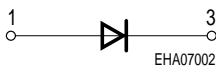
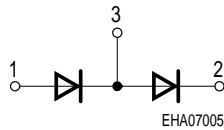
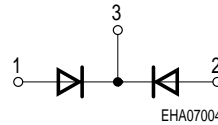
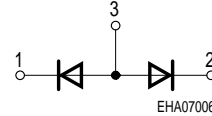


### Silicon Schottky Diodes

- 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	°C
Operating temperature range	$T_{op}$	-55 ... 150	
Storage temperature	$T_{stg}$	-55 ... 150	

### Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$		K/W
BAS40		$\leq 275$	
BAS40-04; BAS40-06		$\leq 375$	
BAS40-05		$\leq 475$	

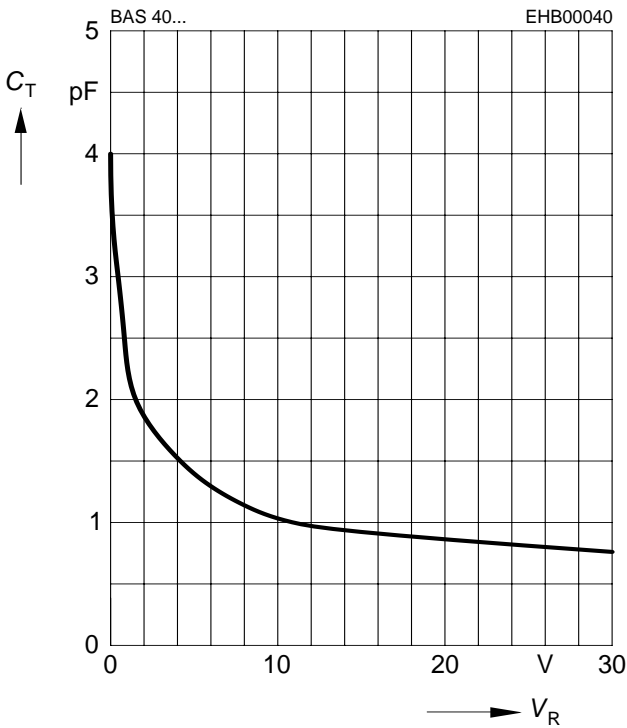
<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>DC Characteristics</b>					
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	$\mu\text{A}$
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
<b>AC Characteristics</b>					
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	-	$\Omega$
Charge carrier life time $I_F = 25 \text{ mA}$	$\tau_{rr}$	-	-	100	ps

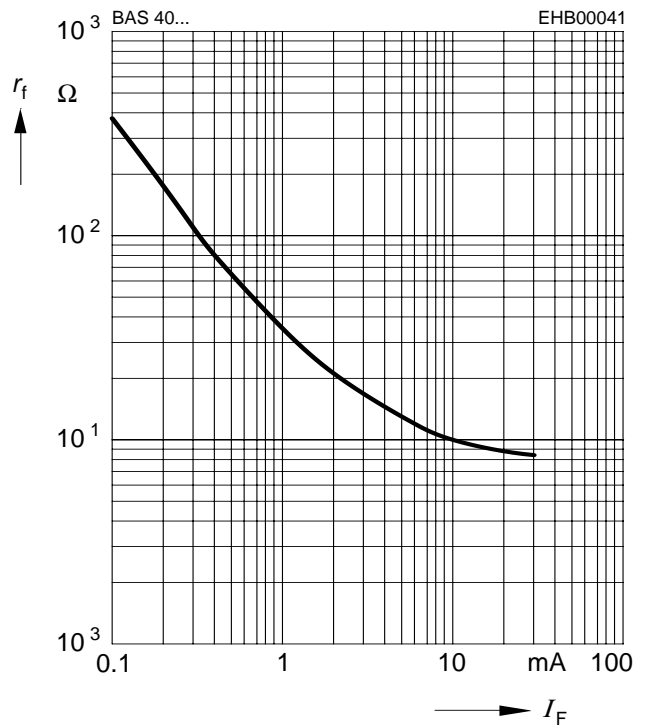
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



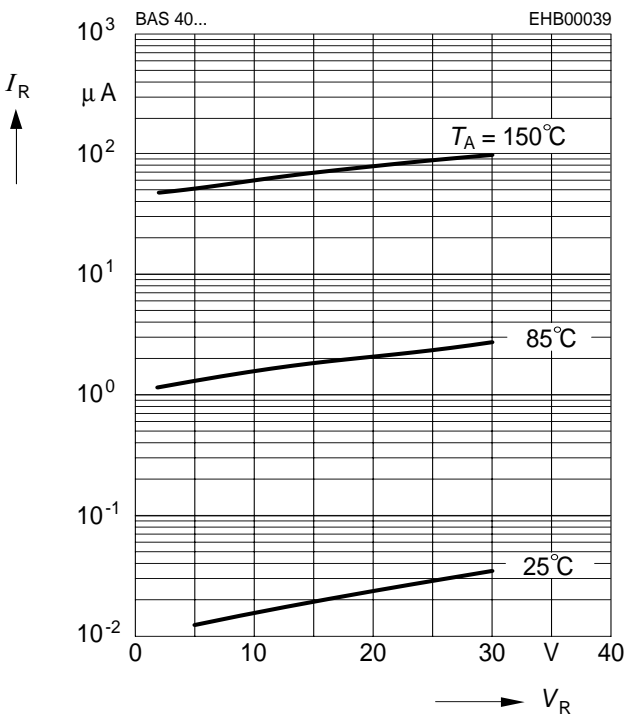
**Differential forward resistance  $R_f = f(I_F)$**

$f = 10\text{kHz}$



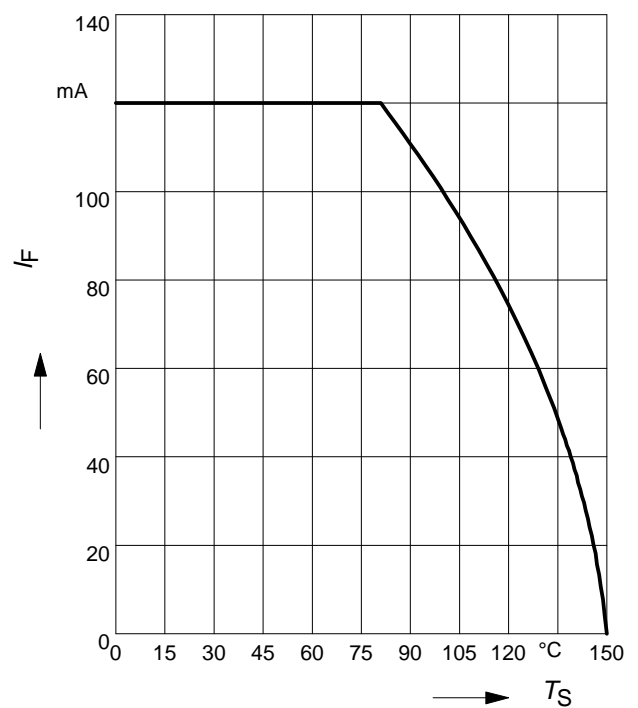
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



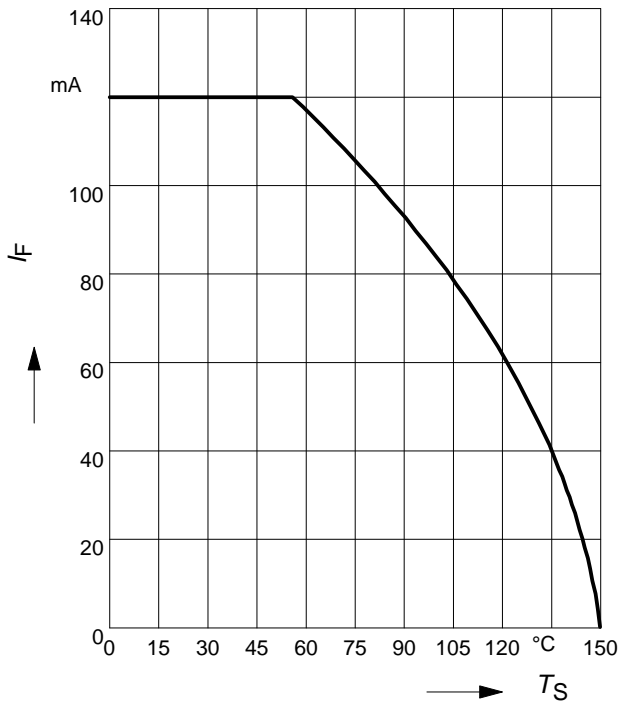
**Forward current  $I_F = f(T_S)$**

BAS40



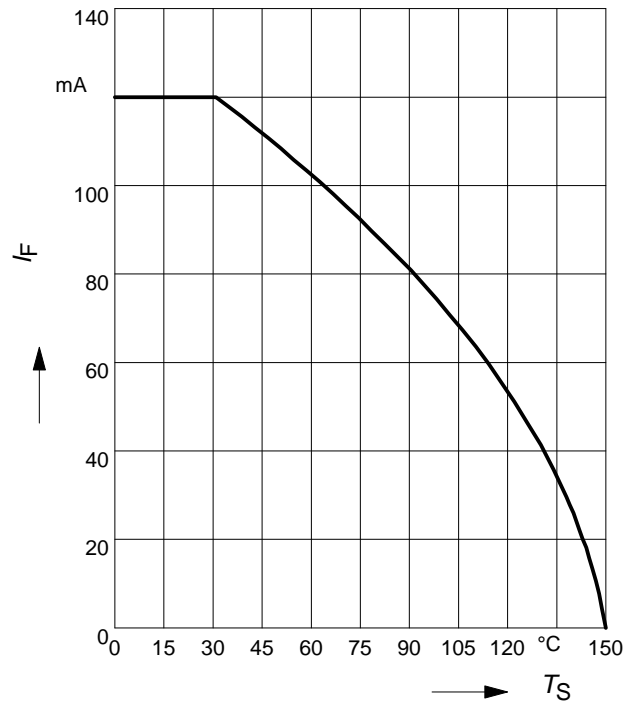
**Forward current  $I_F = f(T_S)$**

BAS40-04, BAS40-06



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

BAS40-05



**Forward current  $I_F = f(V_F)$**

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

