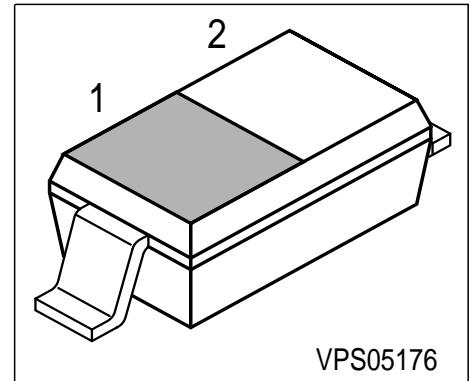


**Silicon Schottky Diode**

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



Type	Marking	Pin Configuration			Package
BAS170W	7	1 = C	2 = A	-	SOD323

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	70	V
Forward current	$I_F$	70	mA
Surge forward current, $t \leq 10$ ms	$I_{FSM}$	100	
Total power dissipation $T_S = 97$ °C	$P_{tot}$	250	mW
Junction temperature	$T_j$	150	°C
Operating temperature range	$T_{op}$	-55 ... 125	
Storage temperature	$T_{stg}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup>	$R_{thJS}$	$\leq 190$	K/W

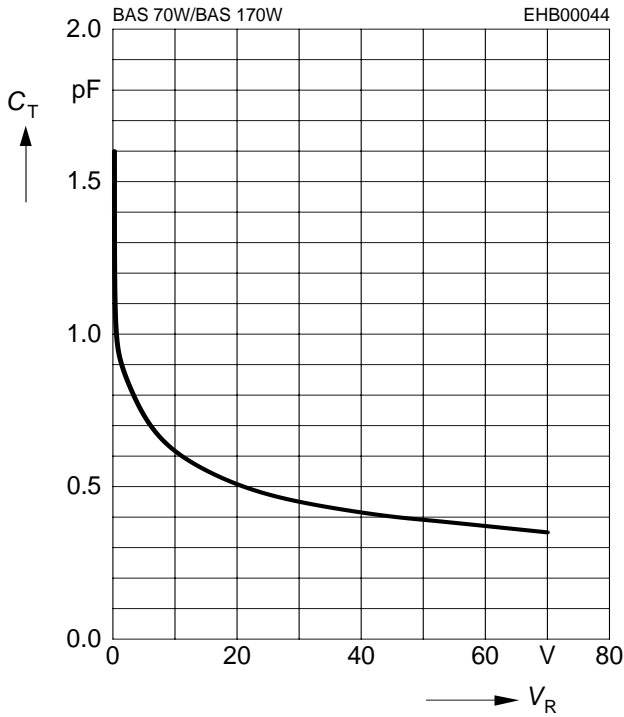
<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

**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 $I_{(BR)} = 10 \mu\text{A}$	$V_{(BR)}$	70	-	-	V
Reverse current $V_R = 50 \text{ V}$ $V_R = 70 \text{ V}$	$I_R$	- -	- -	0.1 10	$\mu\text{A}$
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 15 \text{ mA}$	$V_F$	300 600 750	375 705 880	410 750 1000	mV
<b>AC Characteristics</b>					
Diode capacitance- $V_R = 0 \text{ V}, f = 1 \text{ MHz}$	$C_T$	-	1.5	2	pF
Differential forward resistance $I_F = 5 \text{ mA}, f = 10 \text{ kHz}$	$R_F$	-	34	-	$\Omega$
Charge carrier life time $I_F = 25 \text{ mA}$	$\tau_{rr}$	-	-	100	ps
Series inductance	$L_S$	-	1.8	-	nH

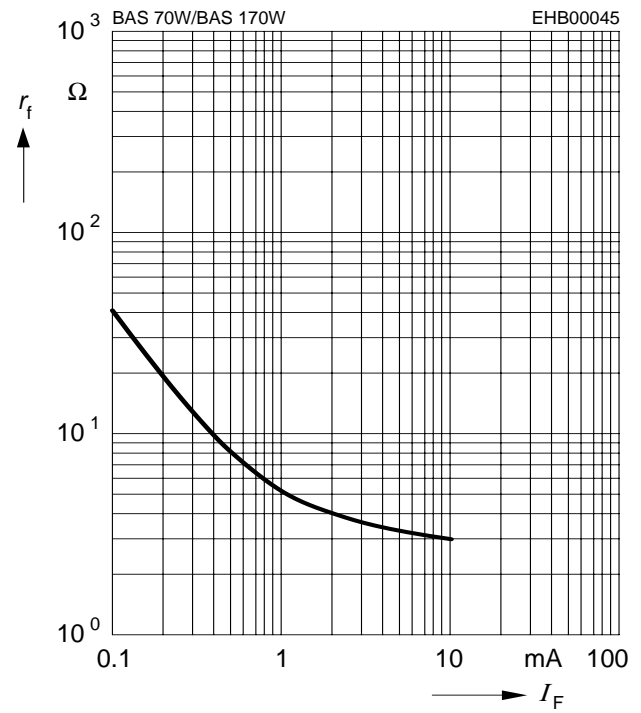
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



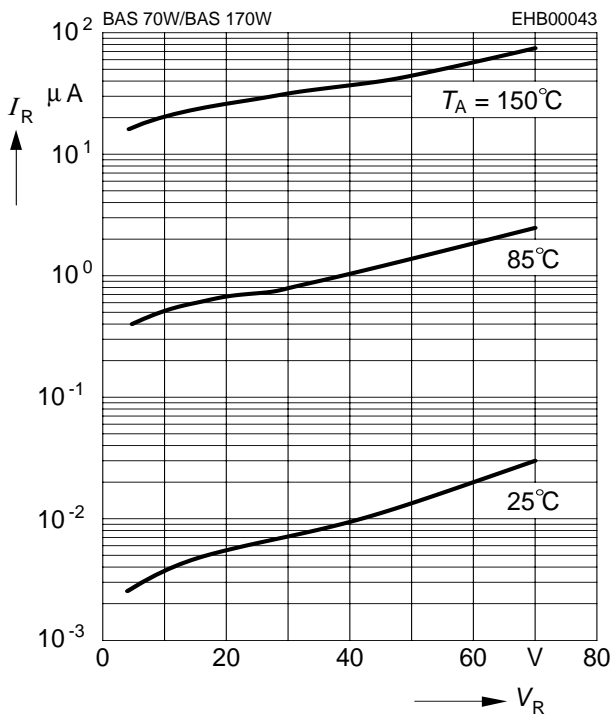
**Differential forward resistance  $r_f = f(I_F)$**

$f = 10\text{kHz}$

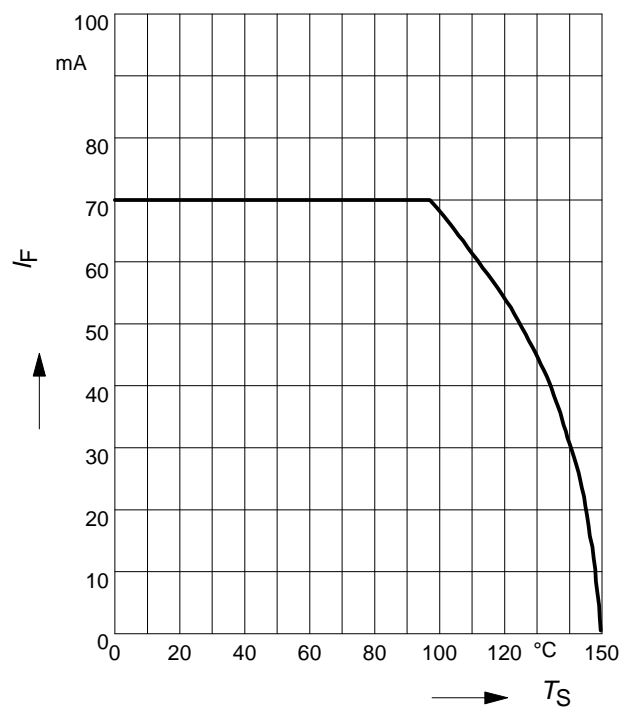


**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$

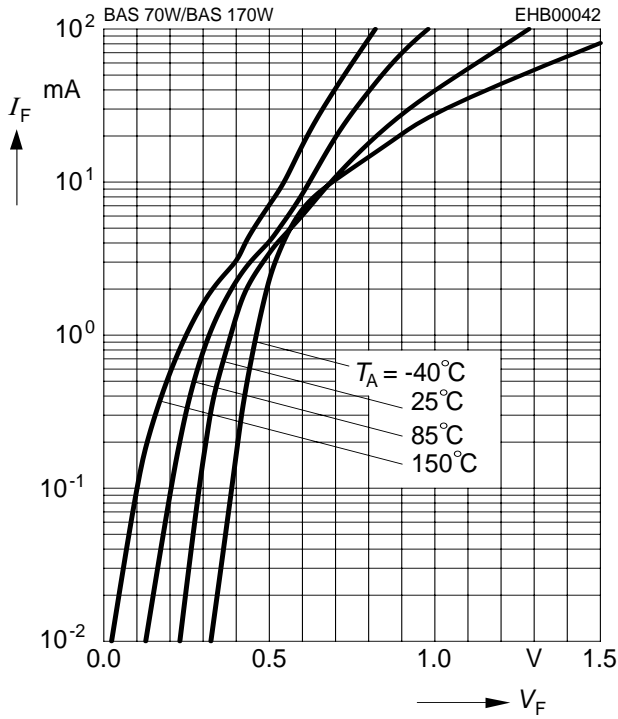


**Forward current  $I_F = f(T_S)$**



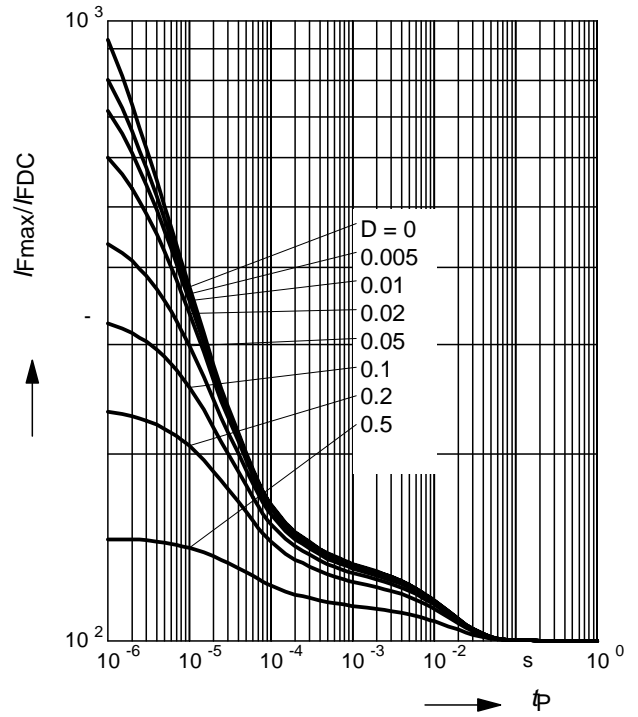
**Forward current  $I_F = f(V_F)$**

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



**Permissible Pulse Load**

$I_{Fmax}/I_{FDC} = f(t_p)$



**Permissible Puls Load  $R_{thJS} = f(t_p)$**

