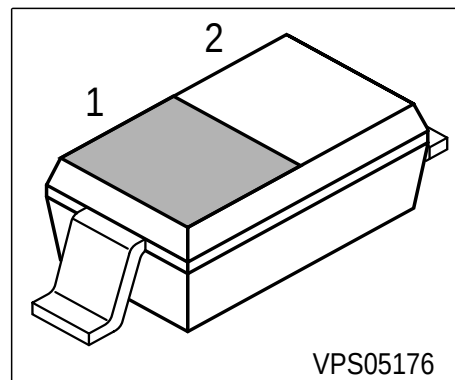


Silicon Switching Diode

- For high-speed switching applications
- High breakdown voltage



VPS05176

Type	Marking	Pin Configuration			Package
BAS21-03W	D	1 = C	2 = A	-	SOD323

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	200	V
Peak reverse voltage-	V_{RM}	250	
Forward current	I_F	250	mA
Peak forward current	I_{FM}	625	
Total power dissipation $T_S = 124\text{ °C}$	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

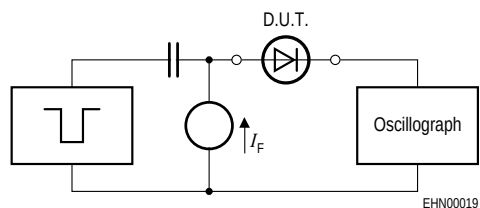
Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ¹⁾	R_{thJS}	≤ 105	K/W

¹For 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 $I_{(BR)} = 100\ \mu\text{A}$	$V_{(BR)}$	250	-	-	V
Reverse current $V_R = 200\ \text{V}$ $V_R = 200\ \text{V}, T_A = 150\ ^\circ\text{C}$	I_R	- -	- -	0.1 100	μA
Forward voltage $I_F = 100\ \text{mA}$ $I_F = 200\ \text{mA}$	V_F	- -	- -	1 1.25	V
AC Characteristics					
Diode capacitance- $V_R = 0\ \text{V}, f = 1\ \text{MHz}$	C_T	-	-	5	pF
Reverse recovery time $I_F = 30\ \text{mA}, I_R = 30\ \text{mA}$, measured at $I_R = 30\ \text{mA}$, $R_L = 100\ \Omega$	t_{rr}	-	-	50	ns

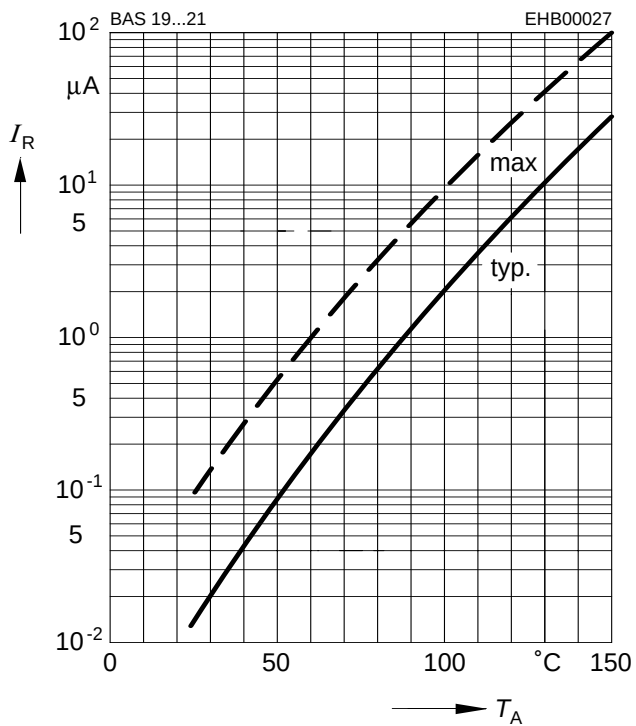
Test circuit for reverse recovery time


Puls generator: $t_p = 1\mu\text{s}$, $D = 0.05$,
 $t_r = 0.6\text{ns}$, $R_i = 50\Omega$

Oscilloscope: $R = 50\Omega$, $t_r = 0.35\text{ns}$,
 $C \leq 1\text{pF}$

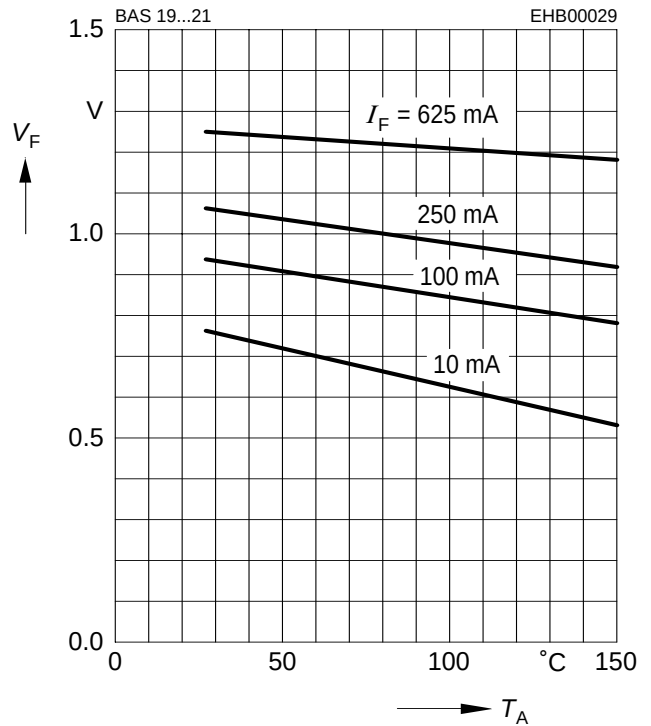
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$

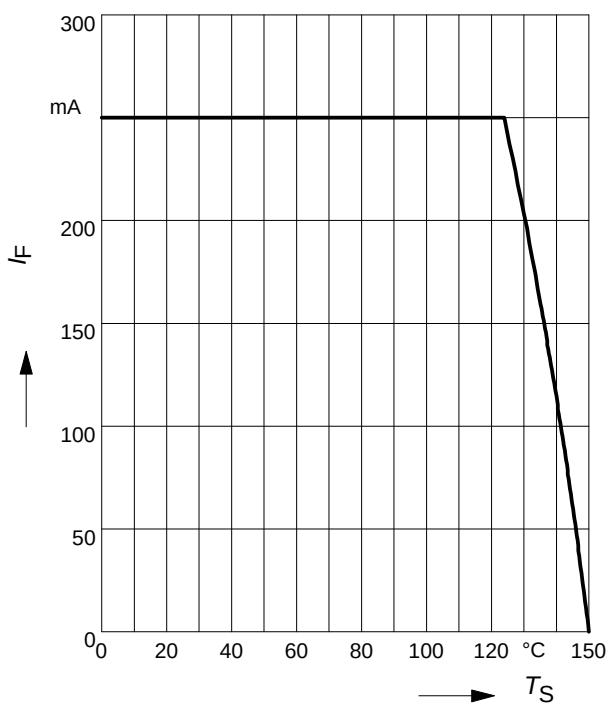


Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$

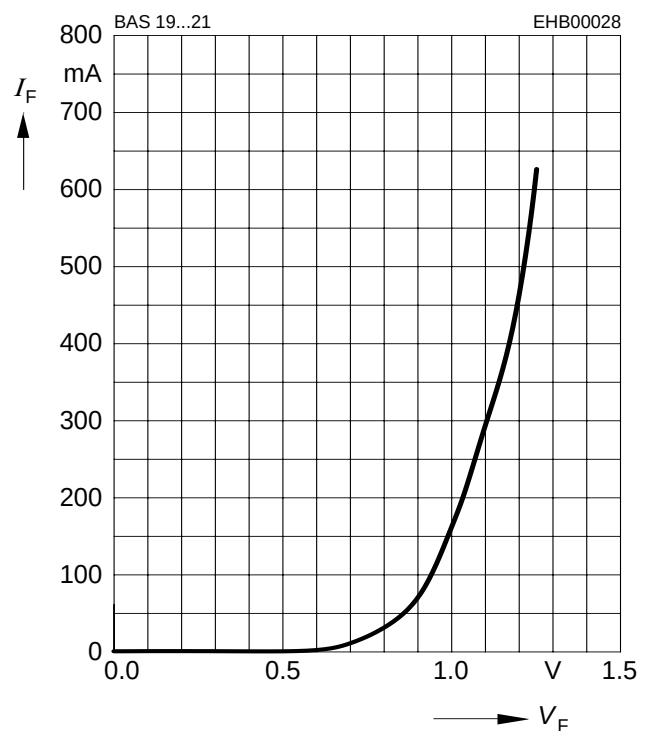


Forward current $I_F = f(T_S)$



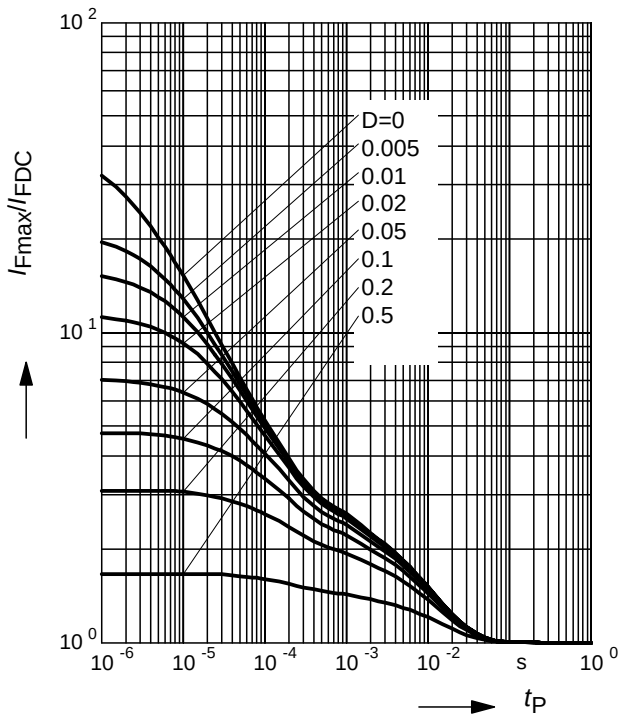
Forward current $I_F = f(V_F)$

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



Permissible Pulse Load

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



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

