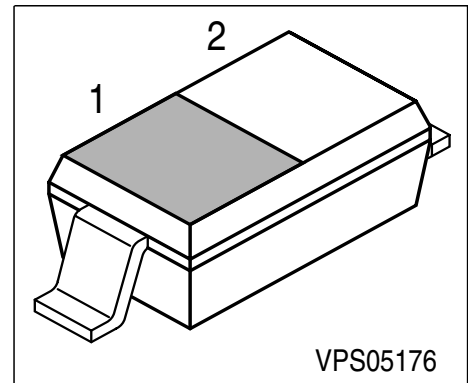


Silicon Switching Diode
Preliminary data

- For high-speed switching applications
- High breakdown voltage



Type	Marking	Pin Configuration		Package
BAS 21-03W	D	1 = C	2 = A	SOD-323

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

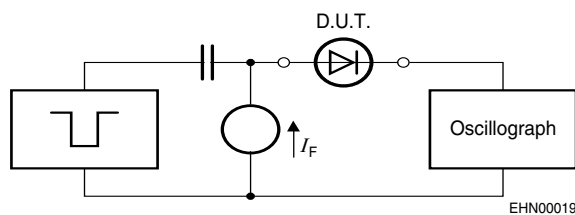
Junction - ambient ¹⁾	R_{thJA}	≤ 240	K/W
Junction - soldering point	R_{thJS}	≤ 105	K/W

1) Package mounted on epoxy pcb 40mm x 40mm x 1.5mm / 0.5cm² Cu

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

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
AC characteristics					
Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$	$V_{(BR)}$	250	-	-	V
Forward voltage $I_F = 100 \text{ mA}$ $I_F = 200 \text{ mA}$	V_F	-	-	1 1.25	
Reverse current $V_R = 200 \text{ V}$	I_R	-	-	100	nA
Reverse current $V_R = 200 \text{ V}$, $T_A = 150^\circ\text{C}$	I_R	-	-	100	μA
AC characteristics					
Diode capacitance $V_R = 0 \text{ V}$, $f = 1 \text{ MHz}$	C_D	-	-	5	pF
Reverse recovery time $I_F = 10 \text{ mA}$, $I_R = 10 \text{ mA}$, $R_L = 100 \Omega$, measured at $I_R = 1 \text{ mA}$	t_{rr}	-	-	50	ns

Test circuit for reverse recovery time

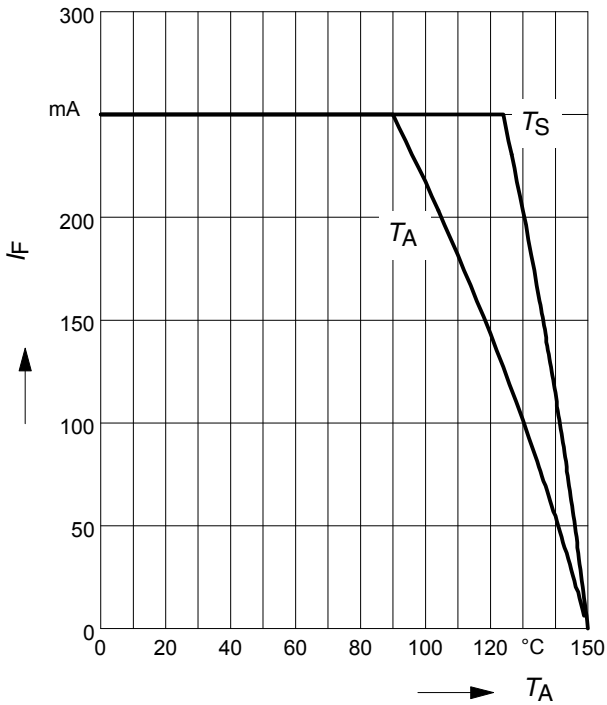


Pulse generator: $t_p = 100\text{ns}$, $D = 0.05$,
 $t_r = 0.6\text{ns}$, $R_i = 50\Omega$

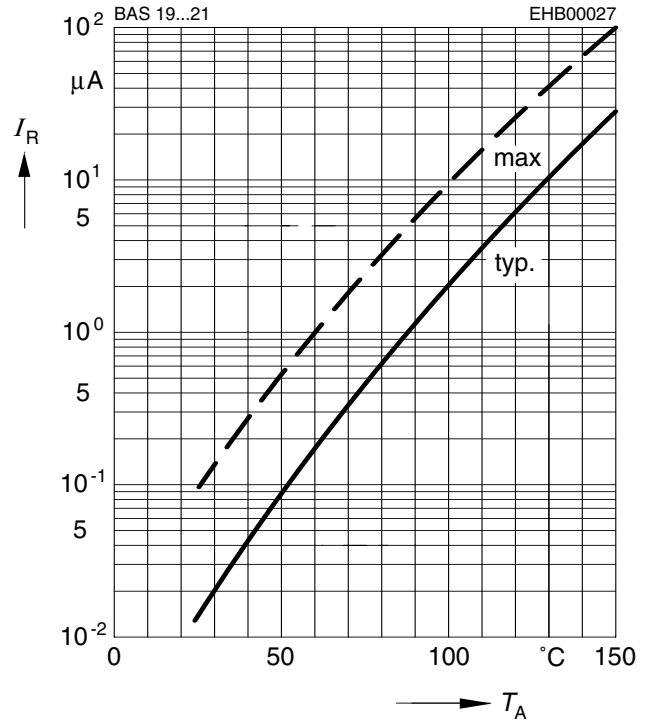
Oscilloscope: $R = 50\Omega$, $t_r = 0.35\text{ns}$,
 $C \leq 1\text{pF}$

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

* Package mounted on epoxy

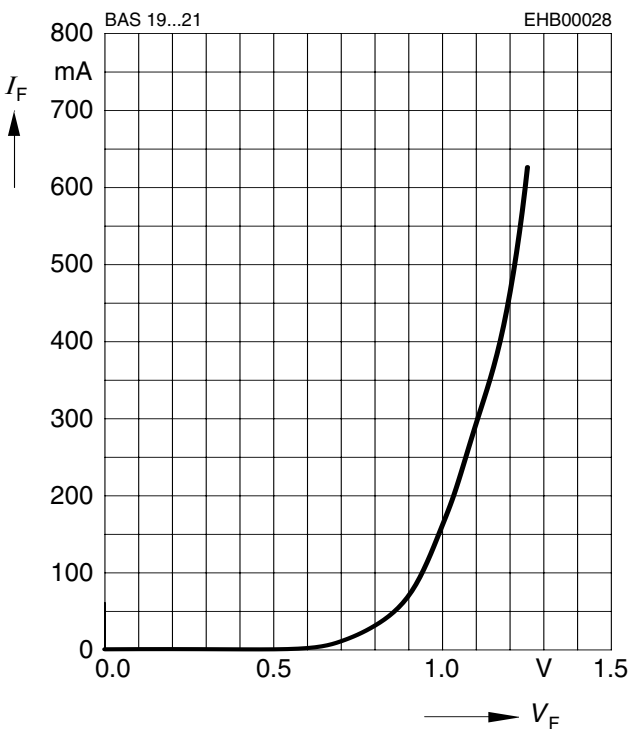


Reverse current $I_R = f(T_A)$

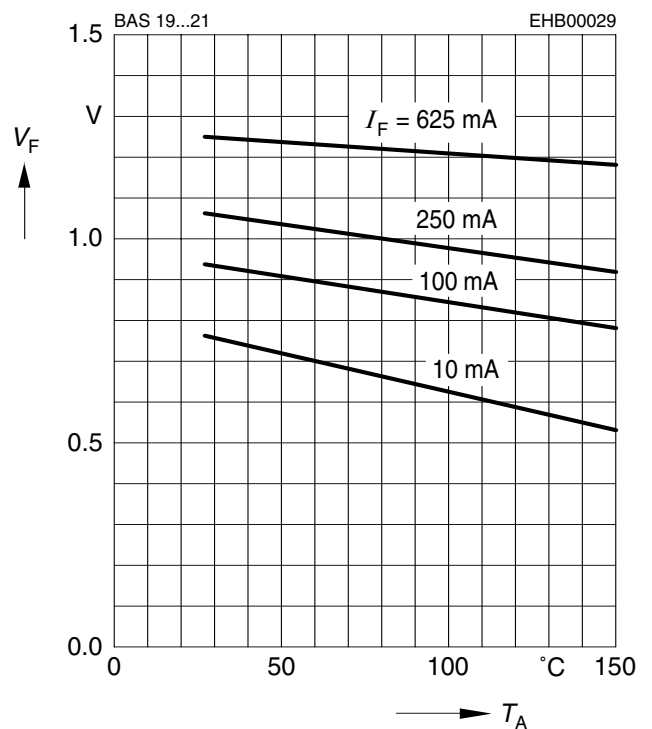


Forward current $I_F = f(V_F)$

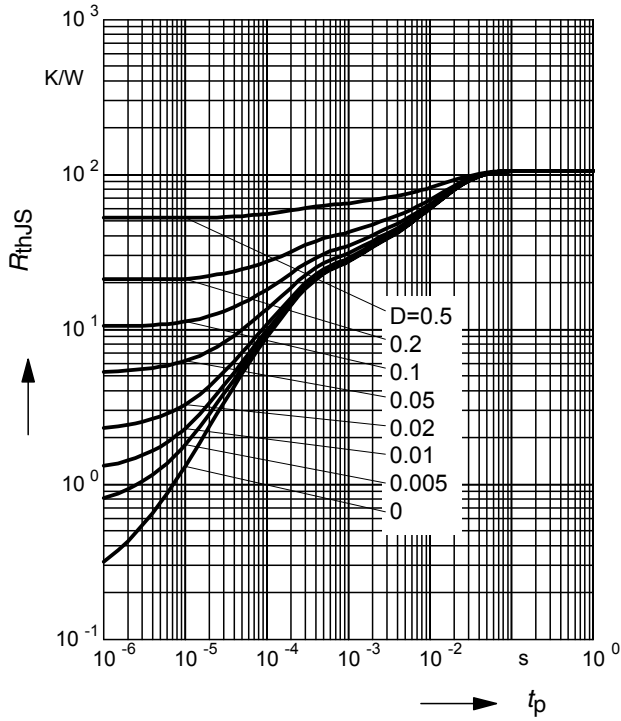
$T_A = 25^\circ\text{C}$



Forward voltage $V_F = f(T_A)$



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



Permissible Pulse Load

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

