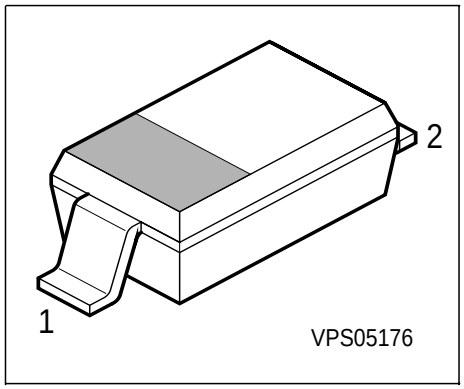
Silicon Switching Diode

Preliminary data

- For high-speed switching applications



Type	Marking	Ordering Code	Pin Configuration		Package
BAS 16-03W	B	Q62702-A1231	1 = A	2 = C	SOD-323

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	75	V
Peak reverse voltage	V_{RM}	85	
Forward current	I_F	250	mA
Surge forward current, t = 1 µs	I_{FS}	4.5	A
Total power dissipation, T_S = 111 °C	P_{tot}	250	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	- 65 ...+150	

Thermal Resistance

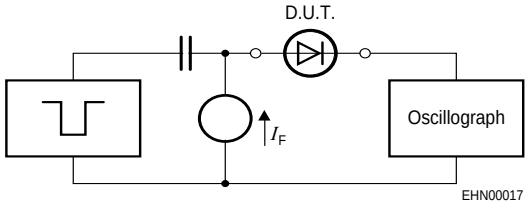
Junction - ambient [1)]	R_{thJA}	≤ 235	K/W
Junction - soldering point	R_{thJS}	≤ 155	

1) Package mounted on alumina 15mm x 16.7mm x 0.7mm

Electrical Characteristics at T_A = 25°C, unless otherwise specified.

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC characteristics					
Breakdown voltage $I_{(BR)}$ = 100 µA	$V_{(BR)}$	75	-	-	V
Forward voltage	V_F				mV
I_F = 1 mA		-	-	715	
I_F = 10 mA		-	-	855	
I_F = 50 mA		-	-	1000	
I_F = 150 mA		-	-	1250	
Reverse current V_R = 70 V	I_R	-	-	1	µA
Reverse current	I_R				
V_R = 25 V, T_A = 150 °C		-	-	30	
V_R = 75 V, T_A = 150 °C		-	-	50	
Forward recovery voltage I_F = 10 mA, t_p = 20 ns	V_{fr}	-	-	1.75	V
AC characteristics					
Diode capacitance V_R = 0 V, f = 20 MHz	C_D	-	-	2	pF
Reverse recovery time I_F = 10 mA, I_R = 10 mA, R_L = 100 Ω, measured at I_R = 1mA	t_{rr}	-	-	6	ns

Test circuit for reverse recovery time

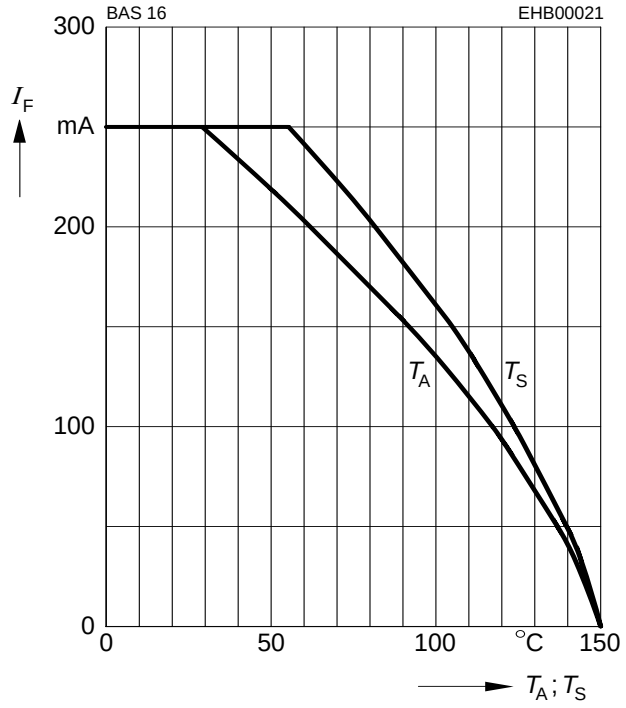


Pulse generator: t_p = 100ns, D = 0.05, t_r = 0.6ns, R_i = 50Ω

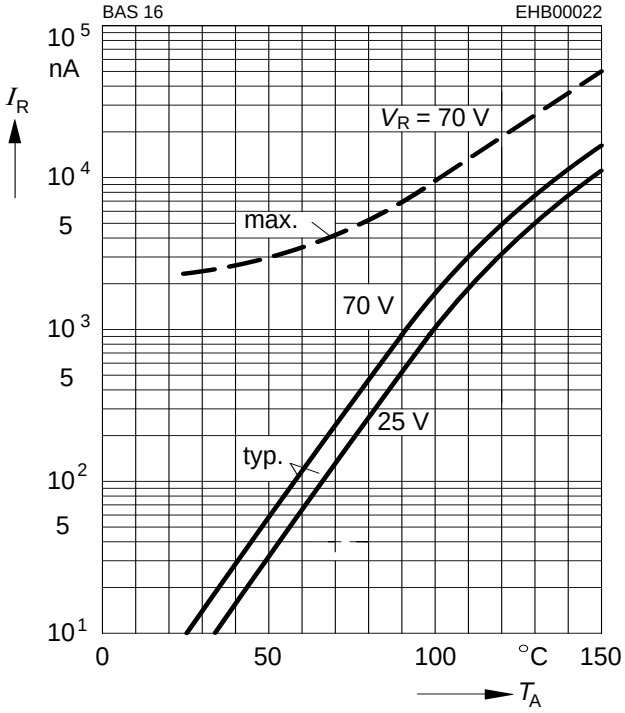
Oscillograph: R = 50Ω, t_r = 0.35ns, $C \leq$ 1pF

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

* Package mounted on epoxy

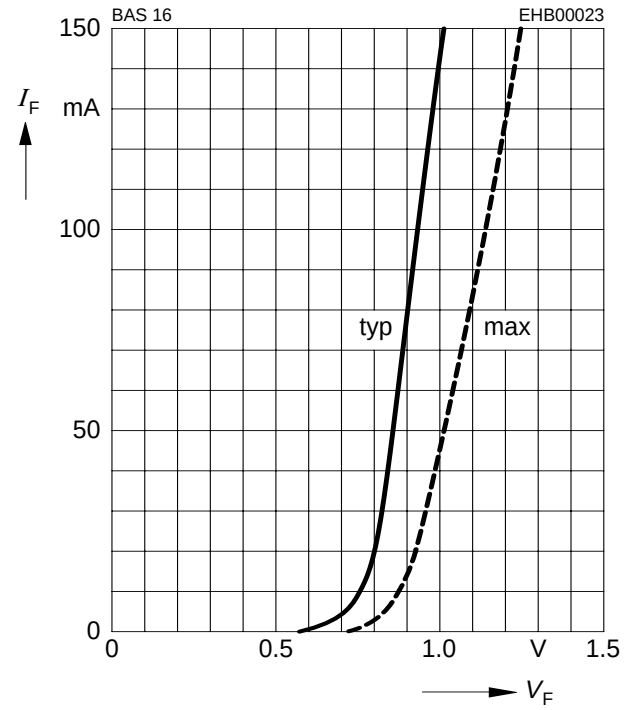


Reverse current $I_R = f(T_A)$



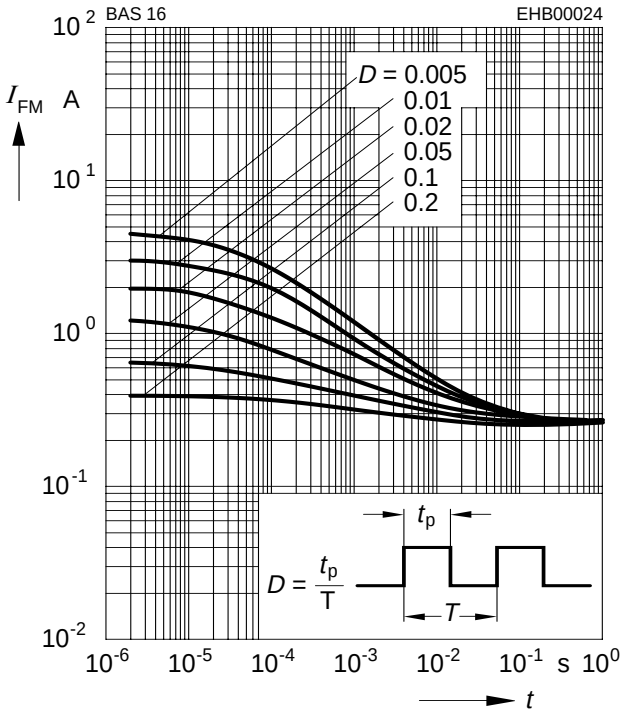
Forward current $I_F = f\,V_F$)

T_A = 25°C



Peak forward current $I_{FM} = f(t)$

T_A = 25°C



Forward voltage $V_F = f(T_A)$

