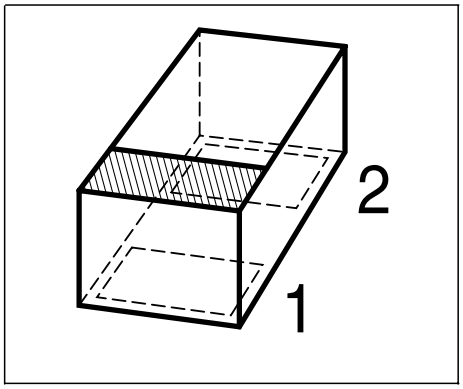
Silicon Switching Diode

Preliminary data

- For high-speed switching application



Type	Marking	Pin Configuration			Package
BAS 16-02L	A6	1 = C	2 = A	-	TSLP-2

Maximum Ratings

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	75	V
Peak reverse voltage	V_{RM}	85	
Forward current	I_F	200	mA
Surge forward current, t = 1 µs	I_{FS}	2.5	A
Total power dissipation T_S = tbd	P_{tot}	250	
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

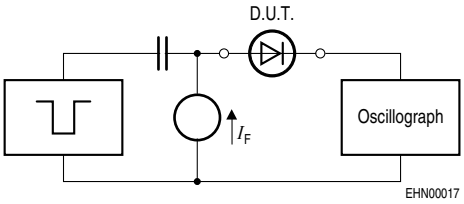
Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - ambient-	R_{thJA}	tbd	

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	$V_{(BR)}$	-	-	-	
Reverse current	I_R				µA
V_R = 70 V		-	-	1	
V_R = 25 V, T_A = 150 °C		-	-	30	
V_R = 75 V, T_A = 150 °C		-	-	50	
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	
AC Characteristics					
Diode capacitance V_R = 0 V, f = 1 MHz	C_T	-	-	2	pF
Reverse recovery time I_F = 10 mA, I_R = 10 mA, I_R = 1 mA, R_L = 100 Ω	t_{rr}	-	-	6	ns

Test circuit for reverse recovery time

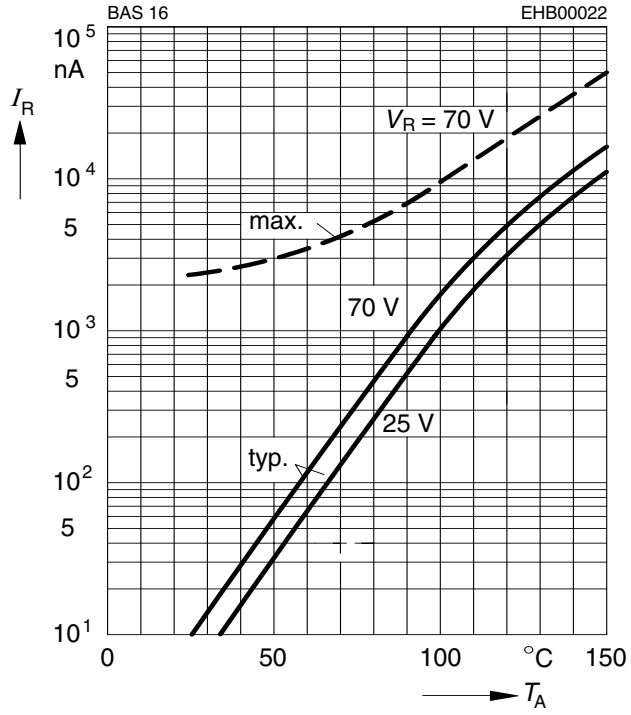


Puls generator: t_p = 100ns, D = 0.005,
t_r = 0.6ns, R_i = 50Ω

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

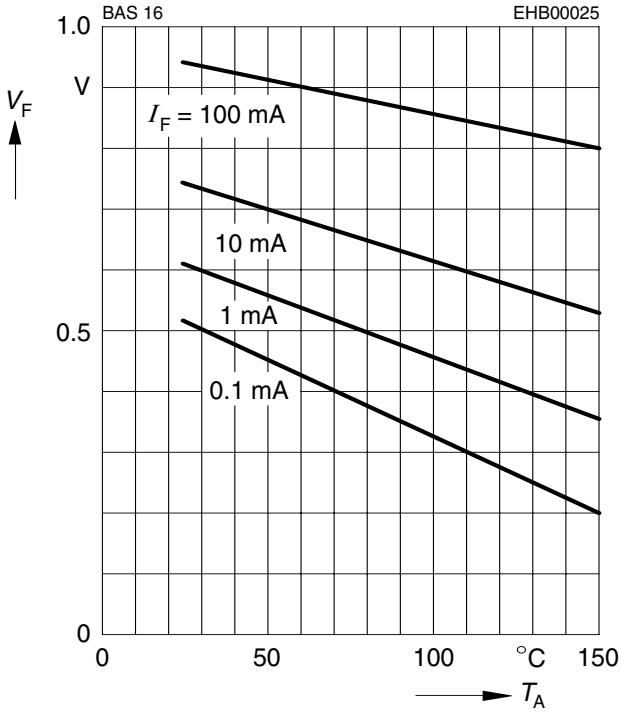
Reverse current $I_R = f(T_A)$

V_R = Parameter

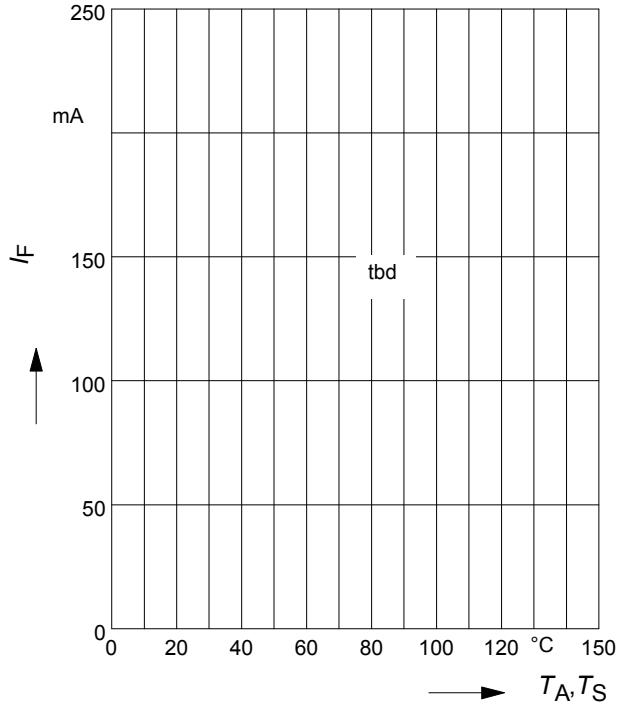


Forward Voltage $V_F = f(T_A)$

I_F = Parameter



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



Forward current $I_F = f(V_F)$