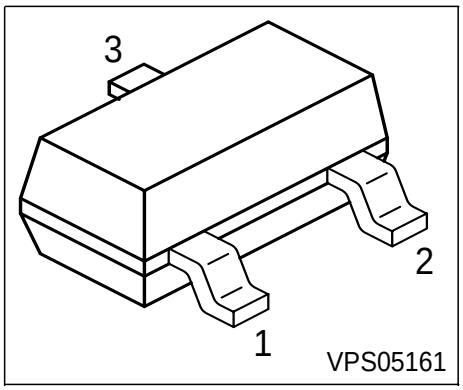
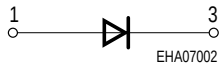
Silicon Low Leakage Diode

- Low-leakage applications
- Medium speed switching times
- Single diode





Type	Marking	Pin Configuration			Package
BAS116	JVs	1 = A	2 n.c.	3 = C	SOT23

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 = 54 °C	P_{tot}	370	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

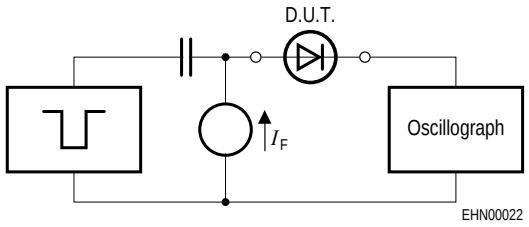
Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}	≤ 260	K/W

[1]For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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
Reverse current	I_R				nA
V_R = 75 V		-	-	5	
V_R = 75 V, T_A = 150 °C		-	-	80	
Forward voltage	V_F				mV
I_F = 1 mA		-	-	900	
I_F = 10 mA		-	-	1000	
I_F = 50 mA		-	-	1100	
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, measured at $I_{R\,=}$ 1 mA, R_L = 100 Ω	t_{rr}	-	0.5	3	µs

Test circuit for reverse recovery time

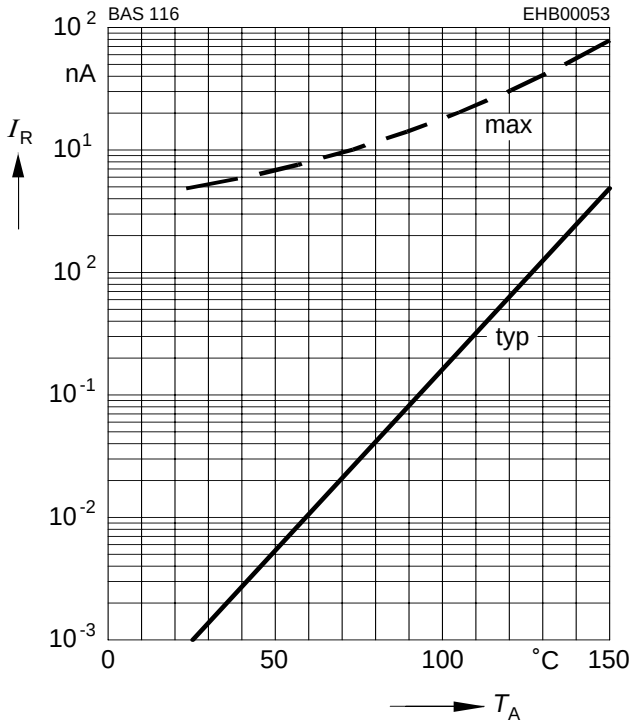


Puls generator: t_p = 10µs, D = 0.05,
t_r = 0.6ns, R_i = 50Ω

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

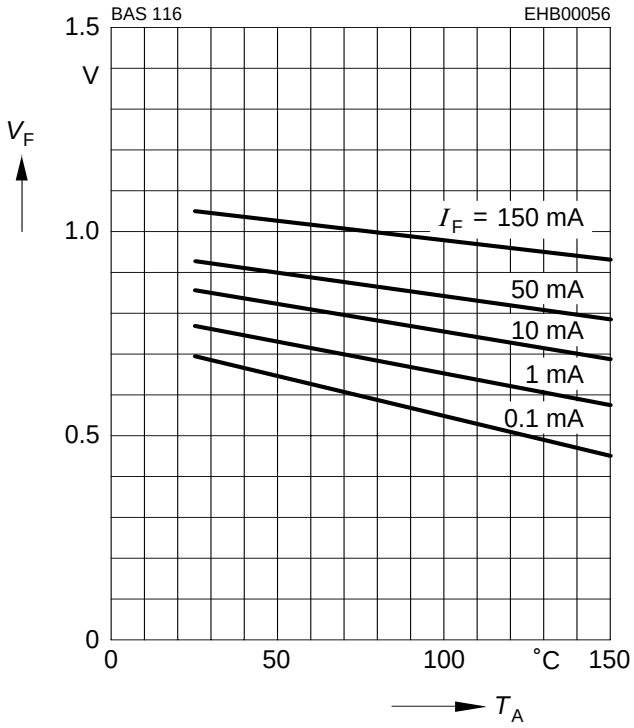
Reverse current $I_R = f(T_A)$

V_R = Parameter

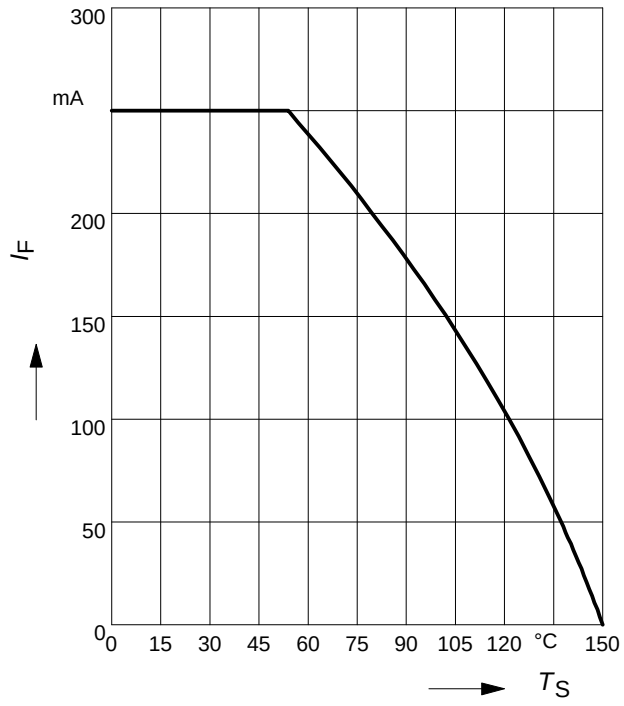


Forward Voltage $V_F = f(T_A)$

I_F = Parameter

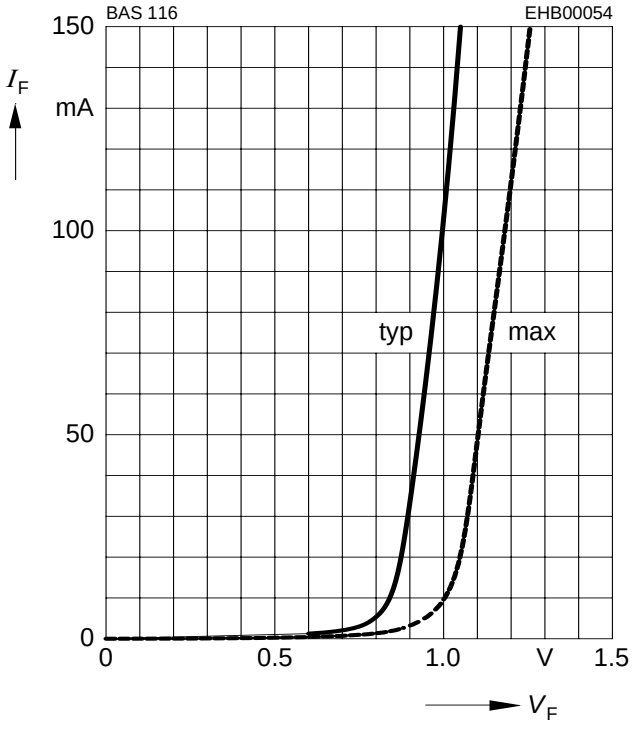


Forward current $I_F = f(T_S)$



Forward current $I_F = f(V_F)$

T_A = 25 °C



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

T_A = 25 °C