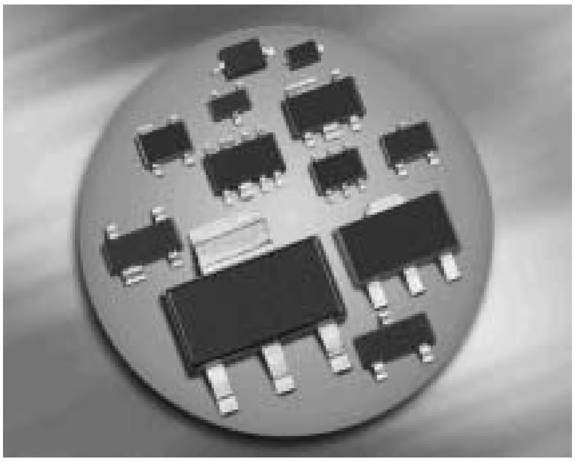
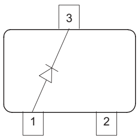
Silicon Low Leakage Diode

- Low-leakage applications
- Medium speed switching times
- Pb-free (RoHS compliant) package[1]
- Qualified according AEC Q101



BAS116



Type	Package	Configuration	Marking
BAS116	SOT23	single	JVs

Maximum Ratings at T_A = 25°C, unless otherwise specified

Parameter	**Symbol**	**Value**	**Unit**
Diode reverse voltage	V_R	80	V
Peak reverse voltage	V_{RM}	85	
Forward current	I_F	250	mA
Non-repetitive peak surge forward current t = 1 µs t = 1 s	I_{FSM}	 4.5 0.5	A
Total power dissipation $T_S \leq 54$°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[2] BAS116	R_{thJS}	≤ 260	K/W

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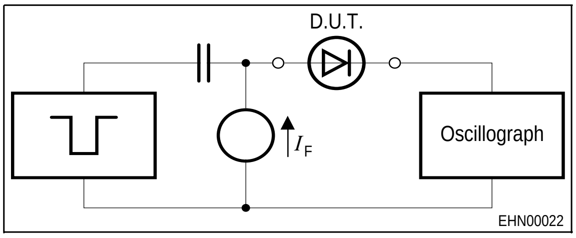
[1] Pb-containing package may be available upon special request

[2] 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	$V_{(BR)}$	85	-	-	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 = 1mA , R_L = 100 Ω	t_{rr}	-	0.6	1.5	µs

Test circuit for reverse recovery time

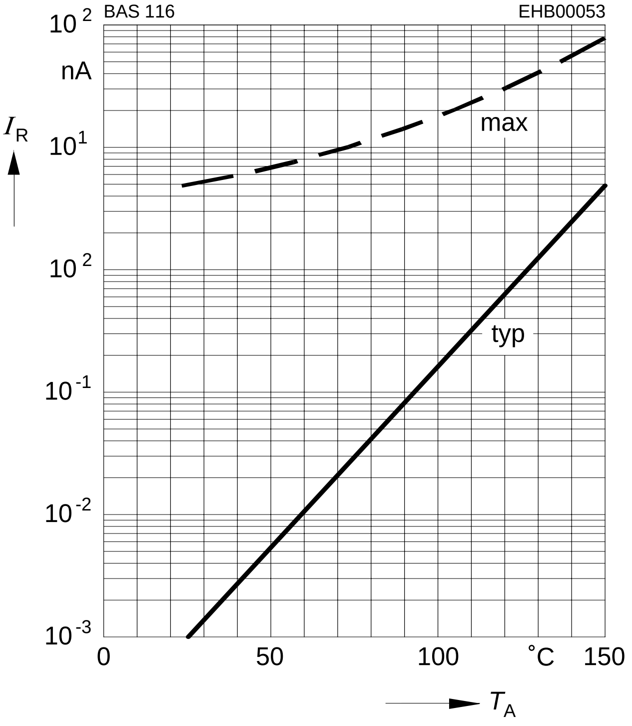


Puls generator: t_p = 10µs, D = 0.05,
t_r = 0.6ns, R_i = 50Ω

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

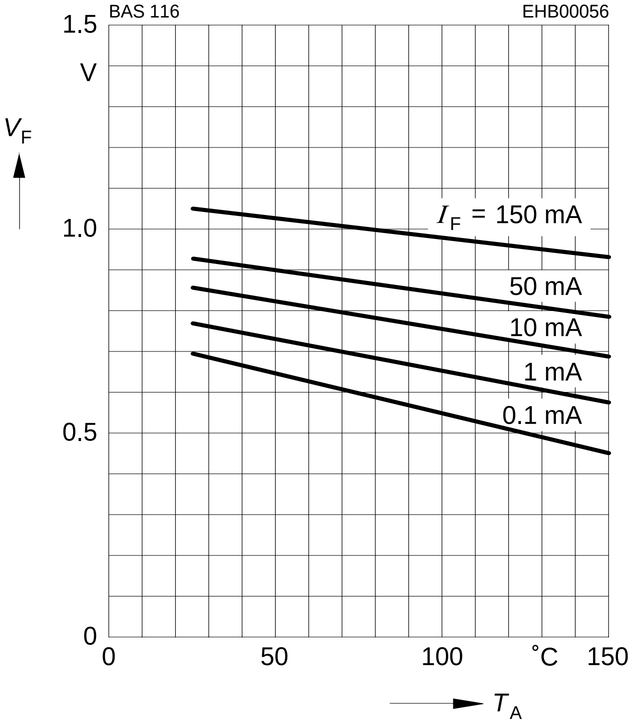
Reverse current $I_R = f(T_A)$

V_R = Parameter



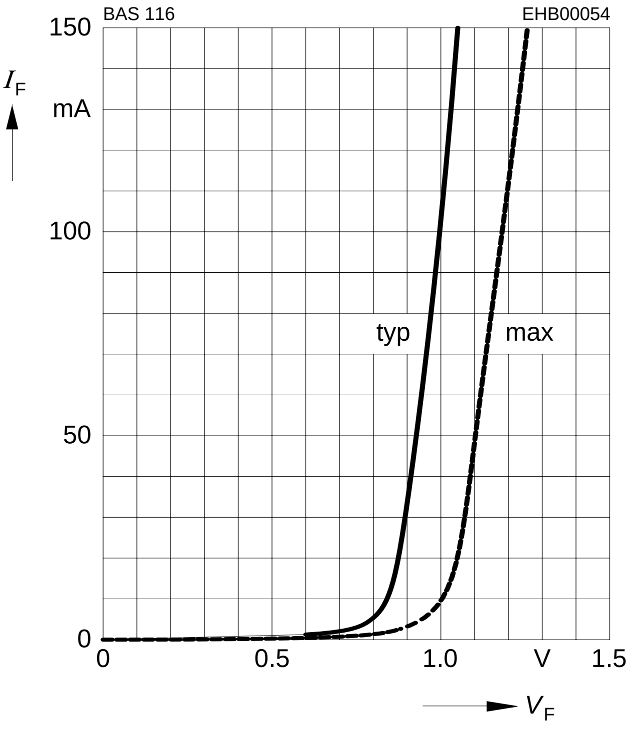
Forward Voltage $V_F = f(T_A)$

I_F = Parameter



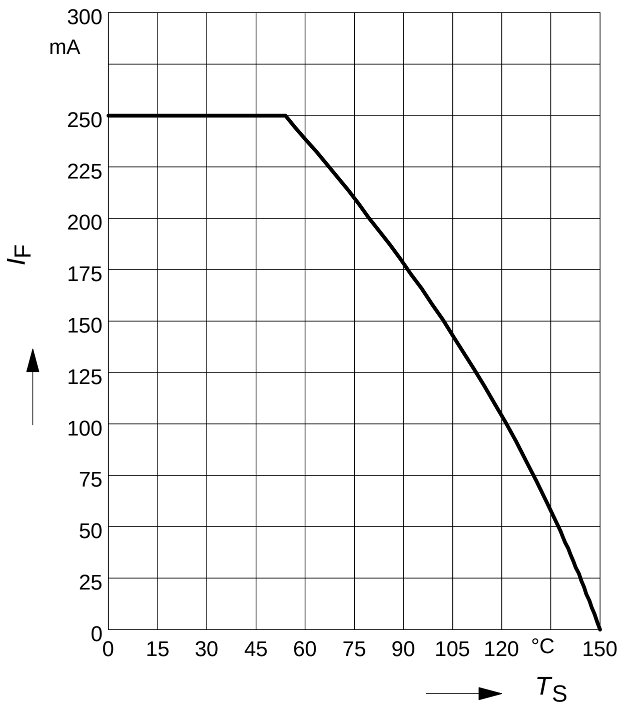
Forward current $I_F = f(V_F)$

T_A = 25°C

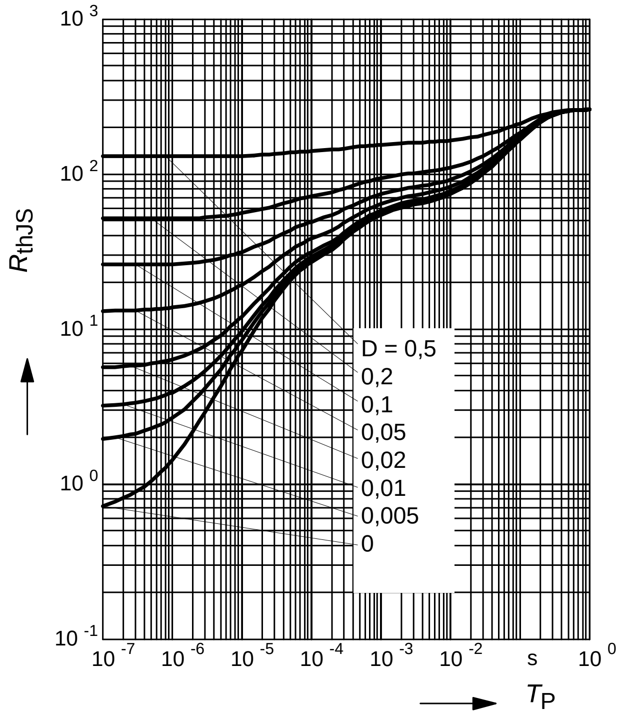


Forward current $I_F = f(T_S)$

BAS116

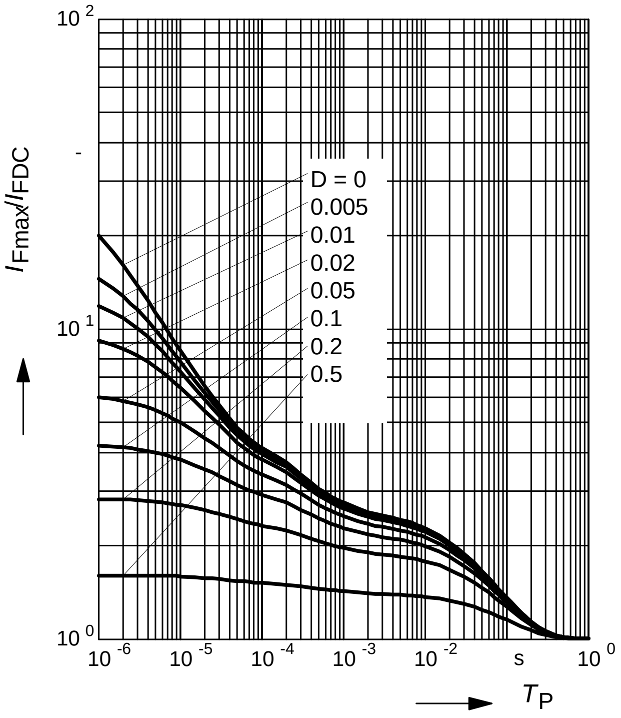


Permissible Puls Load $R_{thJS} = f\,(t_p)$

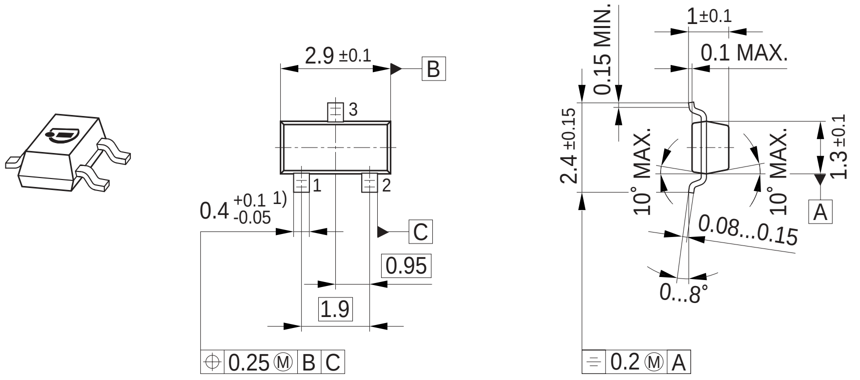


Permissible Pulse Load

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

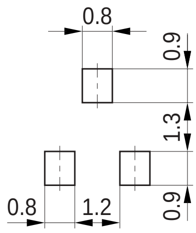


Package Outline

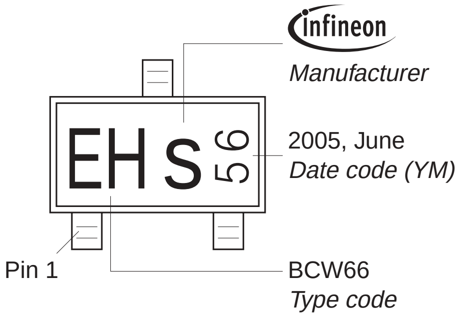


1) Lead width can be 0.6 max. in dambar area

Foot Print

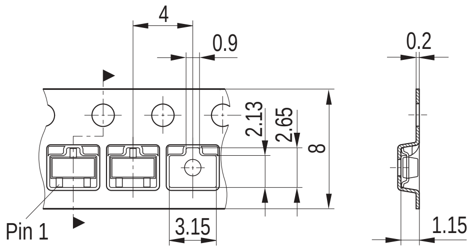


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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