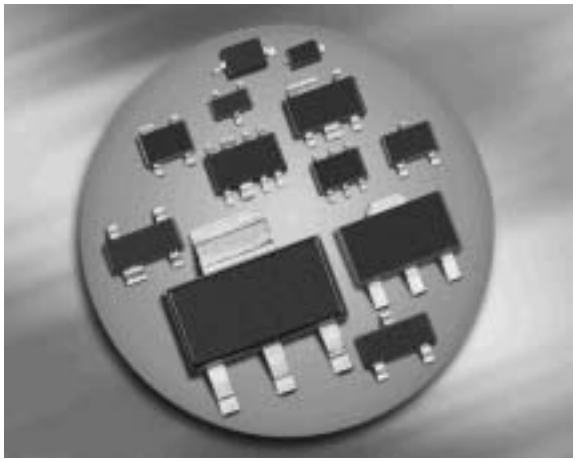
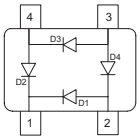
Silicon Switching Diode Array

- Bridge configuration
- High-speed switching diode chip
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101



BGX50A



Type	Package	Configuration	Marking
BGX50A	SOT143	bridge	U1s

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	50	V
Peak reverse voltage	V_{RM}	70	
Forward current	I_F	140	mA
Non-repetitive peak surge forward current	I_{FSM}	-	
Total power dissipation $T_S \leq 74$°C	P_{tot}	210	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-65 ... 150	

Thermal Resistance

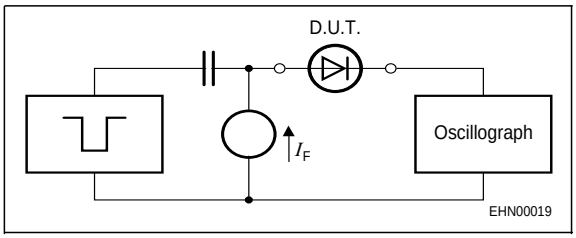
Parameter	Symbol	Value	Unit
Junction - soldering point[2)] BGX50A	R_{thJS}	360	K/W

[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	$V_{(BR)}$	-	-	-	
Reverse current	I_R				µA
V_R = 50 V		-	-	0.2	
V_R = 50 V, T_A = 150 °C		-	-	100	
Forward voltage	V_F	-	-	1.3	V
I_F = 100 mA					
AC Characteristics					
Diode capacitance	C_T	-	-	1.5	pF
V_R = 0 V, f = 1 MHz					
Reverse recovery time	t_{rr}	-	-	6	ns
I_F = 10 mA, I_R = 10 mA, measured at I_R = 1mA ,					
R_L = 100 Ω					

Test circuit for reverse recovery time

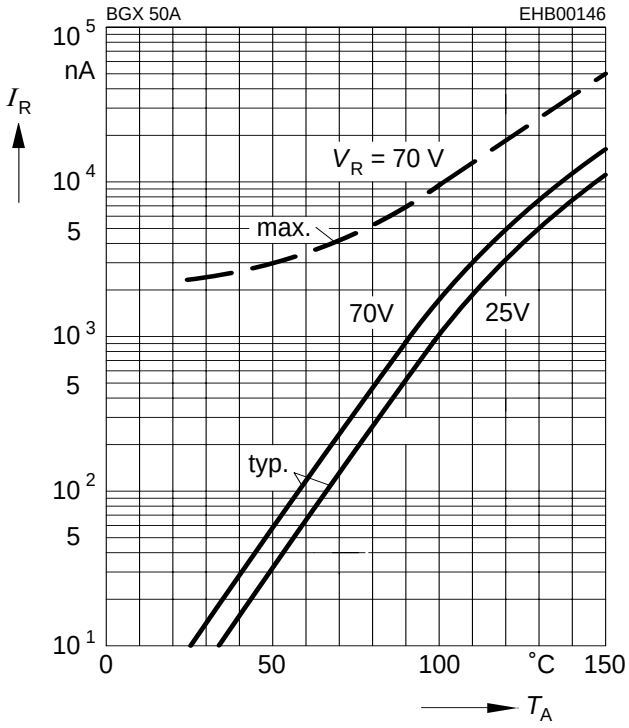


Pulse generator: t_p = 100ns, D = 0.05, t_r = 0.6ns, R_i = 50Ω

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

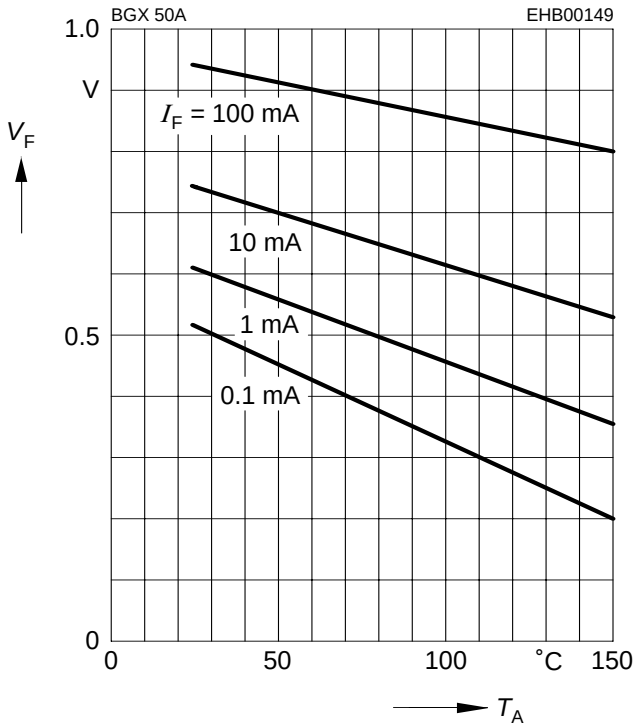
Reverse current $I_R = f(T_A)$

V_R = Parameter



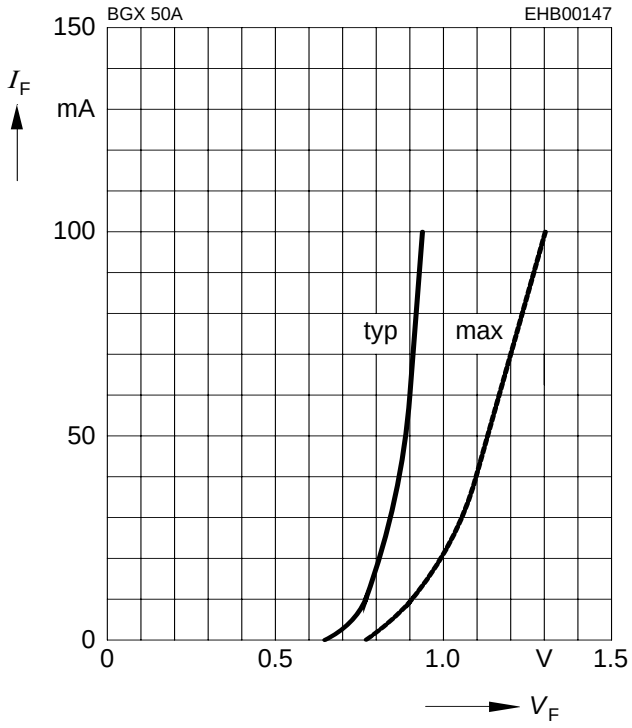
Forward Voltage $V_F = f(T_A)$

I_F = Parameter



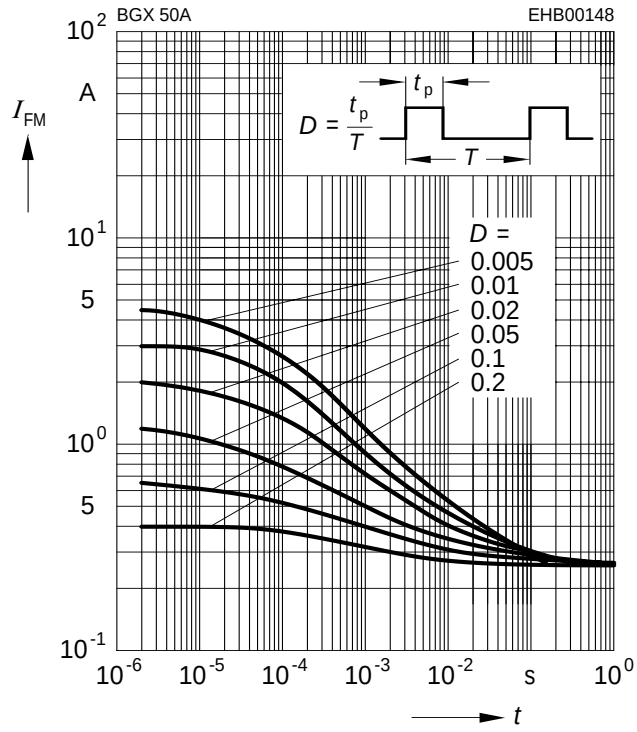
Forward current $I_F = f(V_F)$

T_A = 25°C



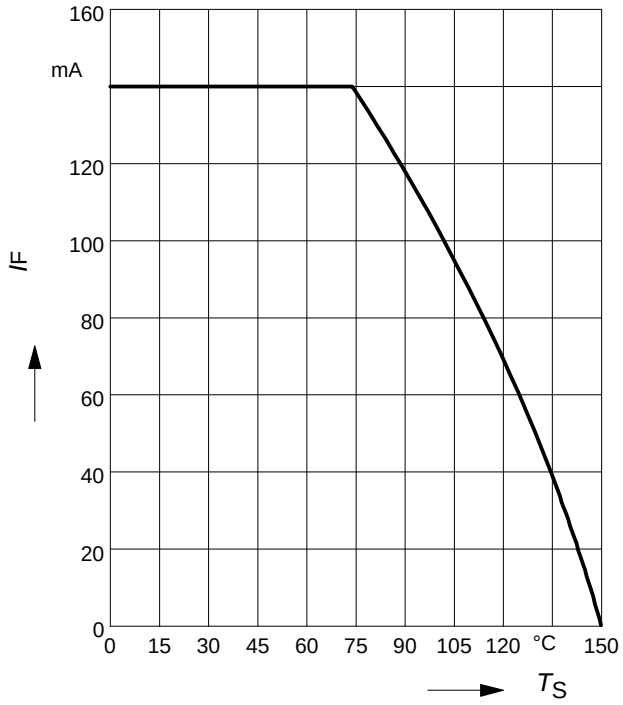
Peak forward current $I_{FM} = f(t_p)$

T_A = 25°C

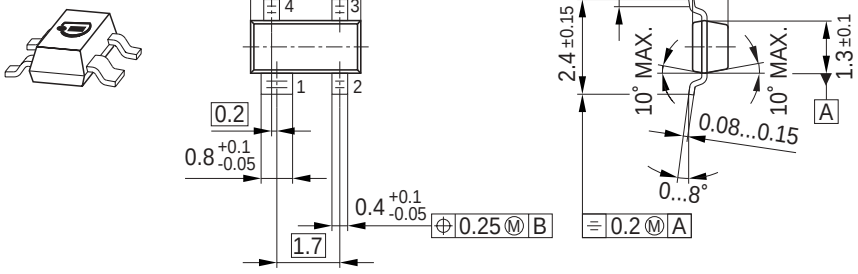


Forward current $I_F = f(T_S)$

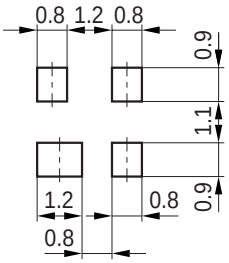
BGX50A



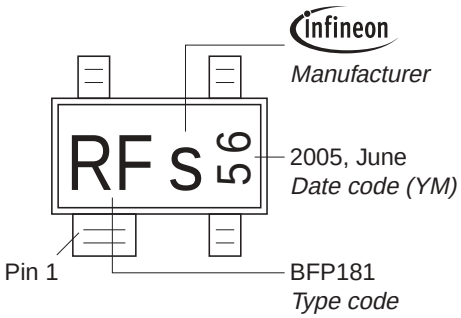
Package Outline



Foot Print

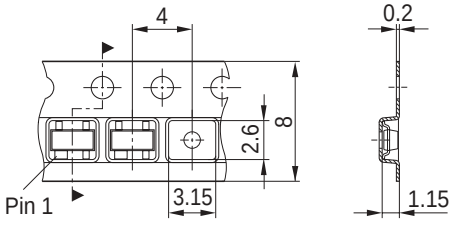


Marking Layout (Example)



Standard Packing

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



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