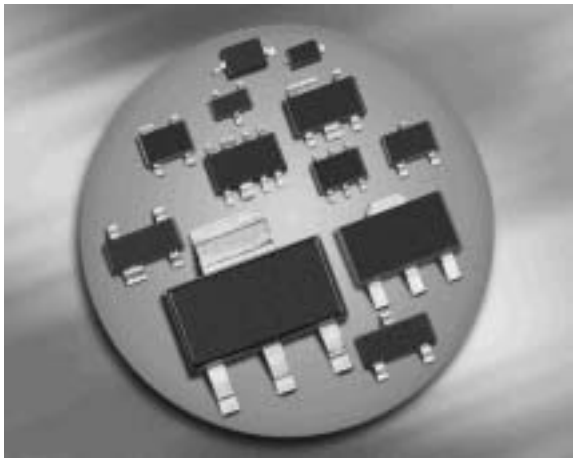
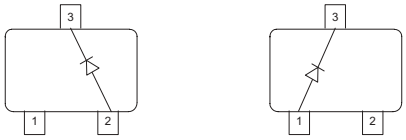
Silicon Switching Diode

- For high-speed switching applications
- Pb-free (RoHS compliant) package[1)]
- Qualified according AEC Q101

AEC Qualified RoHS



BAL74 **BAR74**



Type	Package	Configuration	Marking
BAL74	SOT23	single	JCs
BAR74	SOT23	single	JBs

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}	50	
Forward current	I_F	250	mA
Peak forward current	I_{FM}	-	
Surge forward current, t = 1 µs	I_{FS}	4.5	A
Non-repetitive peak surge forward current	I_{FSM}	-	
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)], BAL74, BAR74	R_{thJS}	≤ 260	K/W

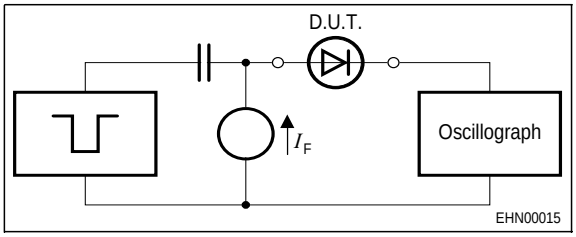
[1]Pb-containing package may be available upon special request

[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 $I_{(BR)}$ = 100 µA	$V_{(BR)}$	50	-	-	V
Reverse current V_R = 50 V V_R = 50 V, T_A = 150 °C	I_R	 - -	 - -	 0.1 100	µA
Forward voltage I_F = 100 mA	V_F	-	-	1	V
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}	-	-	4	ns

Test circuit for reverse recovery time

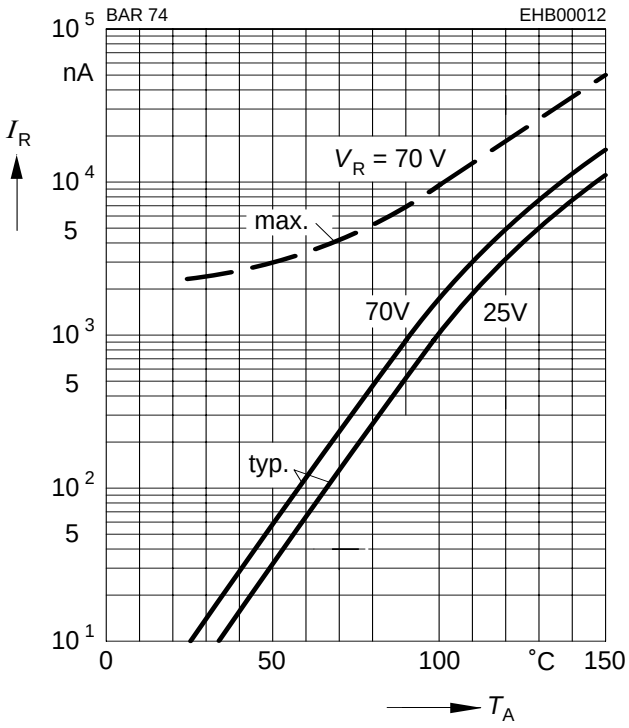


Pulse generator: t_p = 100ns, D = 0.05,
t_r = 0.6ns, R_i = 50Ω

Oscillograph: R = 50Ω, t_r = 0.35ns,
C ≤ 1pF

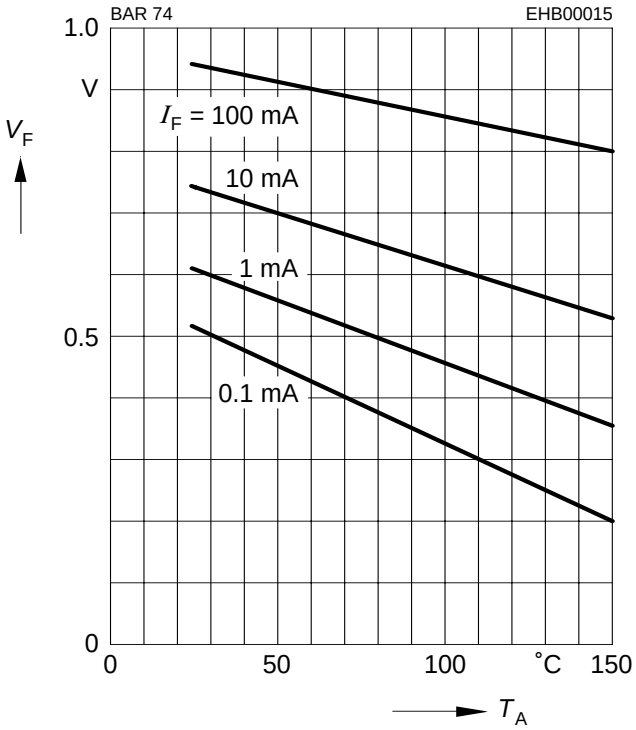
Reverse current $I_R = f(T_A)$

V_R = Parameter

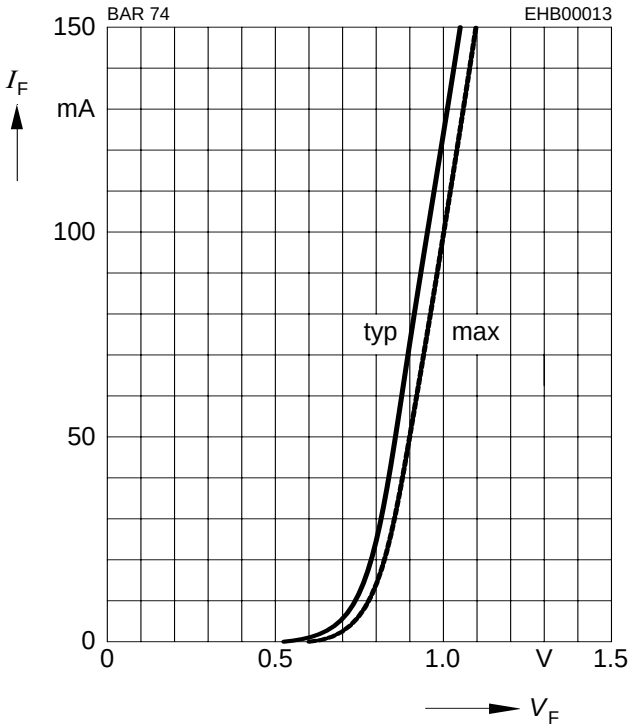


Forward Voltage $V_F = f(T_A)$

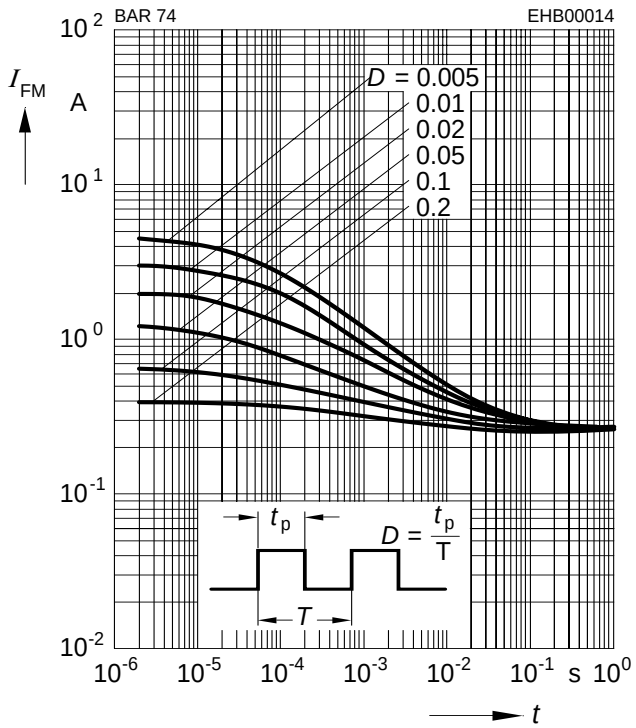
I_F = Parameter



Forward current $I_F = f(V_F)$

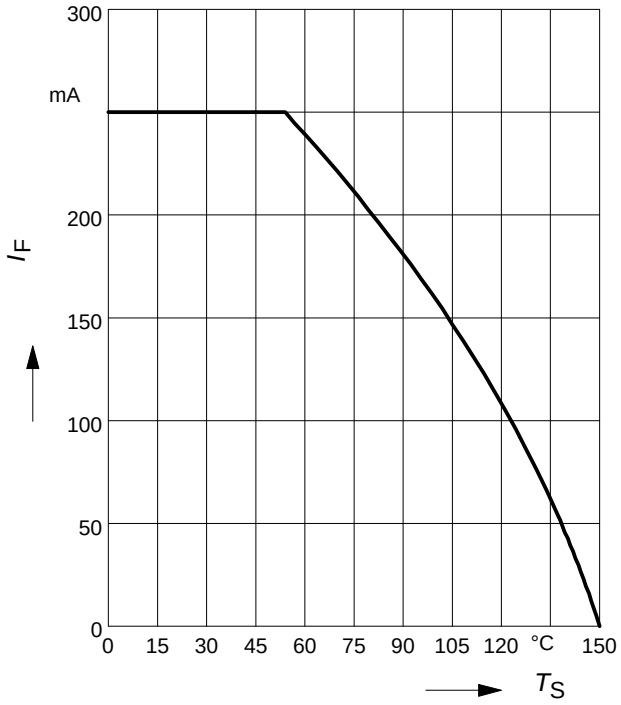


Peak forward current $I_{FM} = f(t_p)$

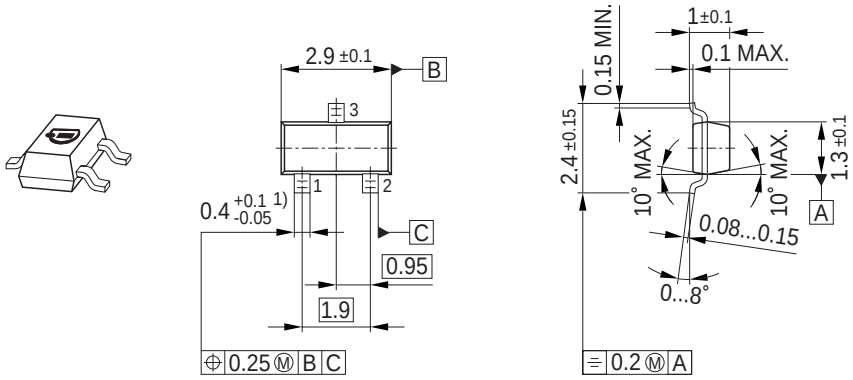


Forward current $I_F = f(T_S)$

BAL74, BAR74

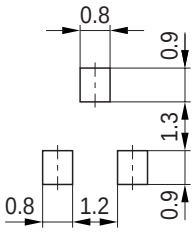


Package Outline

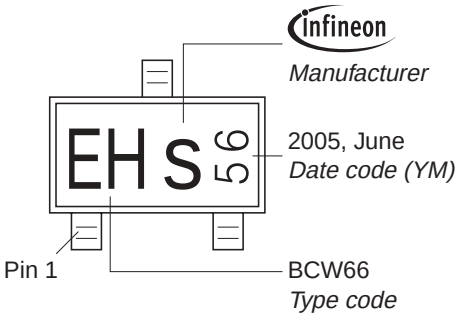


1) Lead width can be 0.6 max. in dambar area

Foot Print

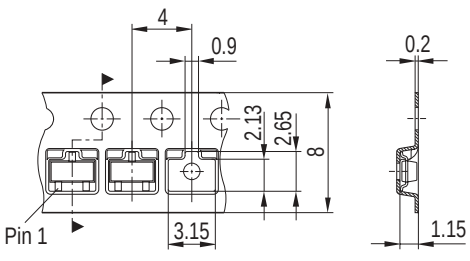


Marking Layout (Example)



Standard Packing

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



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