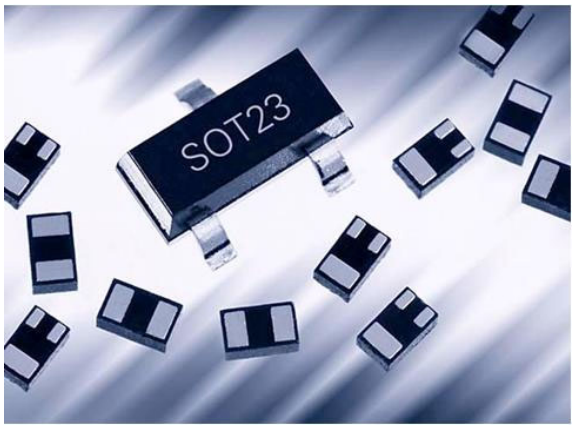
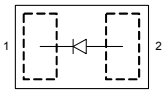
Silicon Schottky Diode

- RF Schottky diode for mixer applications up to 24 GHz
- Extremely low inductance combined with ultra low device capacitance
- Very stable performance for all major parameters
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



AEC Qualified RoHS

BAT15-02LRH



Type	Package	Configuration	L_S(nH)	Marking
BAT15-02LRH	TSLP-2-7	single, leadless	0.4	NP

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

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	4	V
Forward current	I_F	110	mA
Total power dissipation $T_S \leq 73$ °C	P_{tot}	100	mW
Junction temperature	T_j	150	°C
Operating temperature range	T_{op}	-55 ... 150	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point[1)]	R_{thJS}	770	K/W

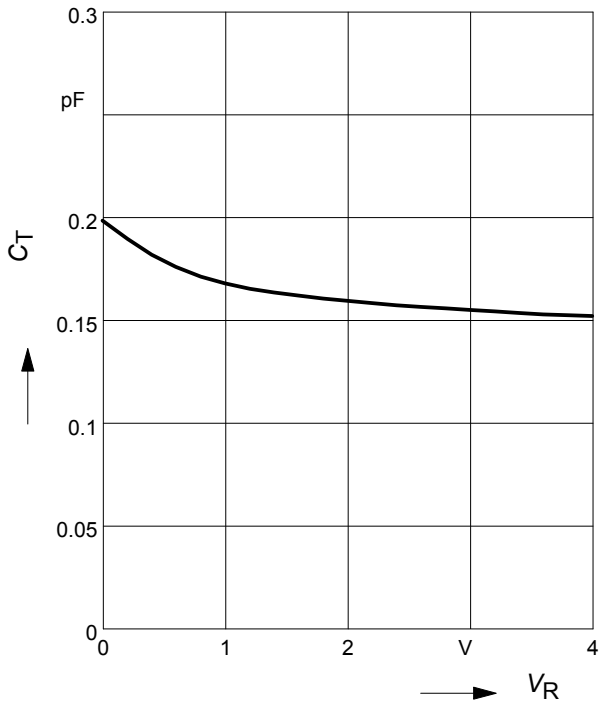
[1]For calculation of R_{thJA} please refer to Application Note AN077 (Thermal Resistance Calculation)

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	$V_{(BR)}$	4	-	-	V
Reverse current	I_R				µA
V_R = 1.5 V		-	-	5	
V_R = 1.5 V, T_A = 85 °C		-	-	125	
Forward voltage	V_F				V
I_F = 1 mA		0.16	0.23	0.32	
I_F = 10 mA		0.25	0.32	0.41	
AC Characteristics					
Diode capacitance V_R = 0 V, f = 1 MHz	C_T	-	0.2	0.26	pF
Differential forward resistance I_F = 10 mA / 50 mA	R_F	-	8	10	Ω
Series inductance	L_S	-	0.4	0.6	nH

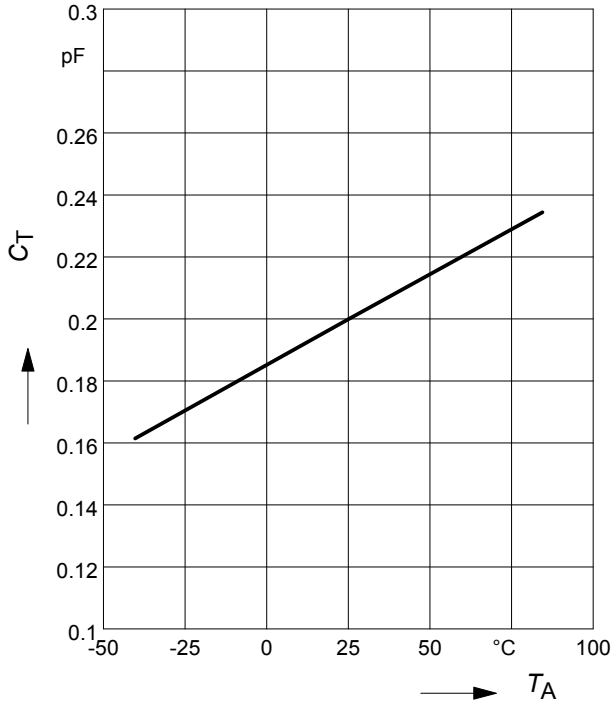
Diode capacitance $C_T = f(V_R)$

f = 1MHz, T_A = 25 °C



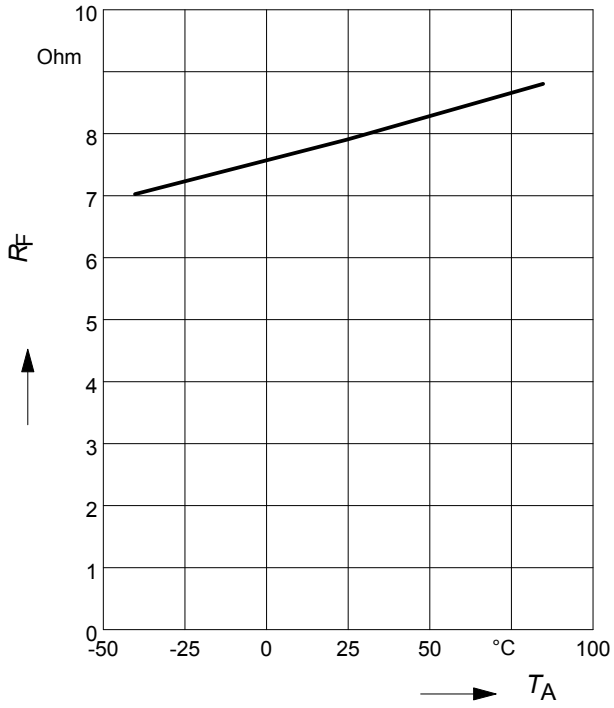
Diode capacitance $C_T = f(T_A)$

V_R = 0 V, f = 1MHz



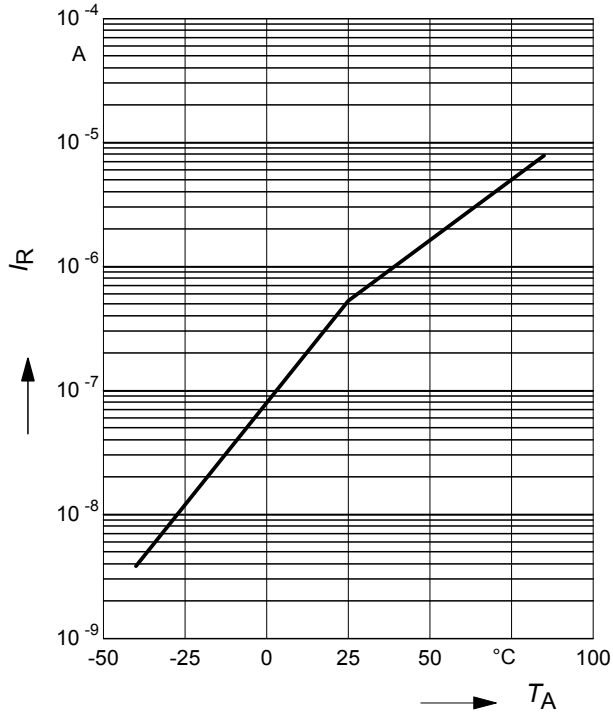
Differential forward resistance $R_F = f(T_A)$

I_F = 10 mA / 50 mA



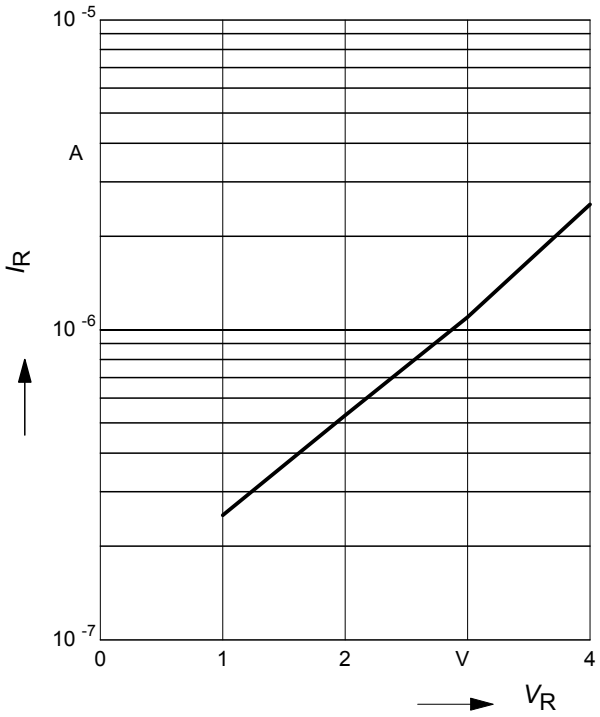
Reverse current $I_R = f(T_A)$

V_R = 1 V



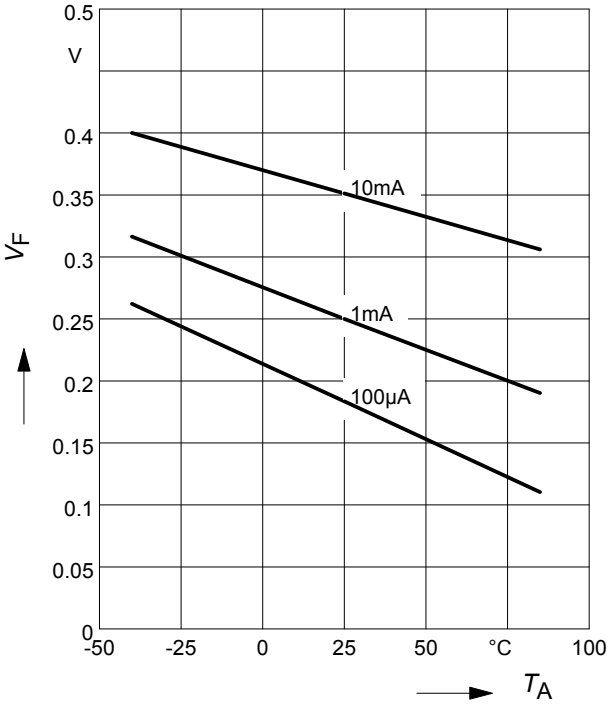
Reverse current $I_R = f(V_R)$

T_A = 25 °C



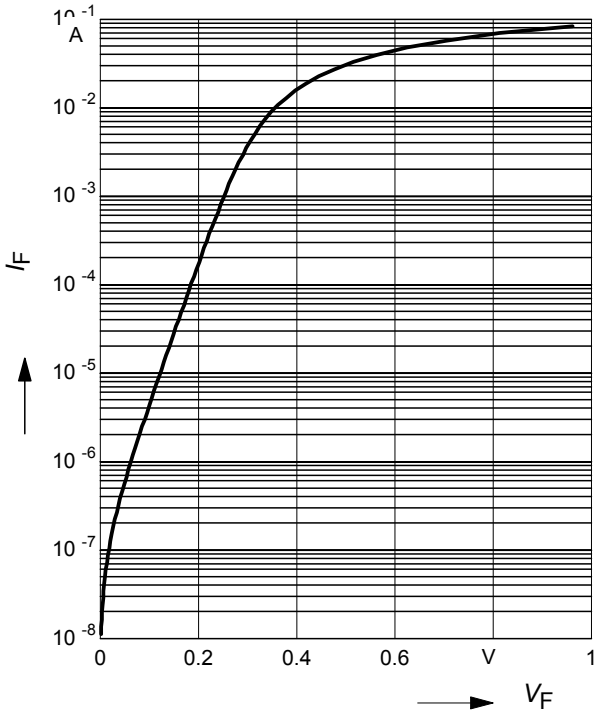
Forward Voltage $V_F = f(T_A)$

I_F = Parameter



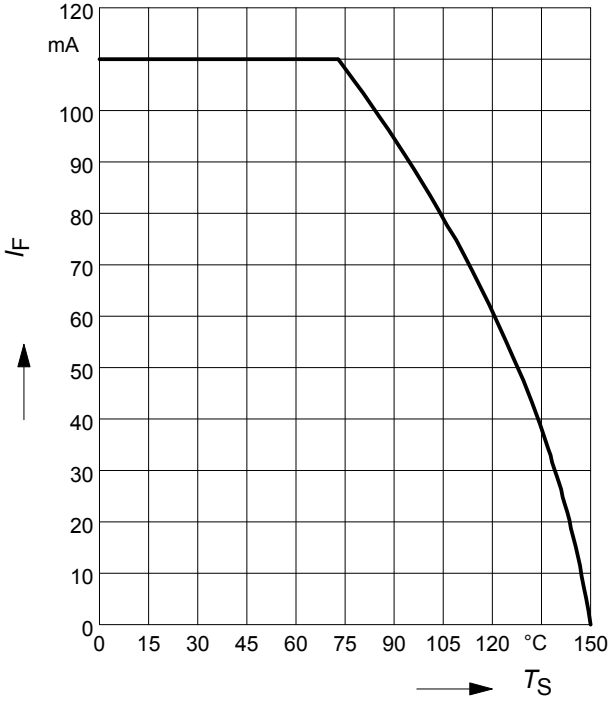
Forward current $I_F = f(V_F)$

T_A = 25 °C

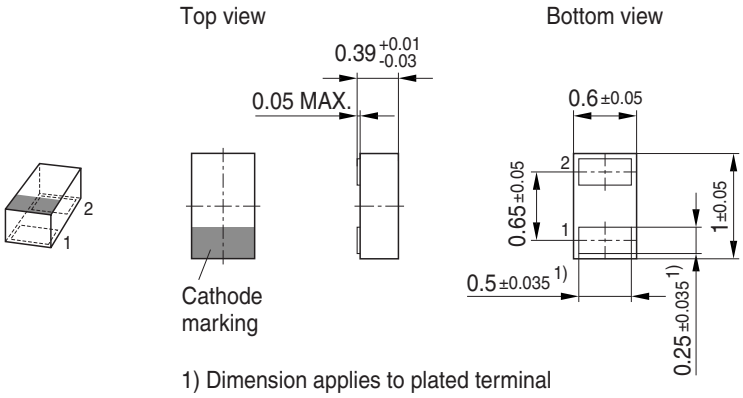


Forward current $I_F = f(T_S)$

BAT15-02LS



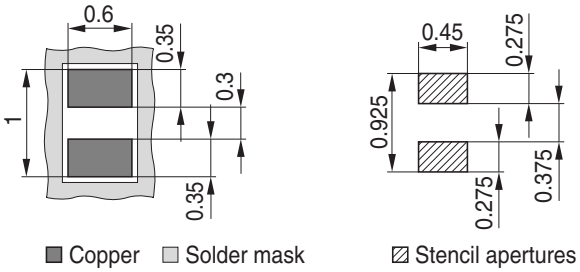
Package Outline



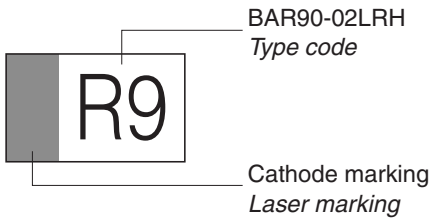
1) Dimension applies to plated terminal

Foot Print

For board assembly information please refer to Infineon website "Packages"

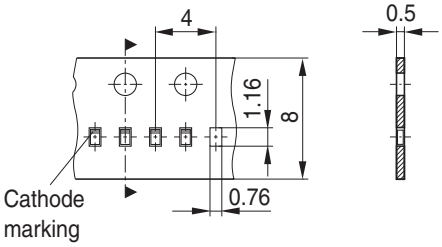


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
Reel ø330 mm = 50.000 Pieces/Reel (optional)



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