

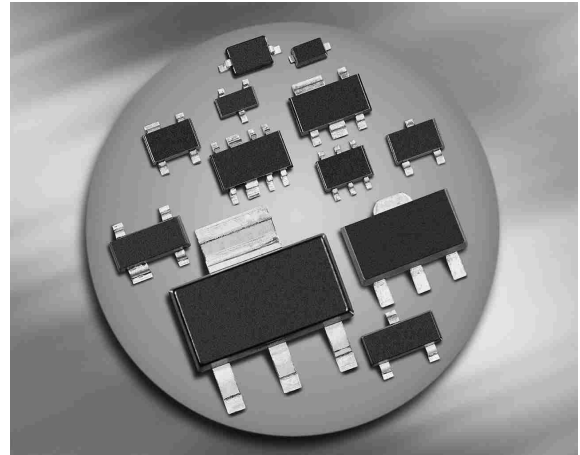
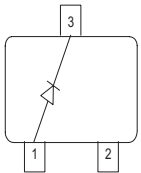
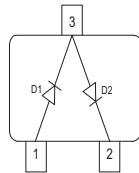
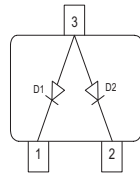
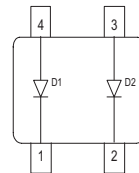
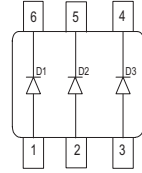


# THE DATASHEET OF BAT68-08S



**Silicon Schottky Diodes**

- For mixer applications in the VHF / UHF range
- For high-speed switching applications
- Pb-free (RoHS compliant) package


**BAT68**

**BAT68-04  
BAT68-04W**

**BAT68-06  
BAT68-06W**

**BAT68-07W**

**BAT68-08S**


**ESD (Electrostatic discharge) sensitive device, observe handling precaution!**

Type	Package	Configuration	$L_S$ (nH)	Marking
BAT68	SOT23	single	1.8	83s
BAT68-04	SOT23	series	1.8	84s
BAT68-04W	SOT323	series	1.4	84s
BAT68-06	SOT23	common anode	1.8	86s
BAT68-06W	SOT323	common anode	1.4	86s
BAT68-07W	SOT343	parallel pair	1.6	87s
BAT68-08S	SOT363	parallel triple	1.4	83s

**Maximum Ratings** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	$V_R$	8	V
Forward current	$I_F$	130	mA
Total power dissipation BAT68, $T_S \leq 77^\circ\text{C}$ BAT68-04, BAT68-06, $T_S \leq 61^\circ\text{C}$ BAT68-04W/-06W/-08S, $T_S \leq 92^\circ\text{C}$ BAT68-07W, $T_S \leq 89^\circ\text{C}$	$P_{\text{tot}}$	150 150 150 150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{\text{stg}}$	-55 ... 150	

**Thermal Resistance**

Parameter	Symbol	Value	Unit
Junction - soldering point <sup>1)</sup> BAT68 BAT68-04, BAT68-06 BAT68-04W-BAT68-06W, BAT68-08S BAT68-07W	$R_{\text{thJS}}$	$\leq 490$ $\leq 590$ $\leq 390$ $\leq 410$	K/W

**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Breakdown voltage $I_{(\text{BR})} = 10 \mu\text{A}$	$V_{(\text{BR})}$	8	-	-	V
Reverse current $V_R = 1 \text{ V}$ $V_R = 1 \text{ V}, T_A = 60^\circ\text{C}$	$I_R$	- -	- -	0.1 1.2	$\mu\text{A}$
Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$	$V_F$	- 340	318 390	340 500	mV

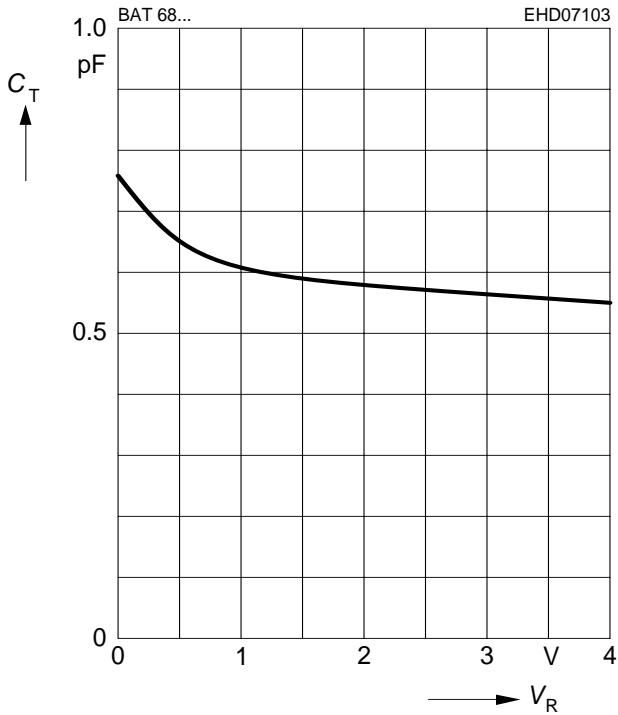
<sup>1)</sup>For calculation of  $R_{\text{thJA}}$  please refer to Application Note Thermal Resistance

**Electrical Characteristics** at  $T_A = 25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
<b>AC Characteristics</b>					
Diode capacitance $V_R = 0, f = 1 \text{ MHz}$	$C_T$	-	-	1	pF
Differential forward resistance $I_F = 5 \text{ mA}, f = 10 \text{ kHz}$	$R_F$	-	-	10	$\Omega$

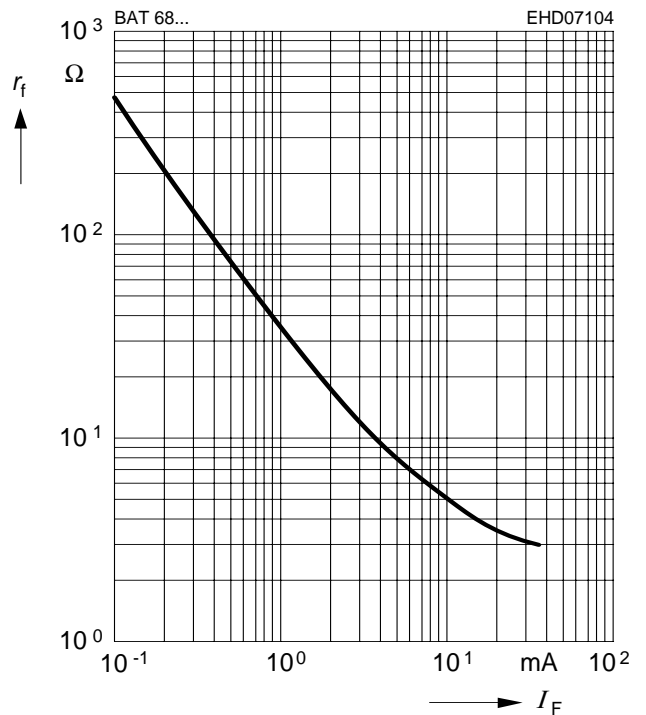
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



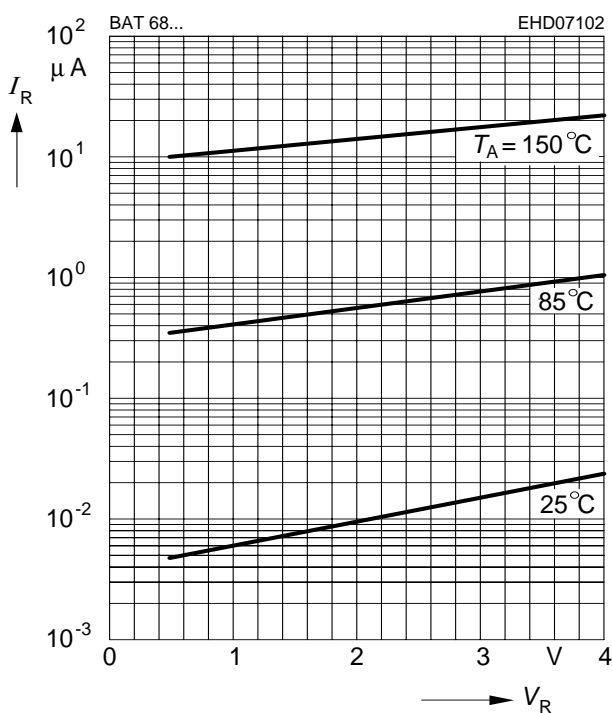
**Differential forward resistance  $r_f = f(I_F)$**

$f = 10\text{kHz}$



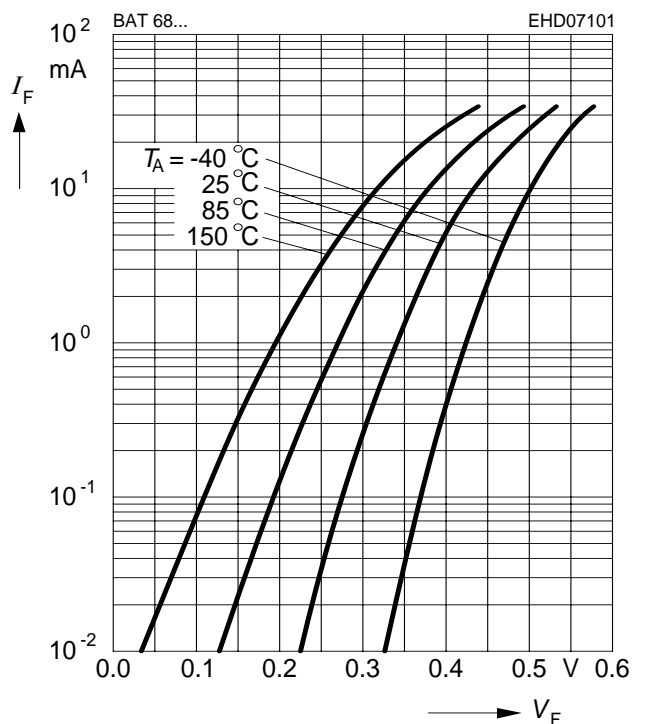
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



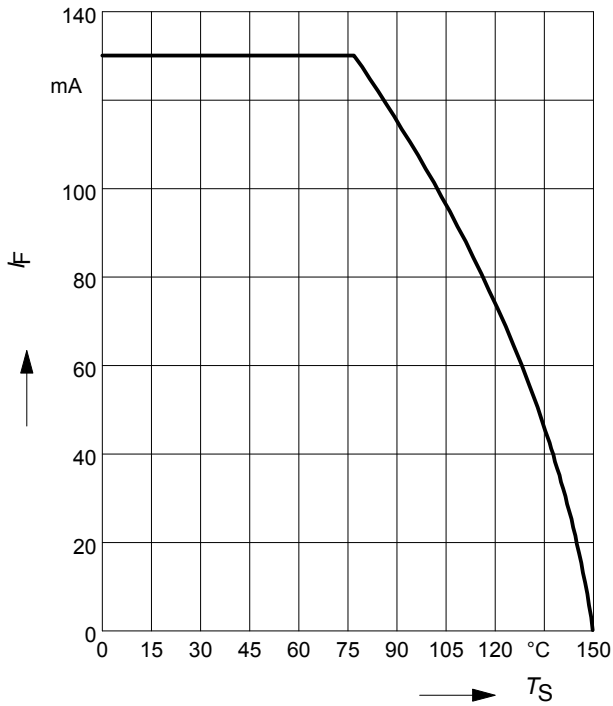
**Forward current  $I_F = f(V_F)$**

$T_A = \text{Parameter}$



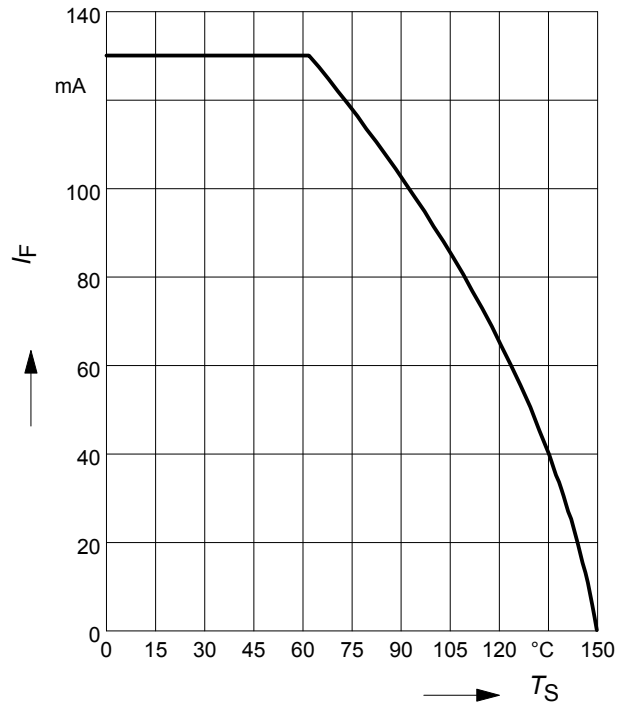
**Forward current  $I_F = f(T_S)$**

BAT68



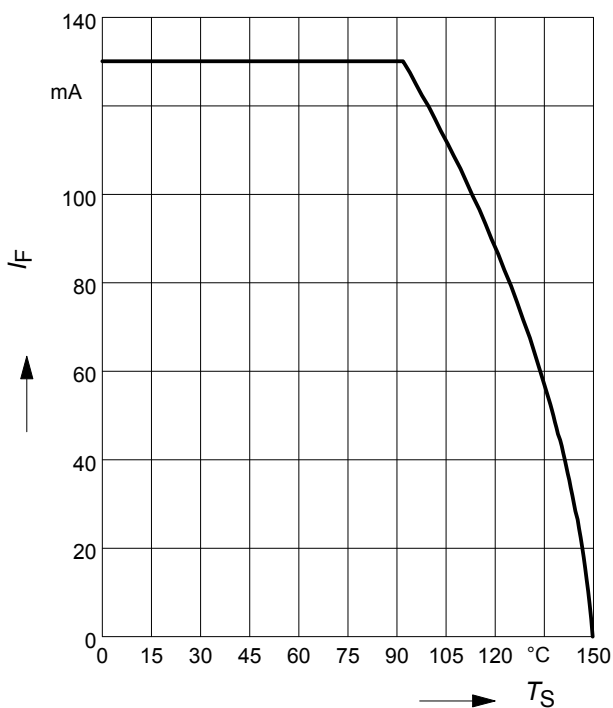
**Forward current  $I_F = f(T_S)$**

BAT68-04, BAT68-06



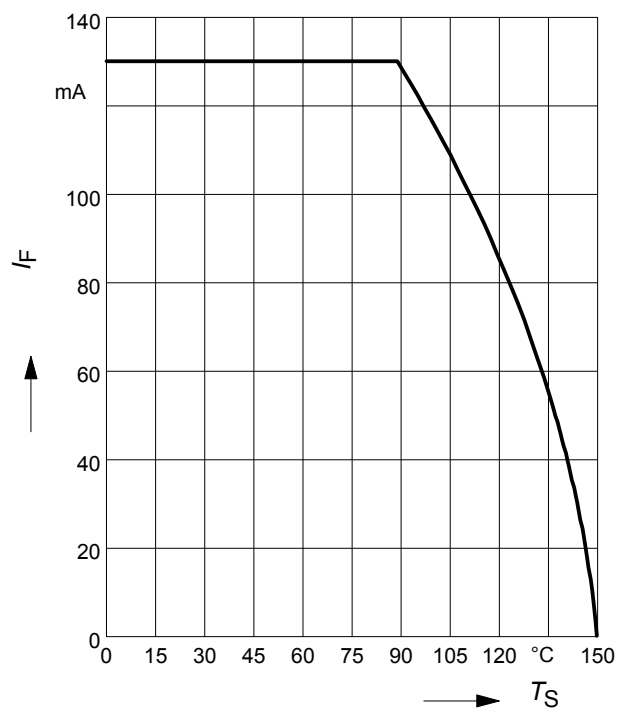
**Forward current  $I_F = f(T_S)$**

BAT68-04W, BAT68-06W, BAT68-08S



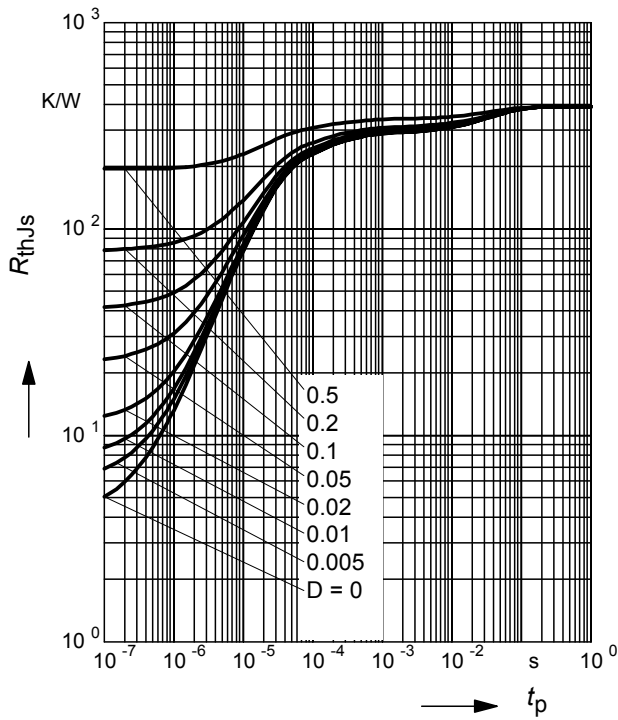
**Forward current  $I_F = f(T_S)$**

BAT68-07W



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

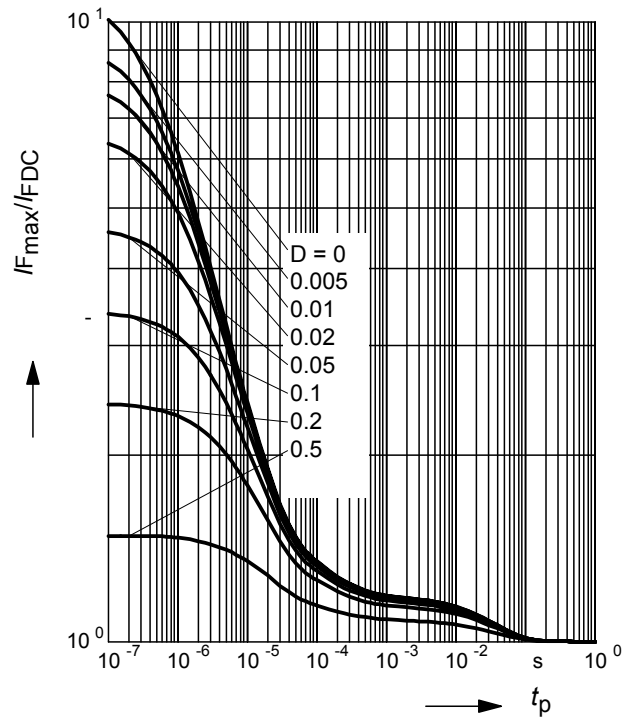
BAT68-04W, BAT68-06W



**Permissible Pulse Load**

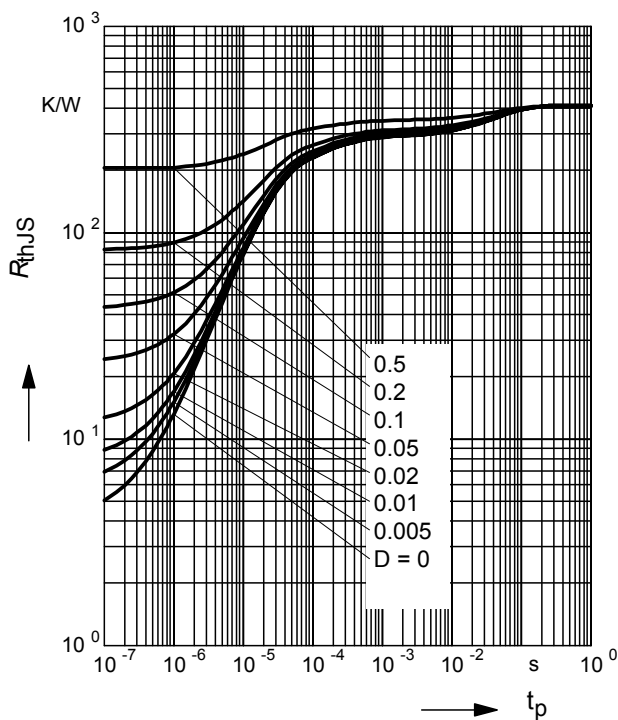
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT68-04W, BAT68-06W



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

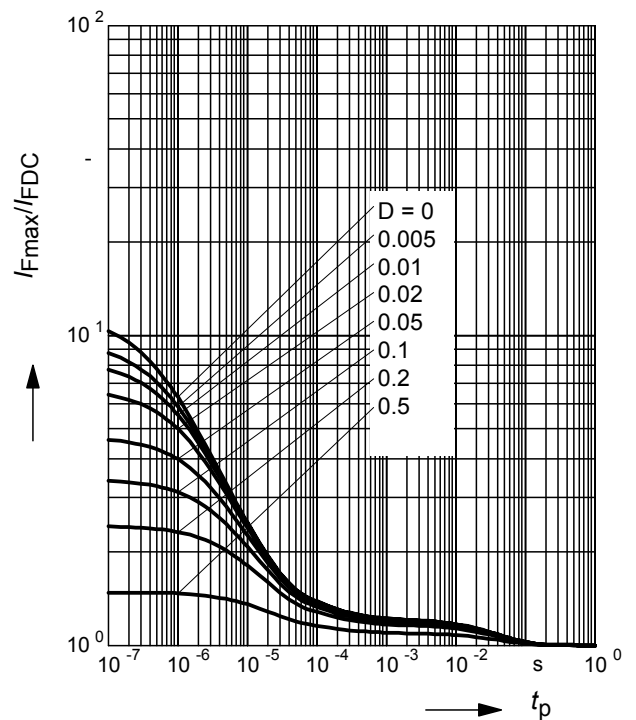
BAT68-07W



**Permissible Pulse Load**

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

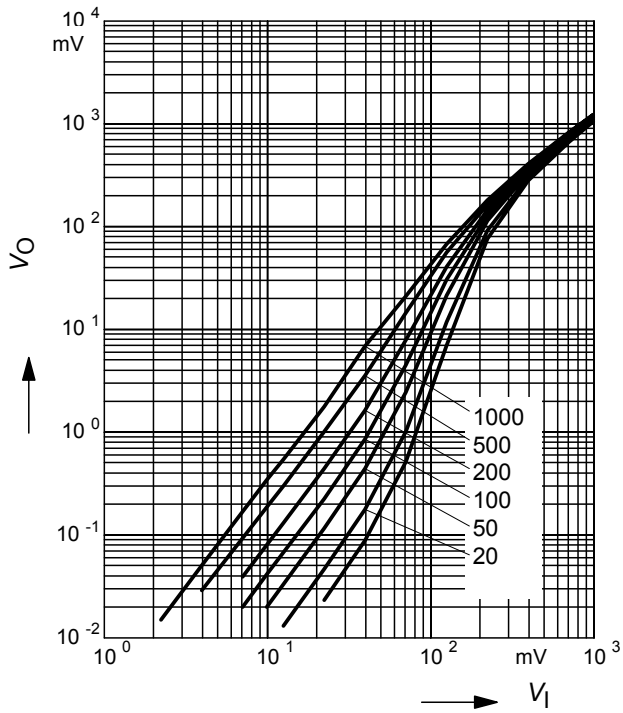
BAT68-07W



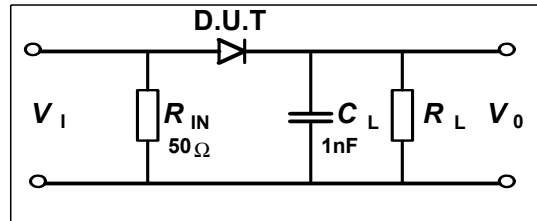
Rectifier voltage  $V_{out} = f(V_{in})$

$f = 900\text{MHz}$

$R_L =$  Parameter in  $k\Omega$



Testcircuit

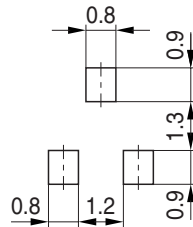


Package Outline



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

Foot Print

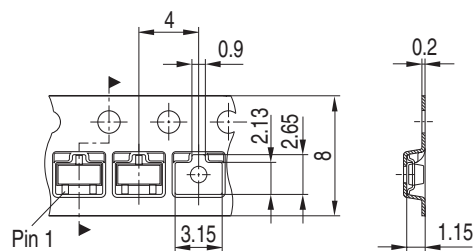


Marking Layout (Example)

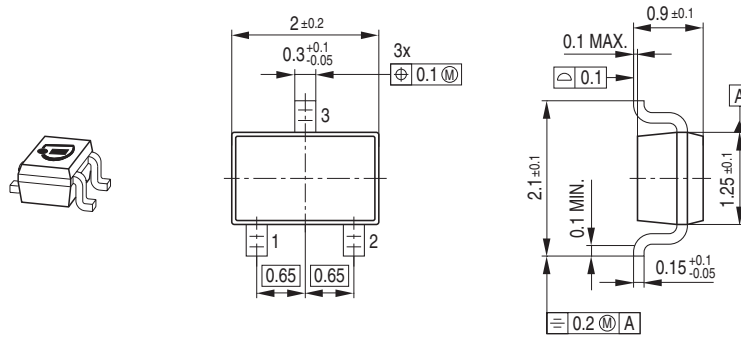


Standard Packing

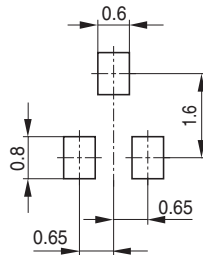
Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



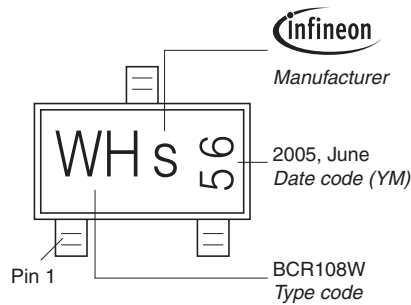
Package Outline



Foot Print

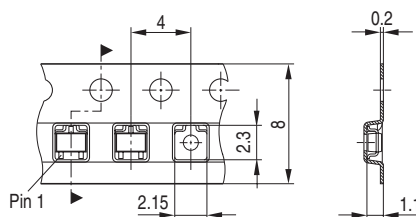


Marking Layout (Example)

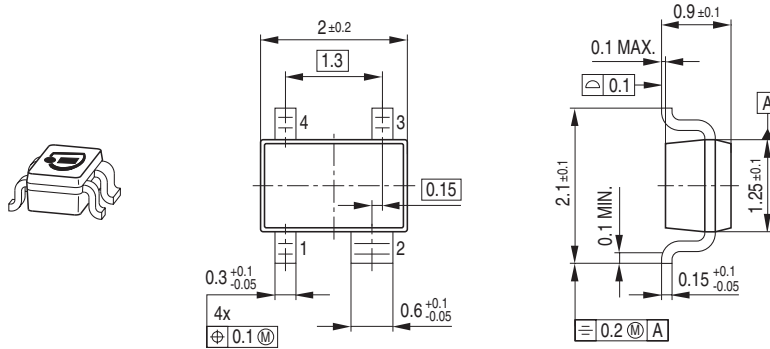


Standard Packing

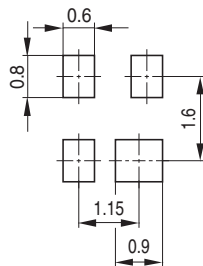
Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



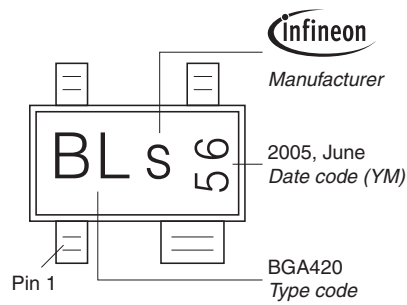
Package Outline



Foot Print

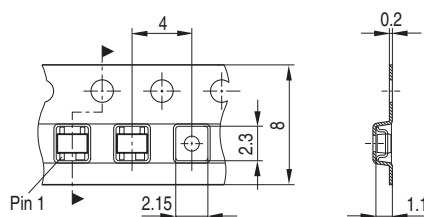


Marking Layout (Example)

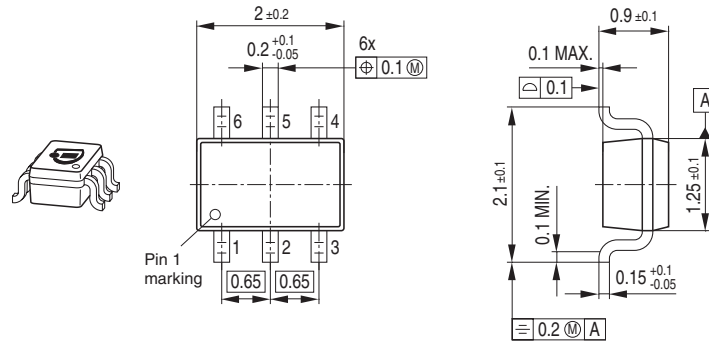


Standard Packing

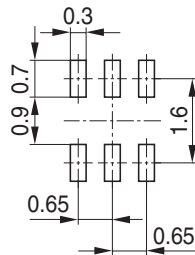
Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel



Package Outline

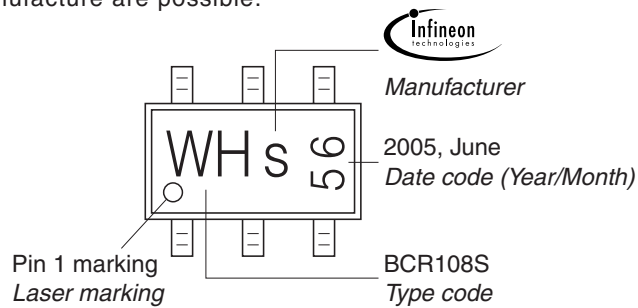


Foot Print



Marking Layout (Example)

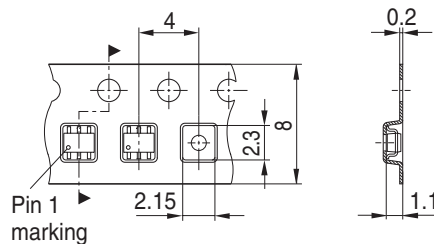
Small variations in positioning of Date code, Type code and Manufacture are possible.



Standard Packing

Reel  $\varnothing$ 180 mm = 3.000 Pieces/Reel  
 Reel  $\varnothing$ 330 mm = 10.000 Pieces/Reel

For symmetric types no defined Pin 1 orientation in reel.



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