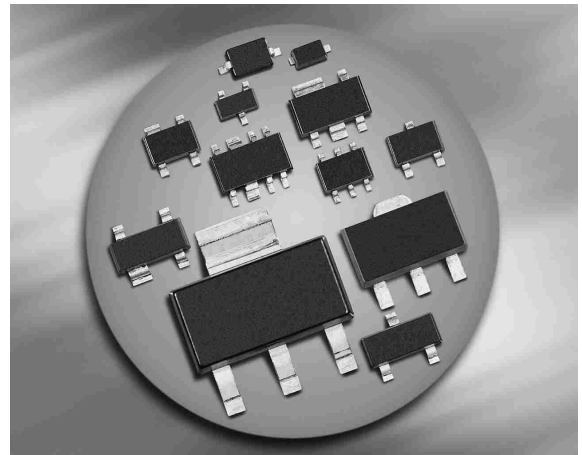
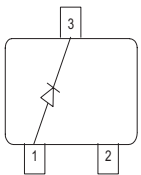
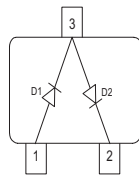
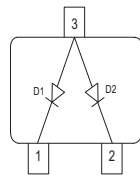
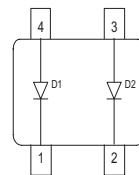
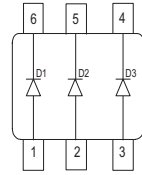


Silicon Schottky Diodes

- 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_{tot} | 150 150 150 150 | mW |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -55 ... 150 | |

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|-------------------|--|------|
| Junction - soldering point ¹⁾ BAT68 BAT68-04, BAT68-06 BAT68-04W-BAT68-06W, BAT68-08S BAT68-07W | R_{thJS} | ≤ 490 ≤ 590 ≤ 390 ≤ 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 | μA |
| Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ | V_F | - 340 | 318 390 | 340 500 | mV |

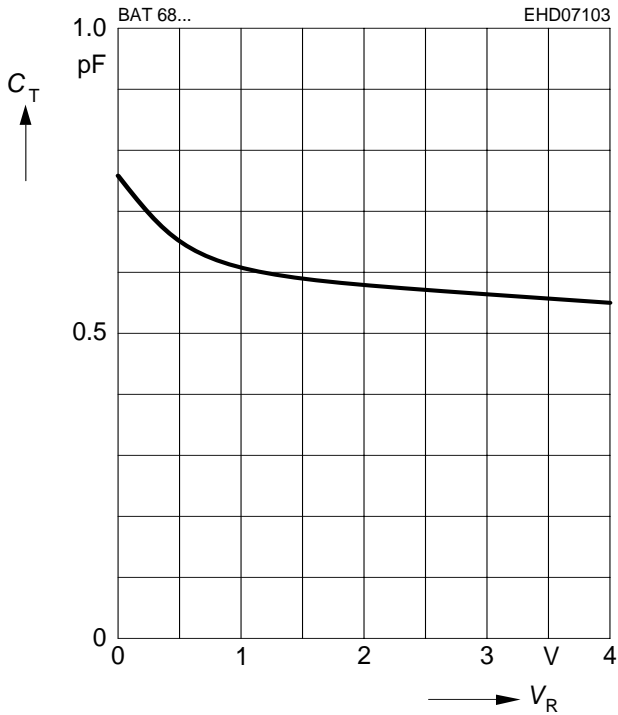
¹⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

| Parameter | Symbol | Values | | | Unit |
|---|--------|--------|------|------|----------|
| | | min. | typ. | max. | |
| AC Characteristics | | | | | |
| Diode capacitance $V_R = 0$, $f = 1$ MHz | C_T | - | - | 1 | pF |
| Differential forward resistance $I_F = 5$ mA, $f = 10$ kHz | R_F | - | - | 10 | Ω |

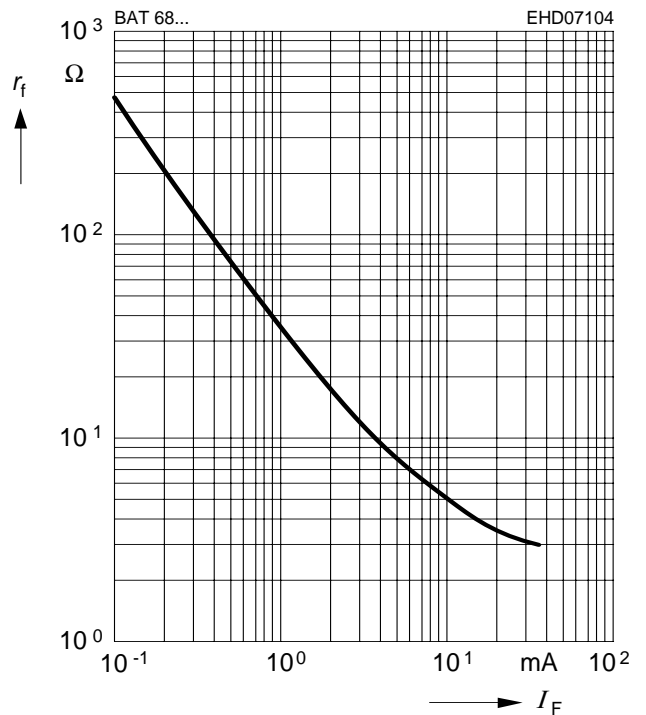
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



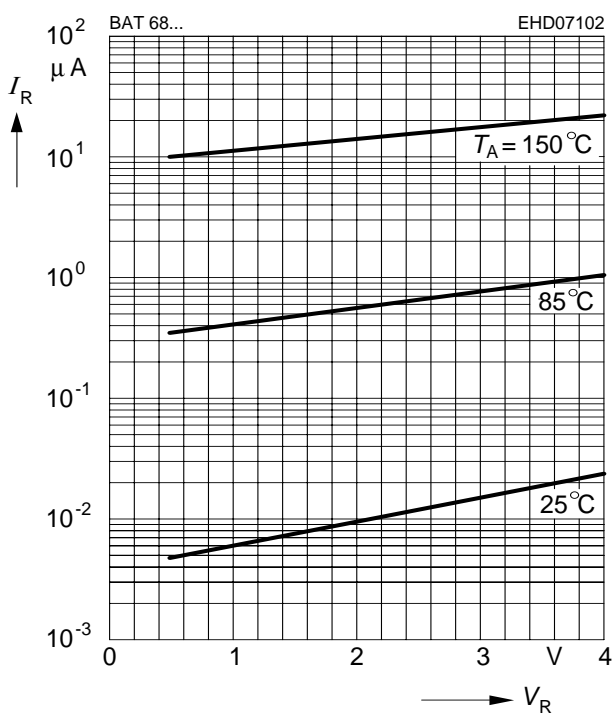
Differential forward resistance $r_f = f(I_F)$

$f = 10\text{kHz}$



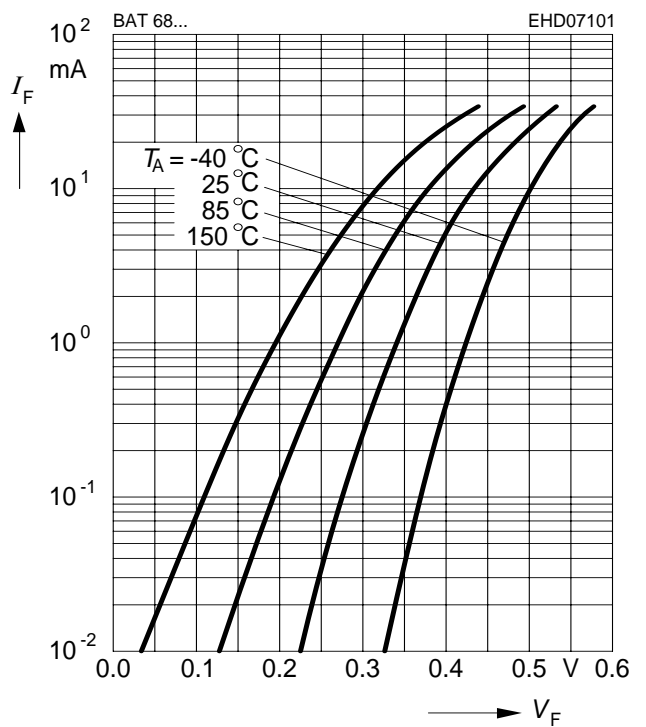
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



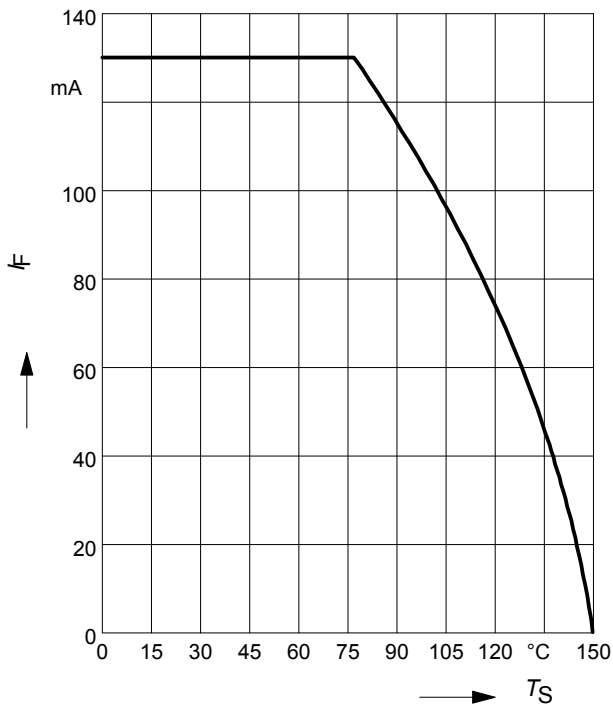
Forward current $I_F = f(V_F)$

$T_A = \text{Parameter}$



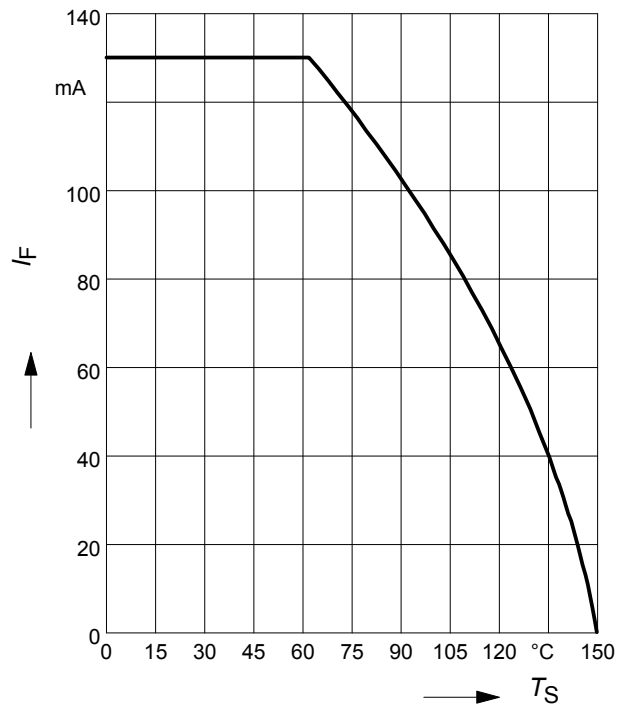
Forward current $I_F = f(T_S)$

BAT68



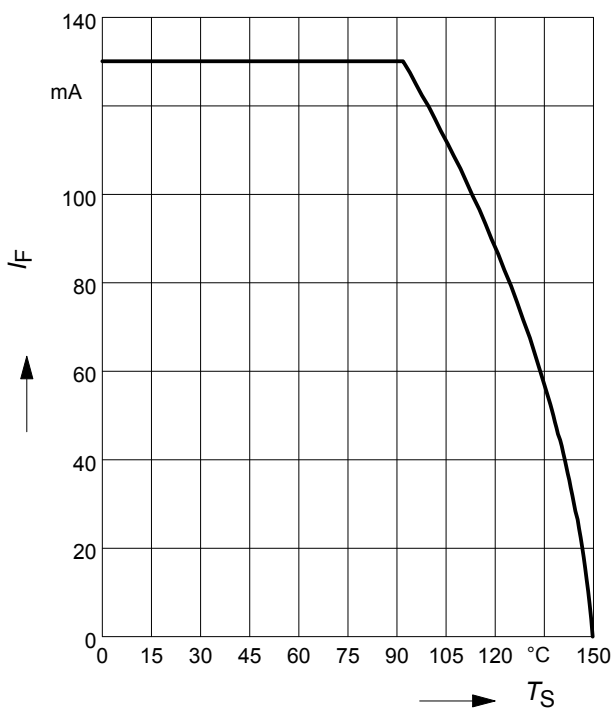
Forward current $I_F = f(T_S)$

BAT68-04, BAT68-06



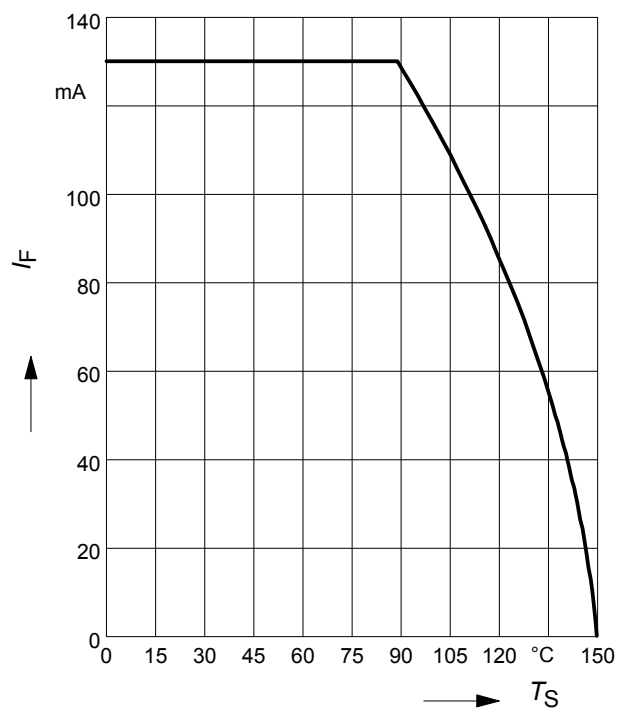
Forward current $I_F = f(T_S)$

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



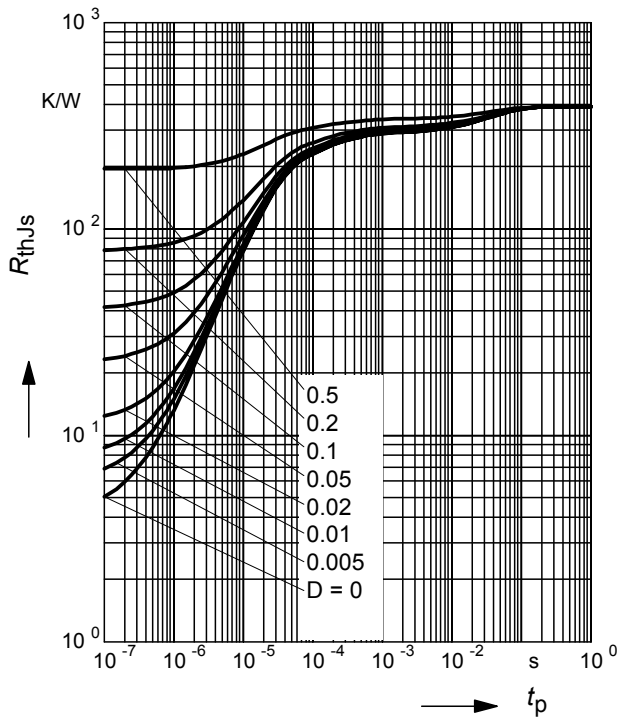
Forward current $I_F = f(T_S)$

BAT68-07W



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

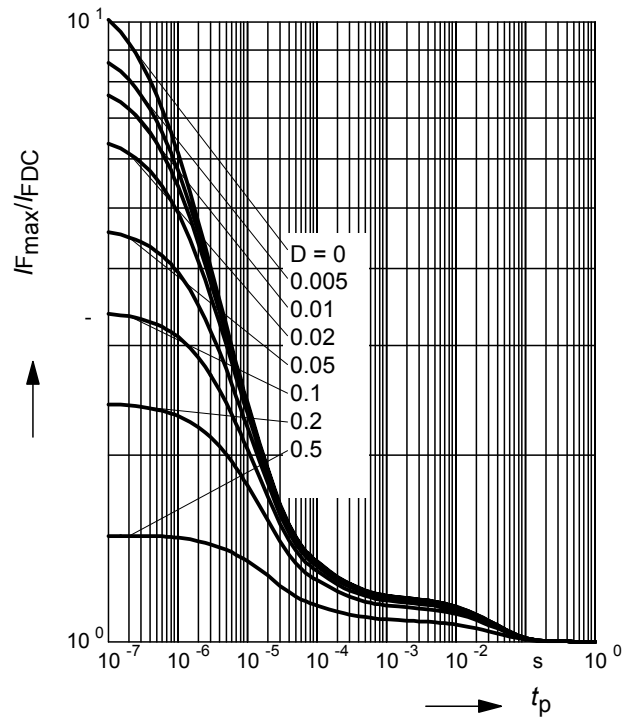
BAT68-04W, BAT68-06W



Permissible Pulse Load

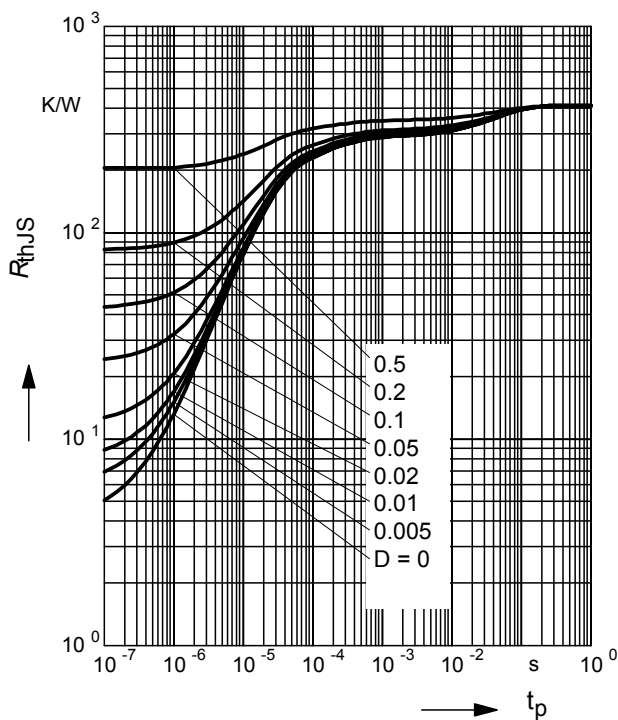
$I_{Fmax} / I_{FDC} = f(t_p)$

BAT68-04W, BAT68-06W



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

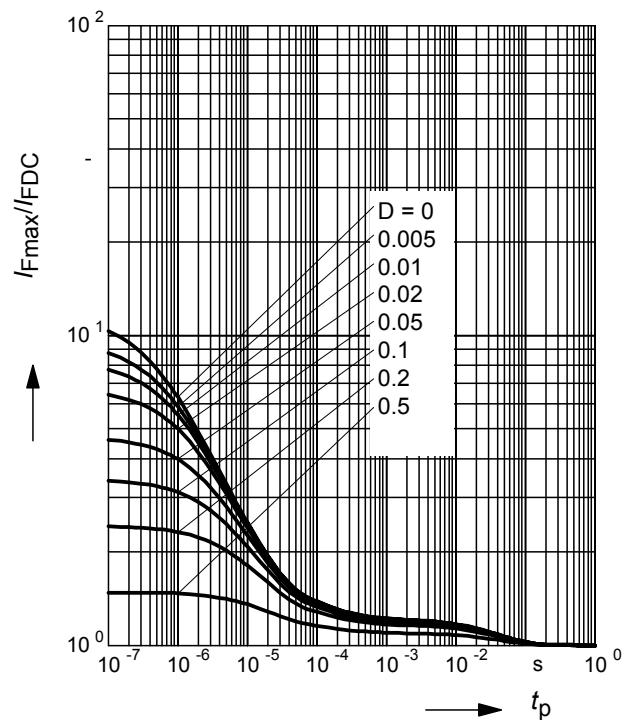
BAT68-07W



Permissible Pulse Load

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

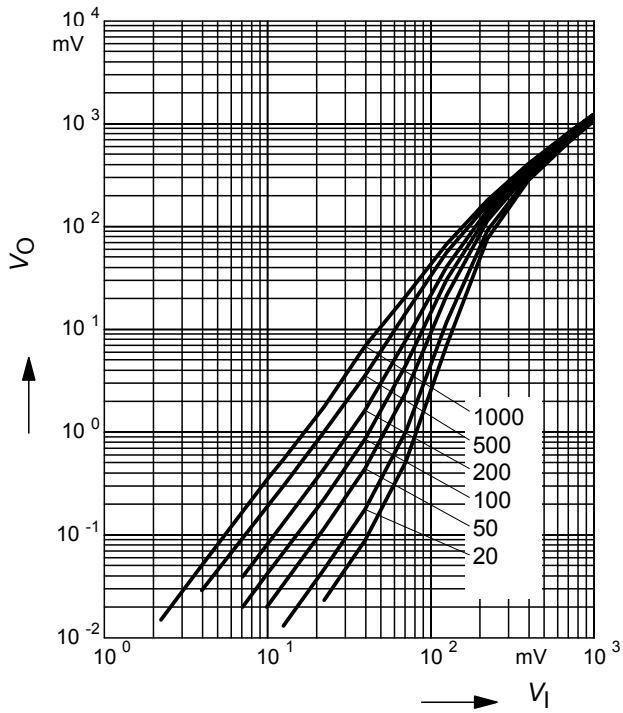
BAT68-07W



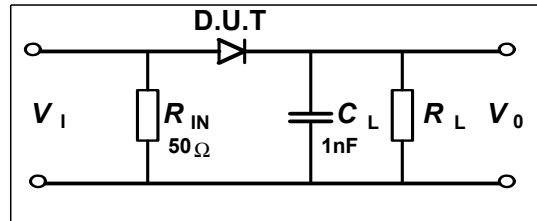
Rectifier voltage $V_{out} = f(V_{in})$

$f = 900\text{MHz}$

$R_L =$ Parameter in $k\Omega$



Testcircuit



Package Outline

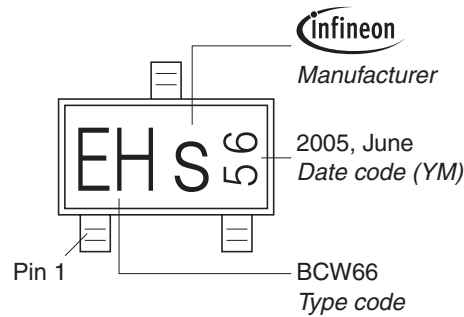


1) Lead width can be 0.6 max. in dambar area

Foot Print



Marking Layout (Example)

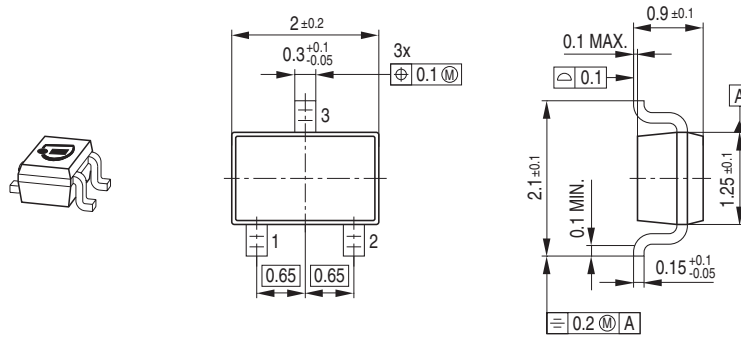


Standard Packing

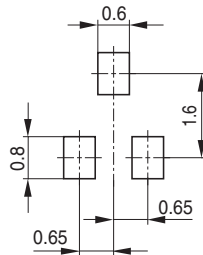
Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 330 mm = 10.000 Pieces/Reel



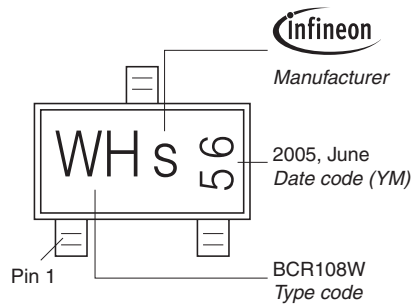
Package Outline



Foot Print

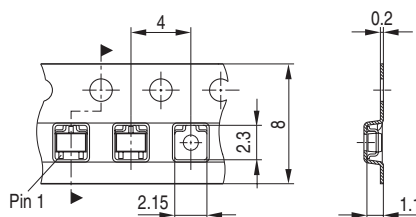


Marking Layout (Example)



Standard Packing

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



Package Outline

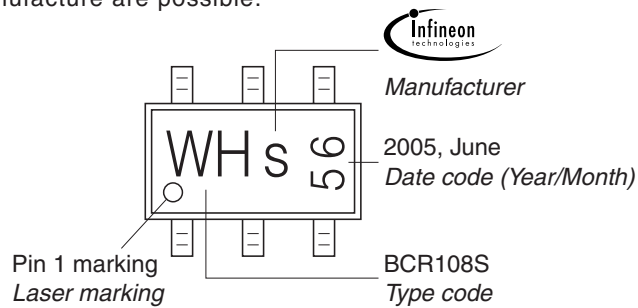


Foot Print



Marking Layout (Example)

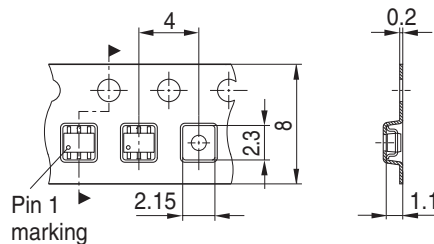
Small variations in positioning of Date code, Type code and Manufacture are possible.



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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