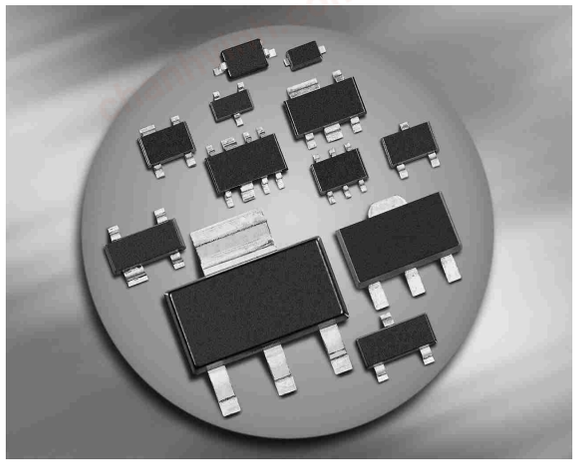
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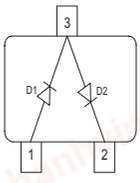
## Silicon RF Switching Diode

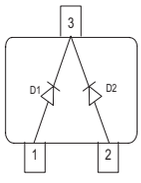
- Low-loss VHF / UHF switch above 10 MHz
- PIN diode with low forward resistance
- Pb-free (RoHS compliant) package

RoHS



**BAT18-04** **BAT18-05**




| Type | Package | Configuration | $L_S$(nH) | Marking |
|---|---|---|---|---|
| BAT18-04 | SOT23 | series | 1.8 | AUs |
| BAT18-05 | SOT23 | common cathode | 1.8 | ASs |

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

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Diode reverse voltage | $V_R$ | 35 | V |
| Forward current | $I_F$ | 100 | mA |
| Junction temperature | $T_j$ | 150 | °C |
| Operating temperature range | $T_{op}$ | -55 ... 125 | |
| Storage temperature | $T_{stg}$ | -55 ... 150 | |

**Thermal Resistance**

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Junction - soldering point[1)]<br>BAT18-04, BAT18-05 | $R_{thJS}$ | ≤ 290 | K/W |

[1]For calculation of $R_{thJA}$ please refer to Application Note Thermal Resistance

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**Electrical Characteristics** at $T_A$ = 25°C, unless otherwise specified

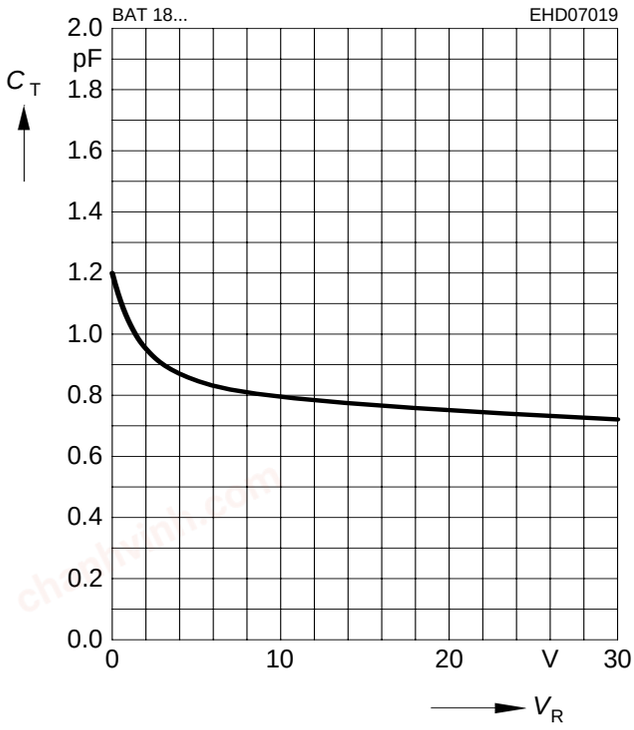
| Parameter | Symbol | Values | | | Unit |
|---|---|---|---|---|---|
| | | min. | typ. | max. | |
| **DC Characteristics** | | | | | |
| Reverse current<br>$V_R$ = 20 V<br>$V_R$ = 20 V, $T_A$ = 60 °C | $I_R$ | <br>-<br>- | <br>-<br>- | <br>20<br>200 | nA |
| Forward voltage<br>$I_F$ = 100 mA | $V_F$ | - | 0.92 | 1.2 | V |
| **AC Characteristics** | | | | | |
| Diode capacitance<br>$V_R$ = 20 V, $f$ = 1 MHz | $C_T$ | - | 0.75 | 1 | pF |
| Forward resistance<br>$I_F$ = 5 mA, $f$ = 100 MHz | $r_f$ | - | 0.4 | 0.7 | Ω |
| Charge carrier life time<br>$I_F$ = 10 mA, $I_R$ = 6 mA, measured at $I_R$ = 3 mA ,<br>$R_L$ = 100 Ω | $\tau_{rr}$ | - | 120 | - | ns |
| I-region width | $W_I$ | - | 3 | - | µm |

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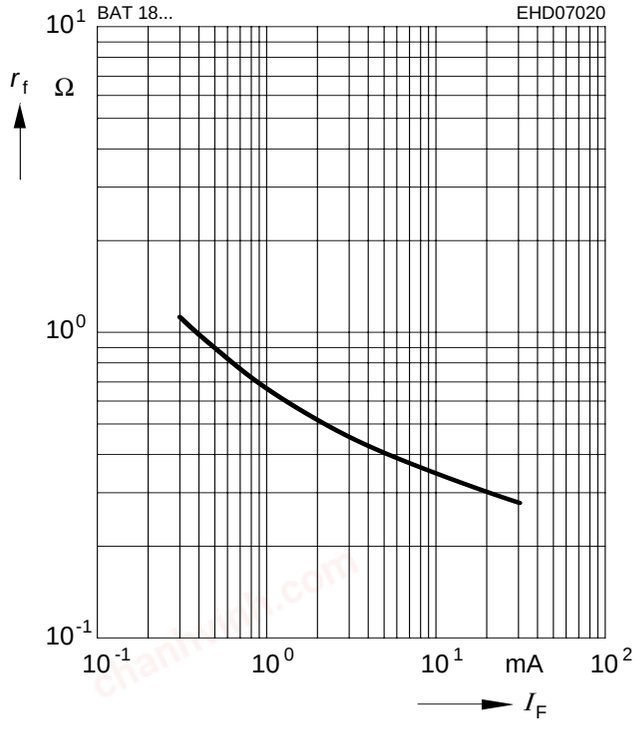
**Diode capacitance $C_T = f(V_R)$**

$f$ = 1MHz




**Forward resistance $r_f = f(I_F)$**

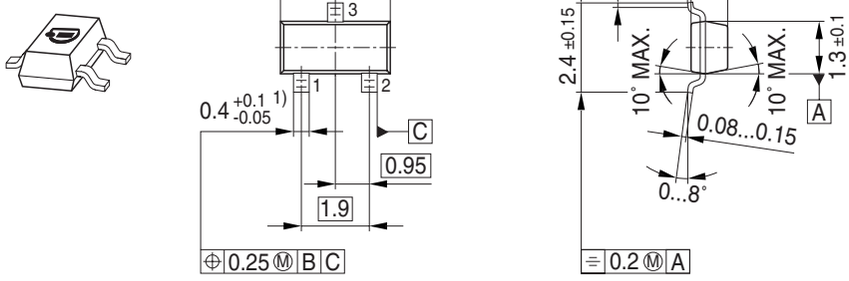
$f$ = 100MHz



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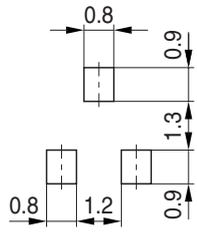


## Package Outline

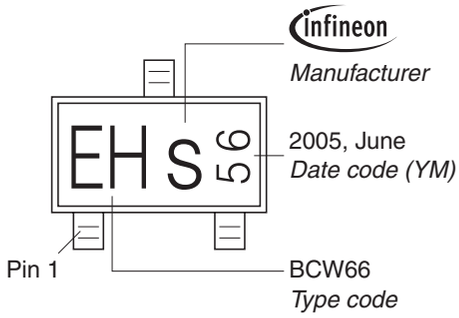



1) Lead width can be 0.6 max. in dambar area

## Foot Print

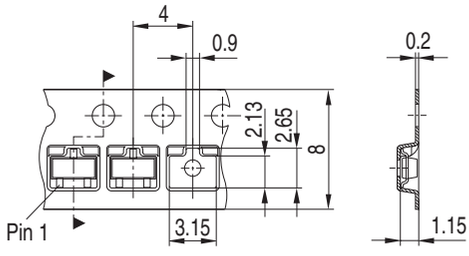



## Marking Layout (Example)




## Standard Packing

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



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