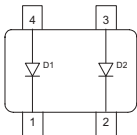


Silicon Switching Diode

- For high-speed switching applications
- Electrical insulated diodes
- Pb-free (RoHS compliant) package ¹⁾
- Qualified according AEC Q101


BAS28/W


| Type | Package | Configuration | Marking |
|--------|---------|---------------|---------|
| BAS28 | SOT143 | parallel pair | JTs |
| BAS28W | SOT343 | parallel pair | JTs |

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

| Parameter | Symbol | Value | Unit |
|--|-----------|-------------|------------------|
| Diode reverse voltage | V_R | 80 | V |
| Peak reverse voltage | V_{RM} | 85 | |
| Forward current | I_F | 200 | mA |
| Peak forward current | I_{FM} | - | |
| Surge forward current, $t = 1 \mu\text{s}$ | I_{FS} | 4.5 | A |
| Non-repetitive peak surge forward current | I_{FSM} | - | |
| Total power dissipation | P_{tot} | | mW |
| BAS28, $T_S \leq 31^\circ\text{C}$ | | 330 | |
| BAS28W, $T_S \leq 103^\circ\text{C}$ | | 250 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 ... 150 | |

¹Pb-containing package may be available upon special request

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|-------|------|
| Junction - soldering point ¹⁾ | R_{thJS} | | K/W |
| BAS28 | | ≤ 360 | |
| BAS28W | | ≤ 190 | |

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

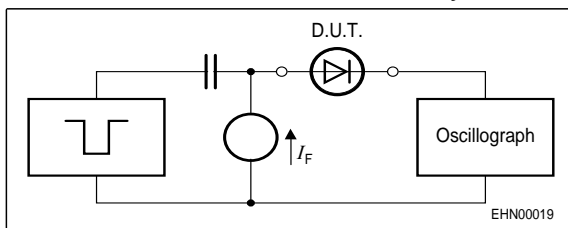
| Parameter | Symbol | Values | | | Unit |
|-----------|--------|--------|------|------|------|
| | | min. | typ. | max. | |

DC Characteristics

| | | | | | |
|---|------------|----|---|------------------------------------|---------------|
| Breakdown voltage $I_{(BR)} = 100 \mu\text{A}$ | $V_{(BR)}$ | 85 | - | - | V |
| Reverse current $V_R = 75 \text{ V}$ $V_R = 25 \text{ V}, T_A = 150^\circ\text{C}$ $V_R = 75 \text{ V}, T_A = 150^\circ\text{C}$ | I_R | - | - | 0.1 30 50 | μA |
| Forward voltage $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 50 \text{ mA}$ $I_F = 100 \text{ mA}$ $I_F = 150 \text{ mA}$ | V_F | - | - | 715 855 1000 1200 1250 | mV |

AC Characteristics

| | | | | | |
|--|----------|---|---|---|----|
| Diode capacitance $V_R = 0 \text{ V}, f = 1 \text{ MHz}$ | C_T | - | - | 2 | pF |
| Reverse recovery time $I_F = 10 \text{ mA}, I_R = 10 \text{ mA}$, measured at $I_R = 1 \text{ mA}$, $R_L = 100 \Omega$ | t_{rr} | - | - | 4 | ns |

Test circuit for reverse recovery time


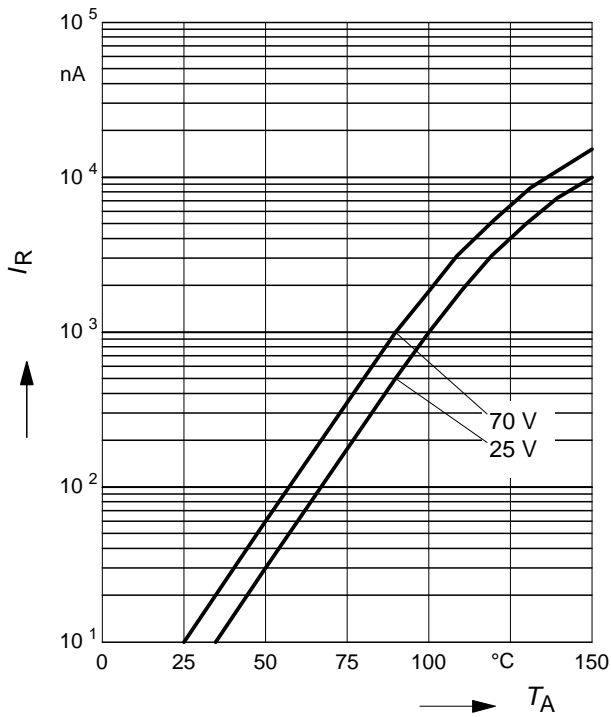
Pulse generator: $t_p = 100\text{ns}$, $D = 0.05$,
 $t_r = 0.6\text{ns}$, $R_i = 50\Omega$

Oscilloscope: $R = 50\Omega$, $t_r = 0.35\text{ns}$,
 $C \leq 1\text{pF}$

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

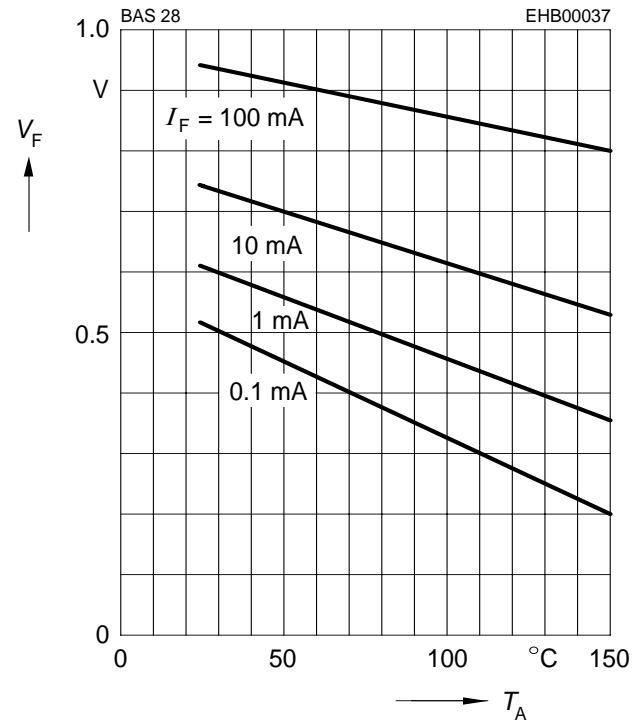
Reverse current $I_R = f(T_A)$

$V_R =$ Parameter



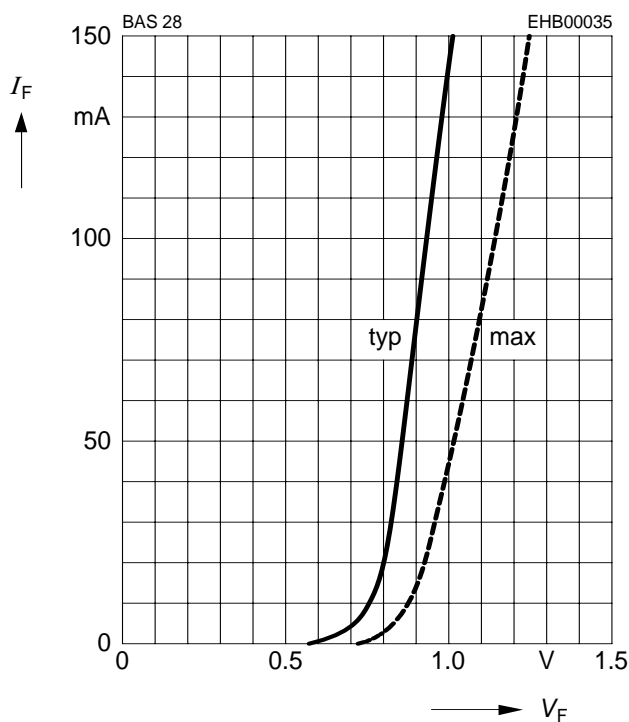
Forward Voltage $V_F = f(T_A)$

$I_F =$ Parameter



Forward current $I_F = f(V_F)$

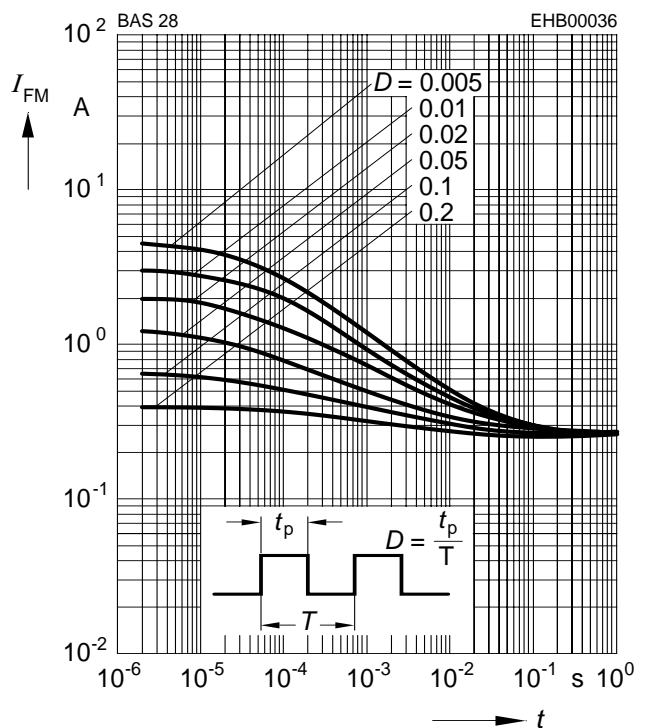
$T_A = 25\text{ °C}$



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

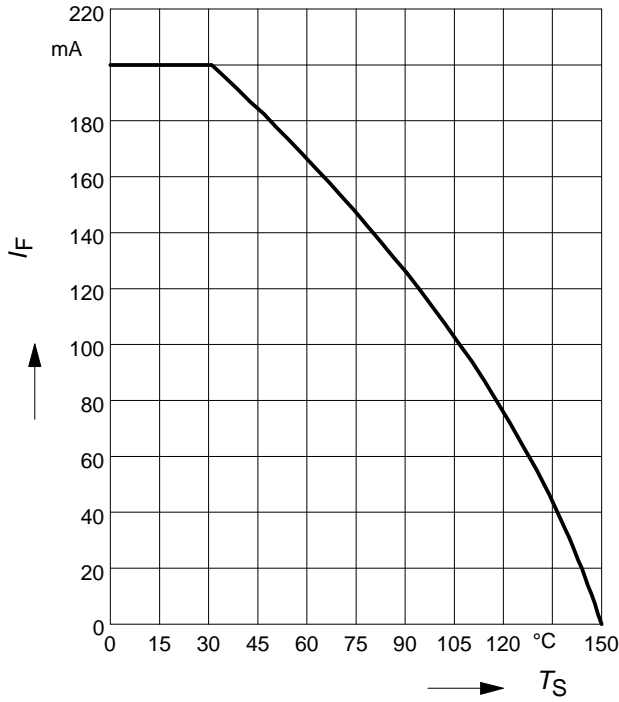
$T_A = 25\text{ °C}$

BAS28



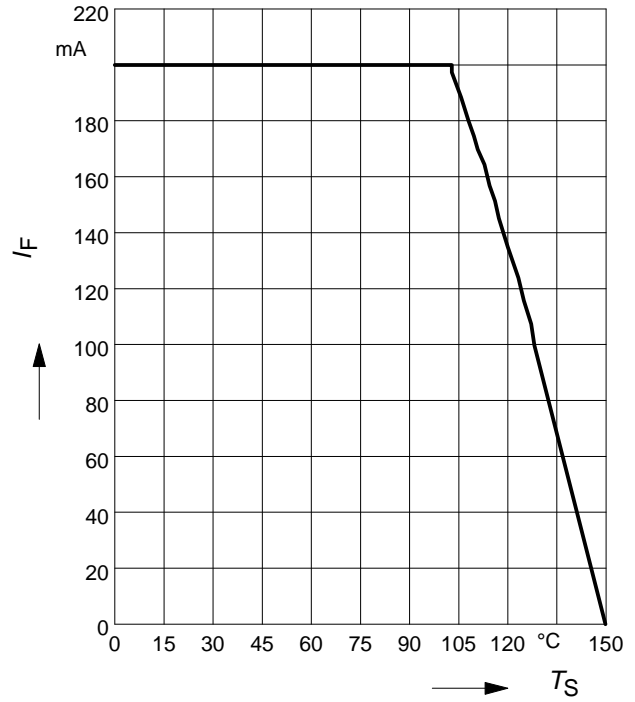
Forward current $I_F = f(T_S)$

BAS28



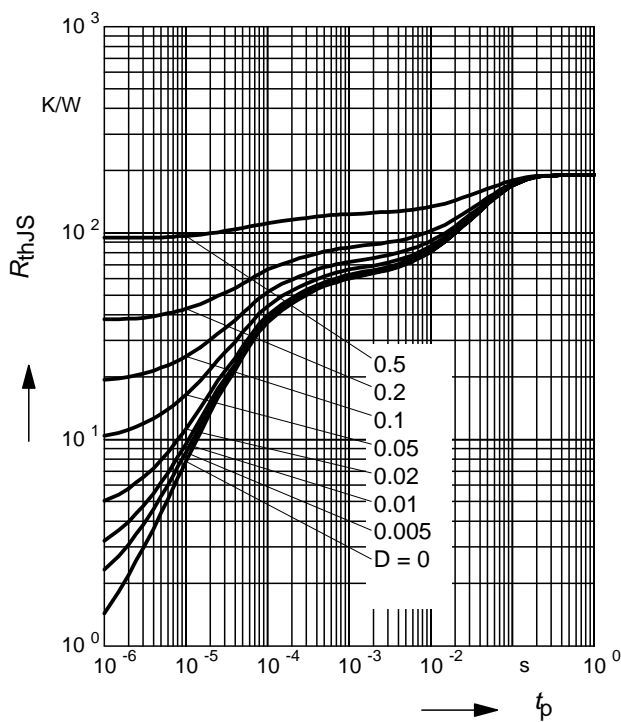
Forward current $I_F = f(T_S)$

BAS28W



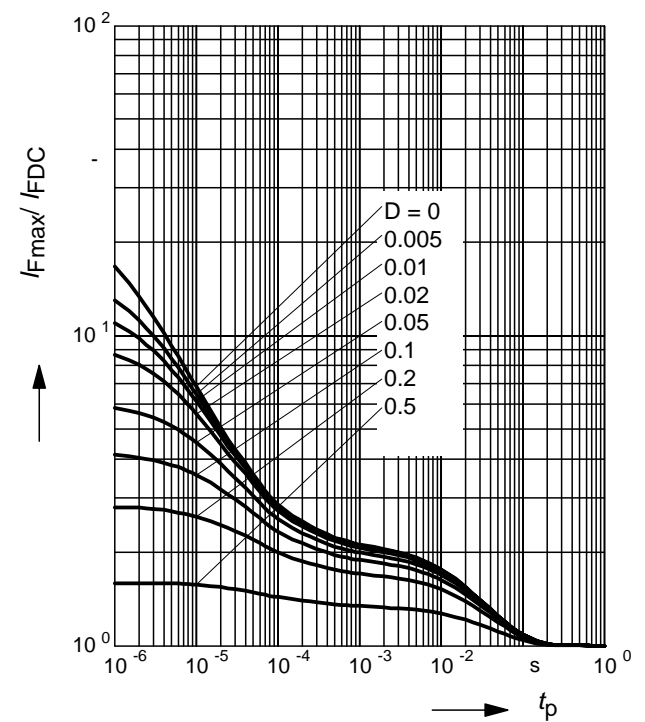
Permissible Puls Load $R_{thJS} = f(t_p)$

BAS28W

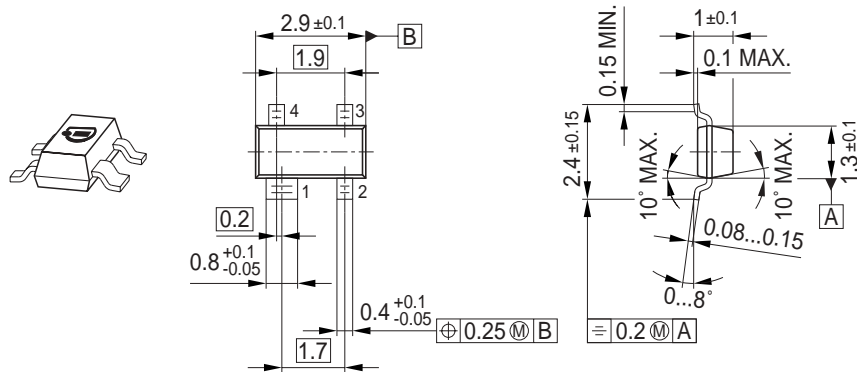


Permissible Pulse Load

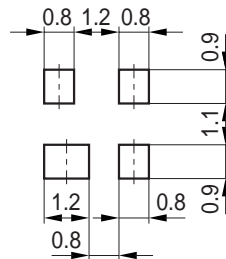
$I_{Fmax} / I_{FDC} = f(t_p)$ BAS28W



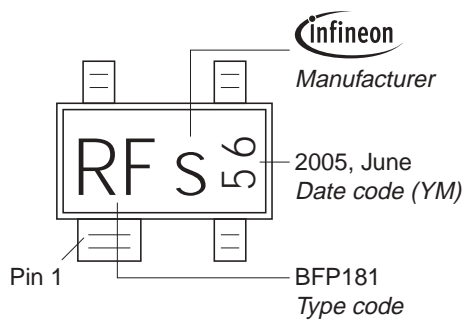
Package Outline



Foot Print

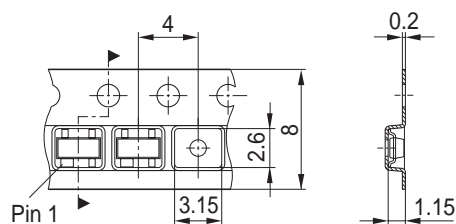


Marking Layout (Example)

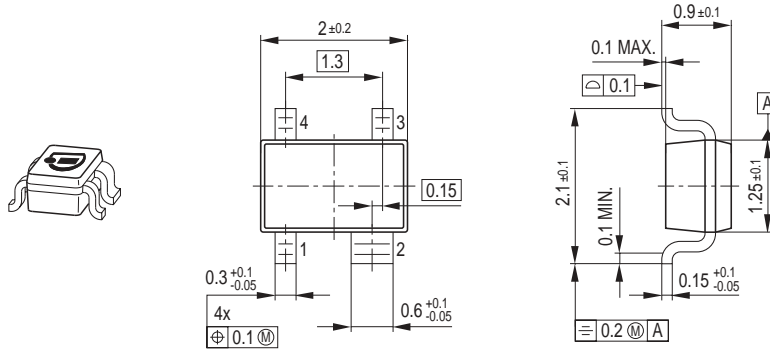


Standard Packing

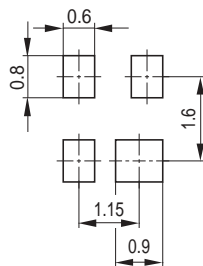
Reel $\varnothing 180 \text{ mm} = 3.000 \text{ Pieces/Reel}$
 Reel $\varnothing 330 \text{ mm} = 10.000 \text{ Pieces/Reel}$



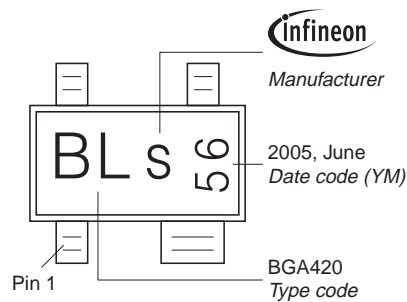
Package Outline



Foot Print

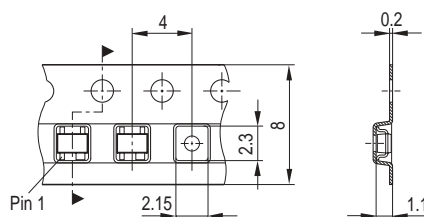


Marking Layout (Example)



Standard Packing

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



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