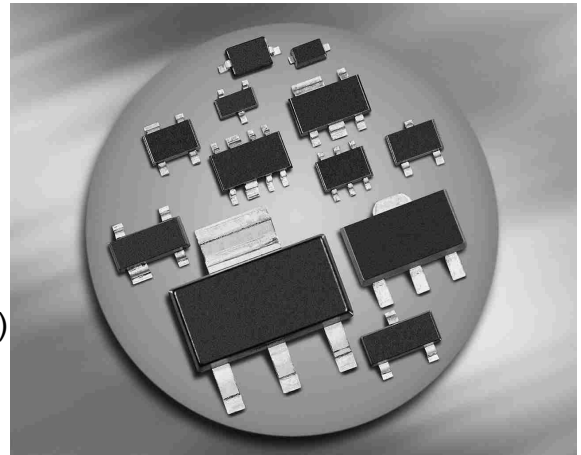
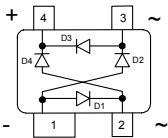


Low VF Schottky Diode Array

- Reverse voltage: 40 V
- Forward current: 0.2 A
- Small diode quad array for polarity independence, reverse polarity protection and low loss bridge rectification
- Very low forward voltage: 0.55 @ 0.1 A (per diode)
- Fast switching
- Pb-free (ROHS compliant) package
- Qualified according AEC Q101



BAS4002A-RPP



| Type | Package | Configuration | Marking |
|--------------|---------|---------------|---------|
| BAS4002A-RPP | SOT143 | bridge | E9s |

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

| Parameter | Symbol | Value | Unit |
|---|--------------|-------------|------|
| Diode reverse voltage ¹⁾ | V_R | 40 | V |
| Peak reverse voltage ¹⁾ | V_{RM} | 40 | |
| RMS reverse voltage ¹⁾ | $V_{R(RMS)}$ | 28 | |
| Forward current ¹⁾ , $T_S \leq 124\text{ °C}$ | I_F | 200 | mA |
| Non-repetitive peak surge forward current ($t \leq 10\text{ ms}$) | I_{FSM} | 2 | A |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -65 ... 150 | |

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|------------|------|
| Junction - soldering point ²⁾ | R_{thJS} | ≤ 130 | K/W |

¹⁾For $T_A > 25\text{ °C}$ the derating of V_R and I_F has to be considered.

²⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

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

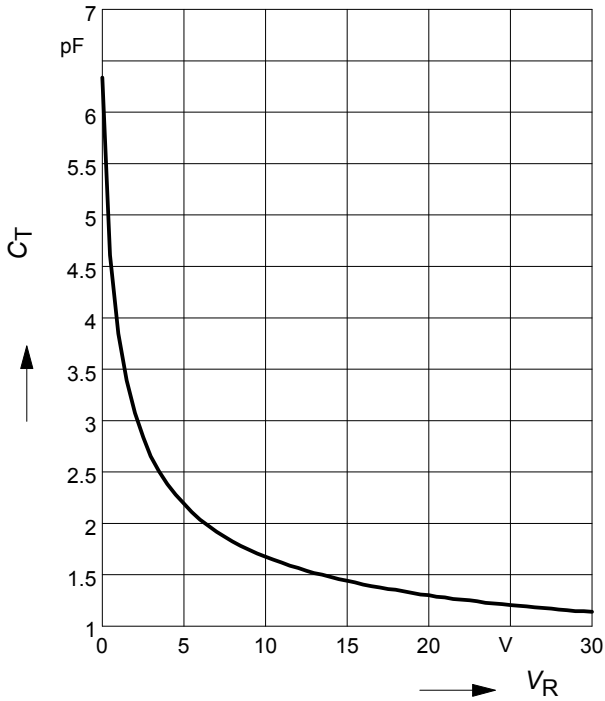
| Parameter | Symbol | Values | | | Unit |
|--|--------|--------|------------------------------|------------------------------|---------------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Reverse current ¹⁾ (per diode) $V_R = 30\text{ V}$ $V_R = 40\text{ V}$ | I_R | - | - | 2 10 | μA |
| Forward voltage ^{1) 2)} (per diode) $I_F = 10\text{ mA}$ $I_F = 60\text{ mA}$ $I_F = 100\text{ mA}$ $I_F = 200\text{ mA}$ | V_F | - | 0.39 0.49 0.55 0.69 | 0.44 0.55 0.62 0.79 | V |
| AC Characteristics | | | | | |
| Diode capacitance (per diode) $V_R = 5\text{ V}, f = 1\text{ MHz}$ | C_T | - | 2 | 5 | pF |

¹Pulsed test, $t_p = 300\ \mu\text{s}$; $D = 0.01$

²When used as shown for Reverse Polarity Protection (RPP, see page 4), the voltage available to the circuit being protected will be two diode drops below the power supply voltage. In other words, the supply current will pass through two diodes.

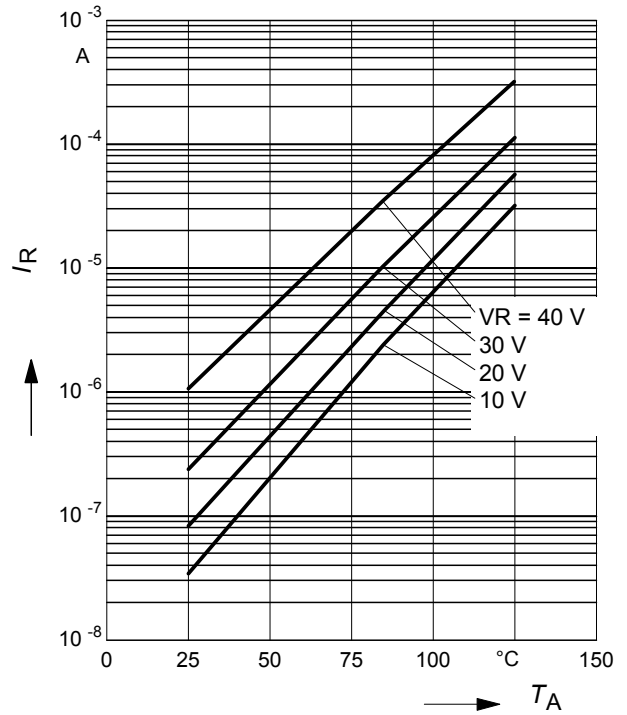
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$ (per diode)



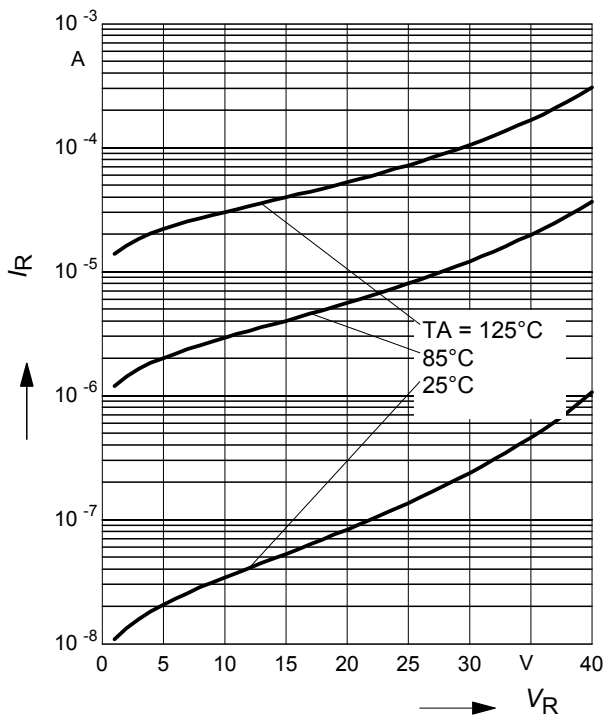
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$ (per diode)



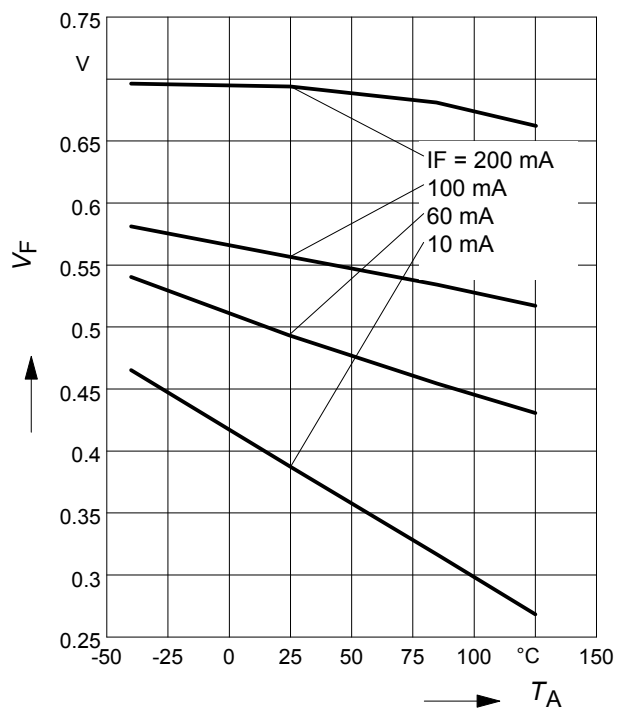
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$ (per diode)

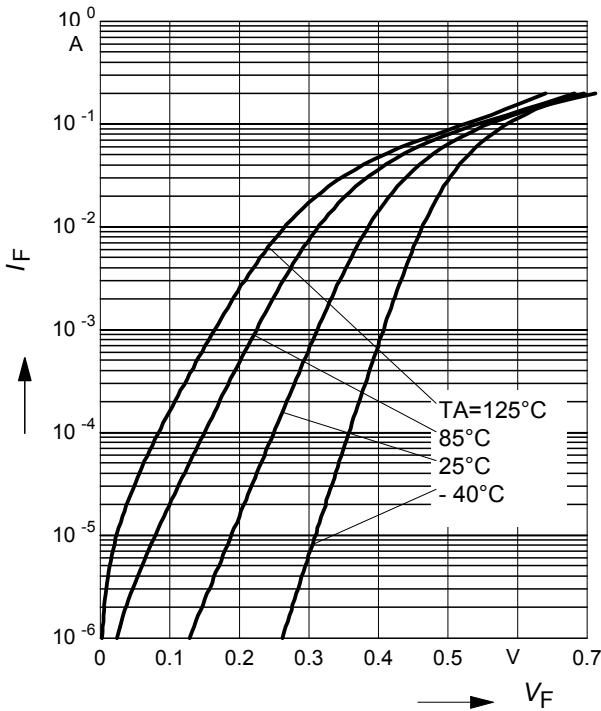


Forward Voltage $V_F = f(T_A)$

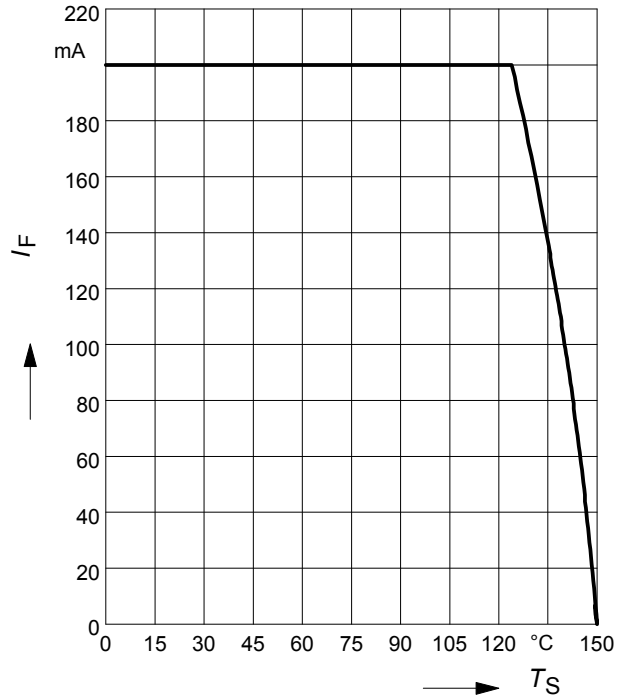
$I_F = \text{Parameter}$ (per diode)



Forward current $I_F = f(V_F)$
(per diode)

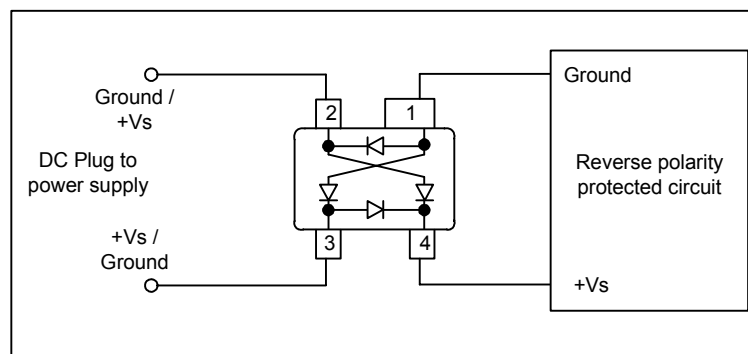


Forward current $I_F = f(T_S)$
BAS4002-RPP

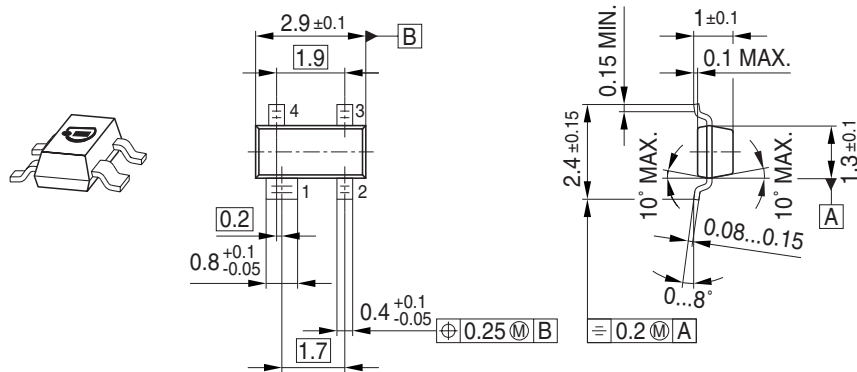


Application example BAS4002A-RPP

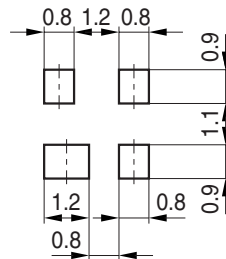
Advanced Reverse Polarity Protection(RPP): due to diode orientation, circuit at the right will be protected from damage and will also function normally in the event reverse polarity is applied to pins 2 and 3 of the BAS4002A-RPP.



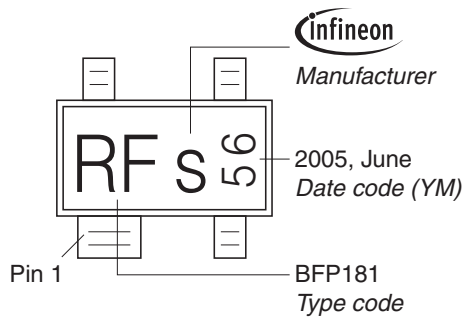
Package Outline



Foot Print

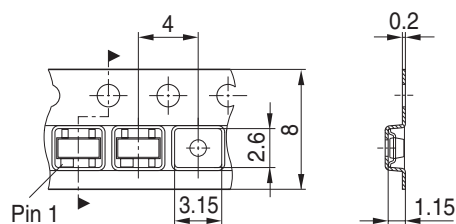


Marking Layout (Example)



Standard Packing

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



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