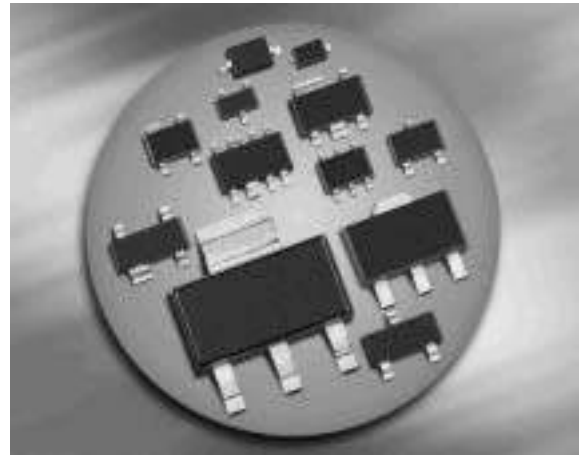
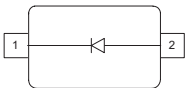


Medium Power AF Schottky Diode

- Forward current: 1 A
- Reverse voltage: 30 V
- Low forward voltage, low reverse current
- For high efficiency DC/DC conversion, fast switching, protection and clamping applications
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101


BAS3010B-03W


| Type | Package | Configuration | Marking |
|--------------|---------|---------------|---------|
| BAS3010B-03W | SOD323 | single | 2/ red |

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

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Diode reverse voltage ²⁾ | V_R | 30 | V |
| Forward current ²⁾ | I_F | 1 | A |
| Average rectified forward current (50/60Hz, sinus) | I_{FAV} | 1 | |
| Repetitive peak forward current ($t_p \leq 1 \text{ ms}$, $D \leq 0.5$) | I_{FRM} | 3.5 | |
| Non-repetitive peak surge forward current ($t \leq 10 \text{ ms}$) | I_{FSM} | 10 | |
| Junction temperature | T_j | 150 | °C |
| Operating temperature range | T_{op} | -65 ... 125 | |
| Storage temperature | T_{stg} | -65 ... 150 | |

¹⁾ Pb-containing package may be available upon special request

²⁾ For $T_A > 25^\circ\text{C}$ the derating of V_R and I_F has to be considered. Please refer to the attached curves.

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|-----------|------|
| Junction - soldering point ¹⁾ | R_{thJS} | ≤ 82 | K/W |

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

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

DC Characteristics

| | | | | | |
|-------------------------------|-------|---|-----|-----|---------------|
| Reverse current ²⁾ | I_R | | | | μA |
| $V_R = 5\text{ V}$ | | - | - | 5 | |
| $V_R = 10\text{ V}$ | | - | - | 10 | |
| $V_R = 30\text{ V}$ | | - | - | 20 | |
| Forward voltage ²⁾ | V_F | | | | mV |
| $I_F = 1\text{ mA}$ | | - | 230 | 280 | |
| $I_F = 10\text{ mA}$ | | - | 300 | 350 | |
| $I_F = 100\text{ mA}$ | | - | 360 | 420 | |
| $I_F = 500\text{ mA}$ | | - | 420 | 480 | |
| $I_F = 1\text{ A}$ | | - | 480 | 550 | |

AC Characteristics

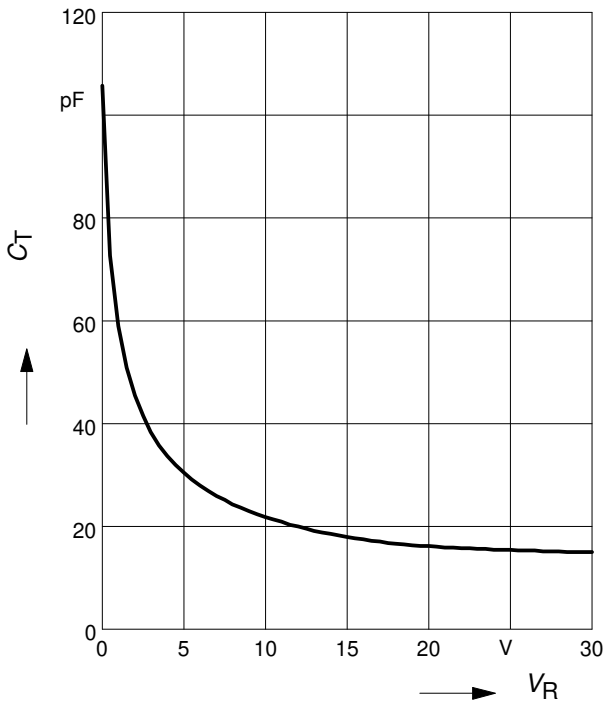
| | | | | | |
|--------------------------------------|-------|---|----|----|-------------|
| Diode capacitance | C_T | - | 33 | 40 | pF |
| $V_R = 5\text{ V}, f = 1\text{ MHz}$ | | | | | |

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

²⁾Pulsed test: $t_p = 300\ \mu\text{s}$; $D = 0.01$

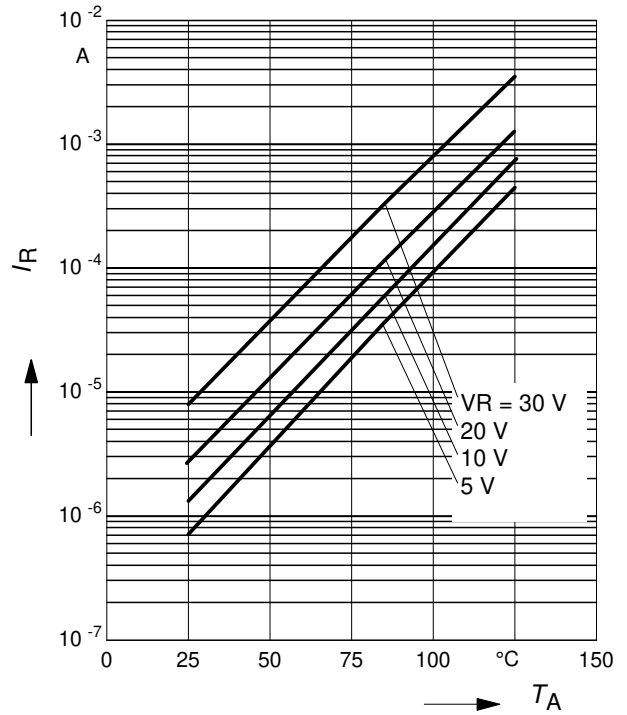
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



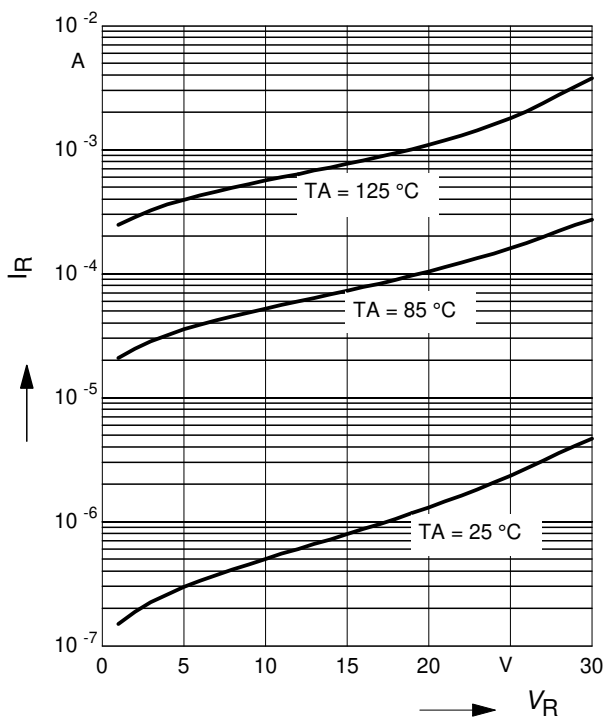
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



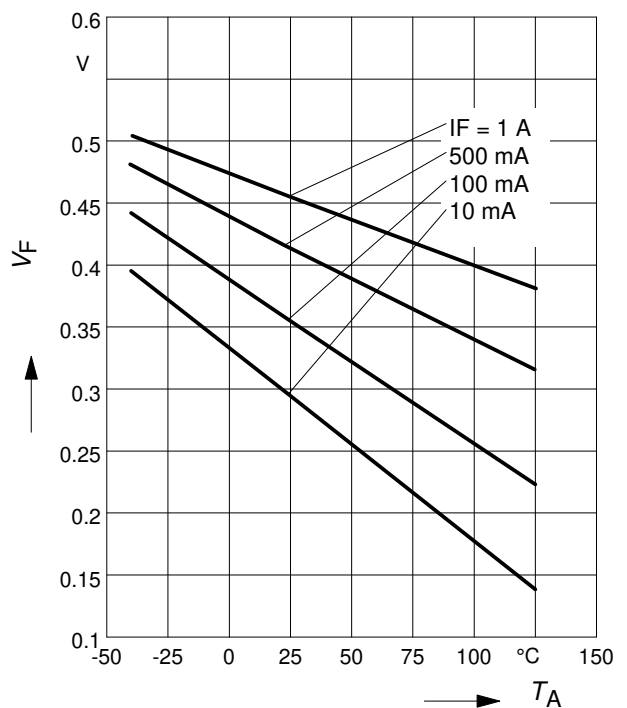
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$

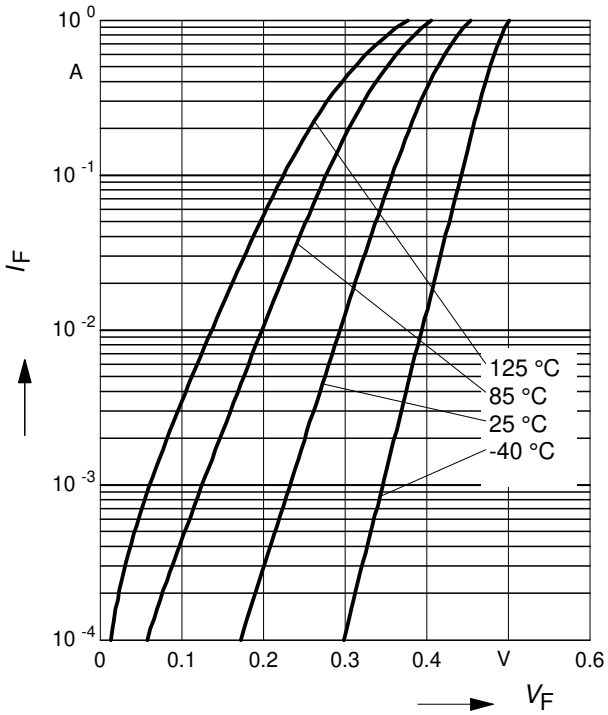


Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



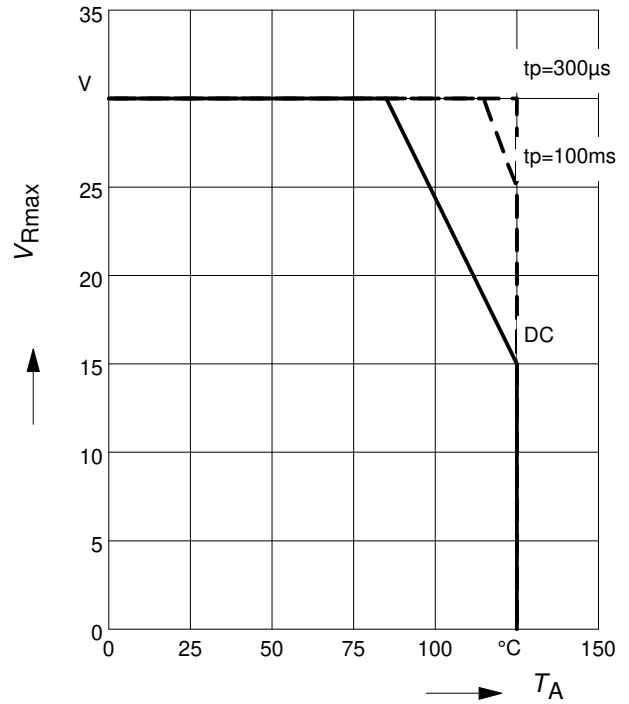
Forward current $I_F = f(V_F)$



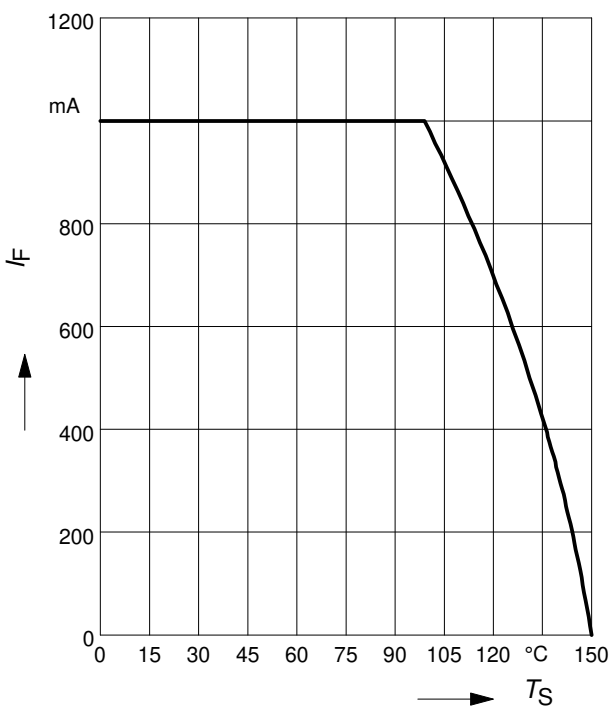
Permissible Reverse voltage $V_R = f(T_A)$

t_p = Parameter, Duty cycle < 0.01

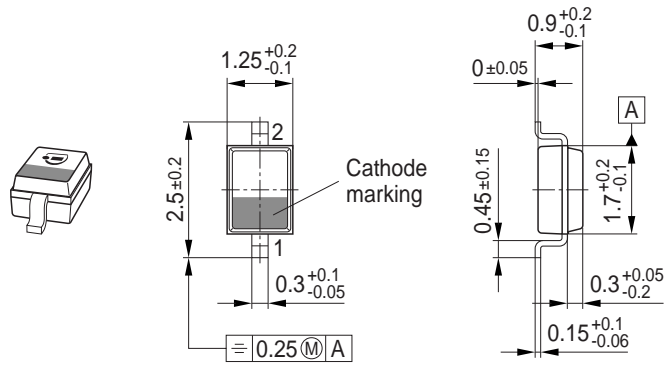
Device mounted on PCB with $R_{th} = 160$ k/W



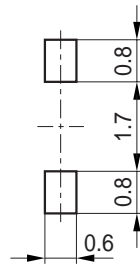
Forward current $I_F = f(T_S)$



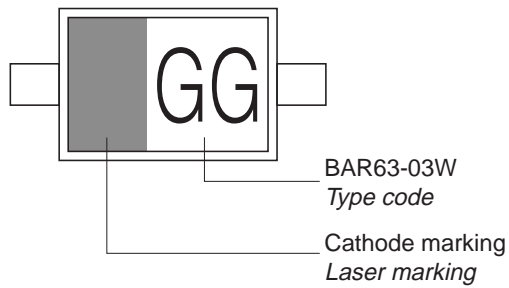
Package Outline



Foot Print

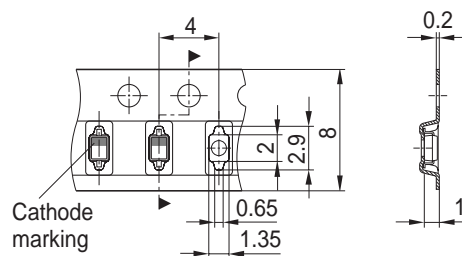


Marking Layout (Example)



Standard Packing

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



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