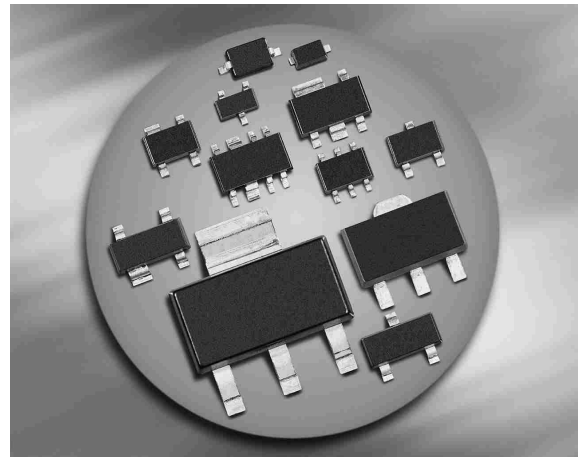
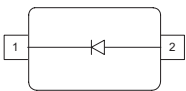


Medium Power AF Schottky Diode

- Forward current: 0.5 A
- Reverse voltage: 30 V
- Low capacitance, low reverse current
- For high efficiency DC/DC conversion, fast switching, protecting and clamping applications
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101



BAS3005B-02LRH*
BAS3005B-02V



| Type | Package | Configuration | Marking |
|-----------------|-----------|------------------|---------|
| BAS3005B-02LRH* | TSLP-2-17 | single, leadless | 5B |
| BAS3005B-02V | SC79 | single | 3 |

*Preliminary

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

| Parameter | Symbol | Value | Unit |
|---|--------------|-------------|------------------|
| Diode reverse voltage ¹⁾ | V_R | 30 | V |
| RMS reverse voltage | $V_{R(RMS)}$ | - | |
| Forward current ¹⁾ | I_F | 500 | mA |
| Average rectified forward current (50/60Hz, sinus) | I_{FAV} | 500 | |
| Repetitive peak forward current ($t_p \leq 1\text{ ms}$, $D \leq 0.25$) | I_{FRM} | 3.5 | A |
| Non-repetitive peak surge forward current ($t \leq 10\text{ms}$) | I_{FSM} | 5 | |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Operating temperature range | T_{op} | -55 ... 125 | |
| Storage temperature | T_{stg} | -65 ... 150 | |

¹For $T_A > 25^\circ\text{C}$ 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} | ≤ 80 | K/W |

¹For 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⁾ | I_R | | | | μA |
| $V_R = 5\text{ V}$ | | - | 1 | 5 | |
| $V_R = 10\text{ V}$ | | - | 2 | 10 | |
| $V_R = 30\text{ V}$ | | - | 5 | 25 | |
| Forward voltage ¹⁾ | V_F | | | | mV |
| $I_F = 1\text{ mA}$ | | - | 200 | 250 | |
| $I_F = 10\text{ mA}$ | | - | 260 | 310 | |
| $I_F = 100\text{ mA}$ | | - | 360 | 410 | |
| $I_F = 200\text{ mA}$ | | - | 410 | 470 | |
| $I_F = 500\text{ mA}$ | | - | 550 | 620 | |

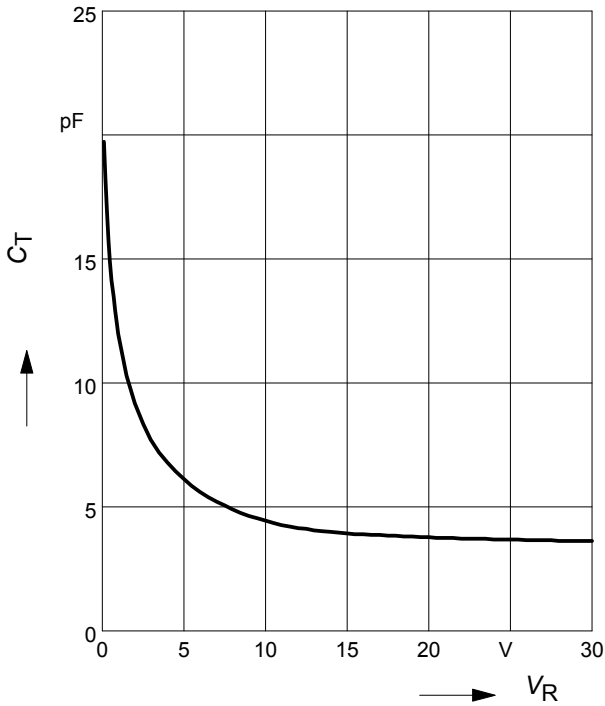
AC Characteristics

| | | | | | |
|--------------------------------------|-------|---|---|----|-------------|
| Diode capacitance | C_T | - | 6 | 10 | pF |
| $V_R = 5\text{ V}, f = 1\text{ MHz}$ | | | | | |

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

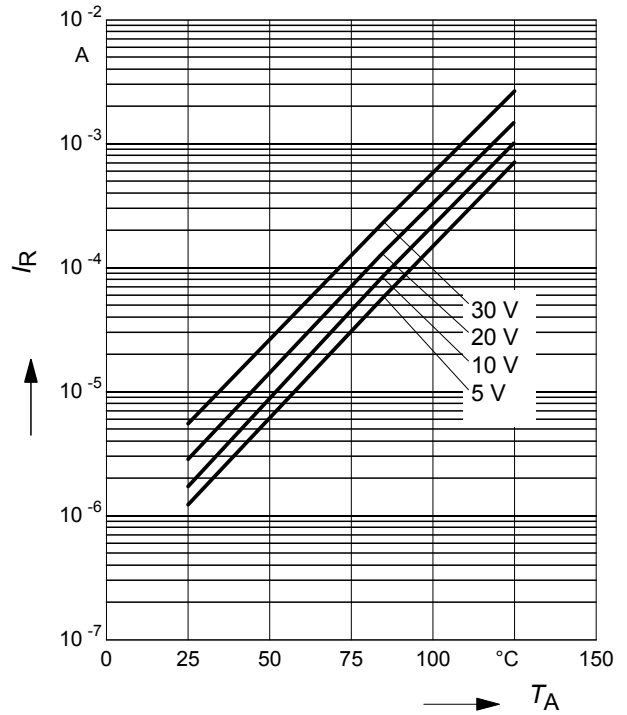
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



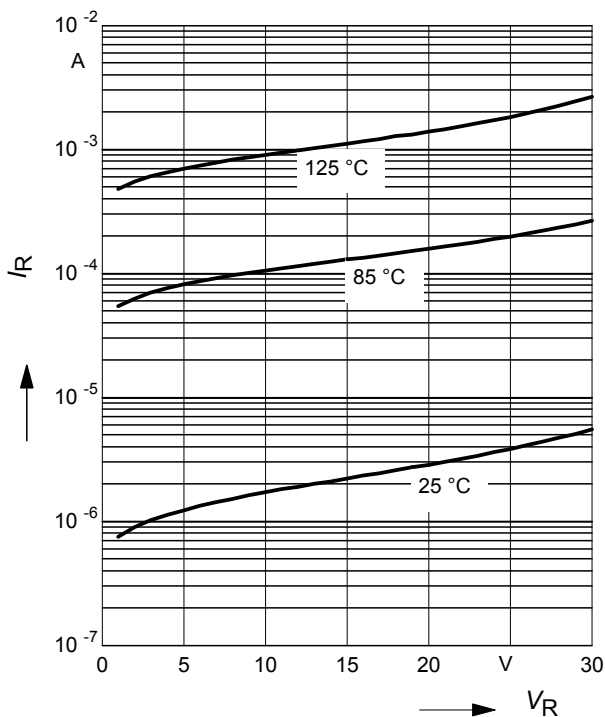
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



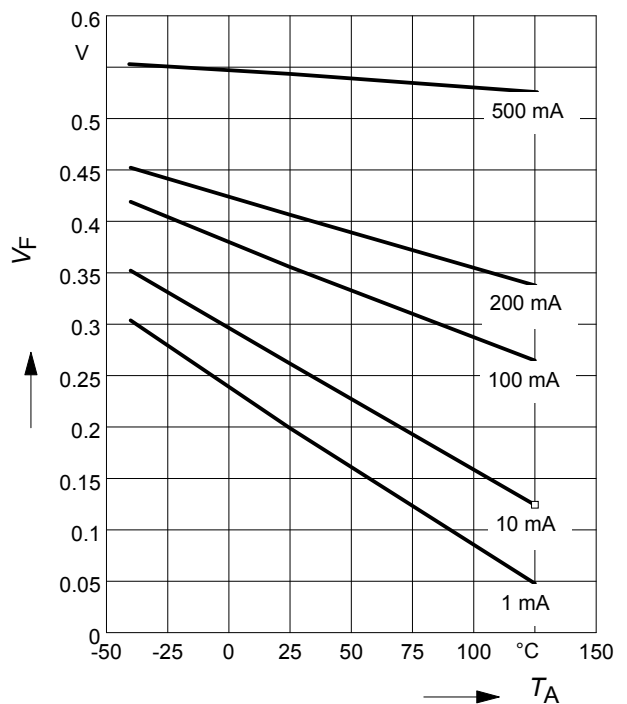
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



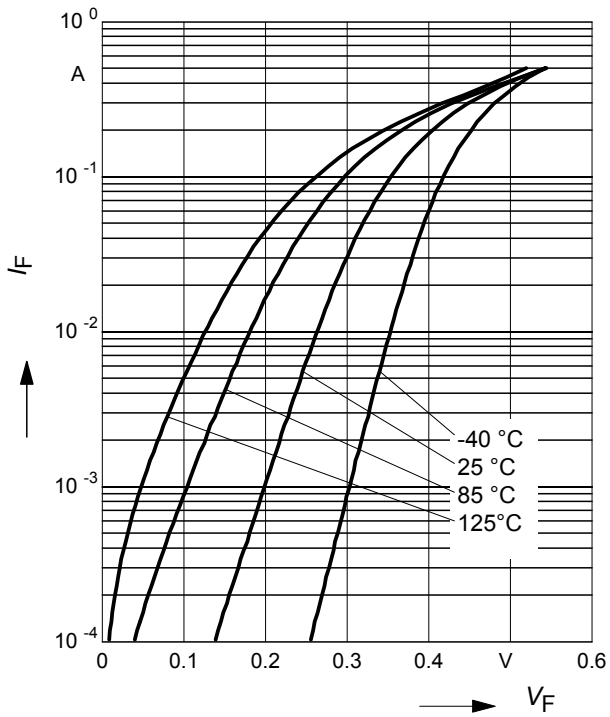
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



Forward current $I_F = f(V_F)$

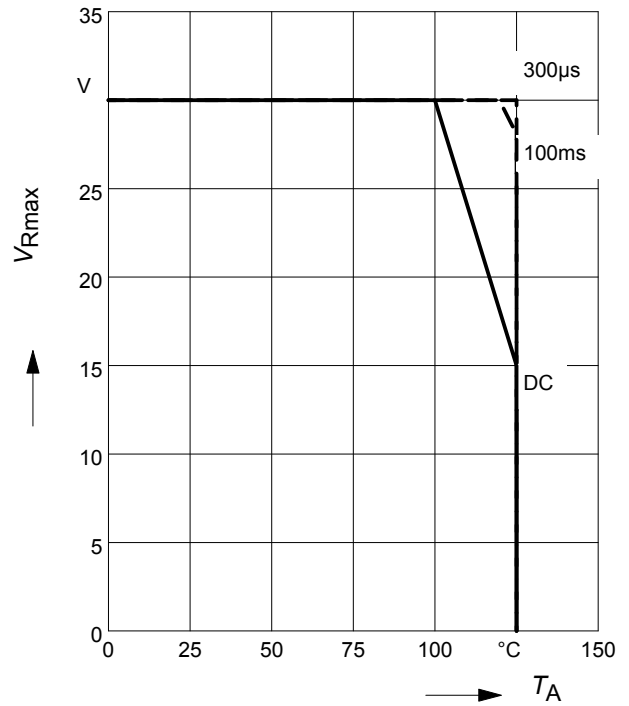
T_A = Parameter



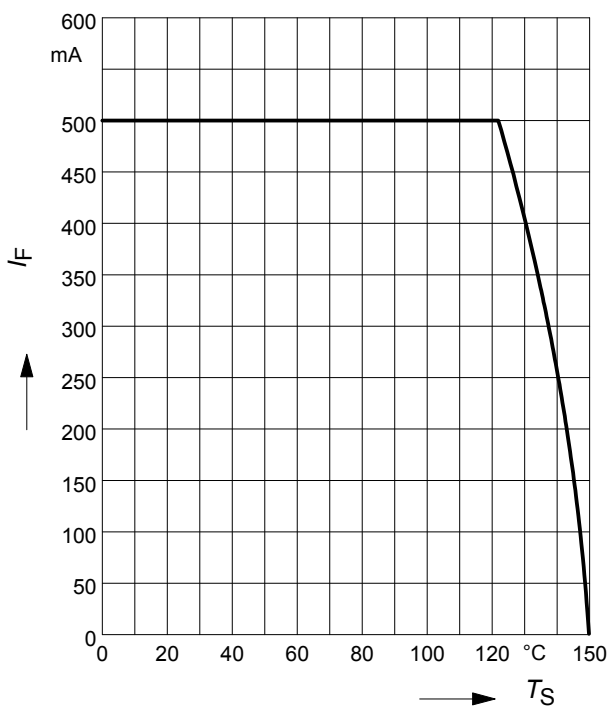
Permissible Reverse voltage $V_R = f(T_A)$

t_p = Parameter, Duty cycle < 0.01

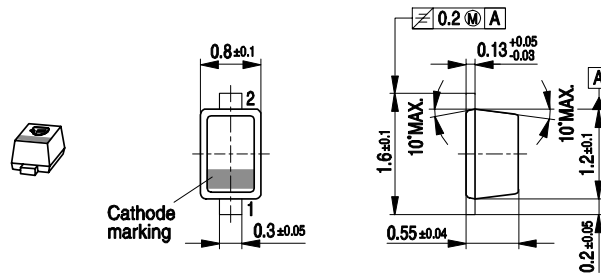
Device mounted on PCB with $R_{th} = 160$ k/W



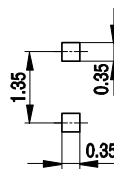
Forward current $I_F = f(T_S)$



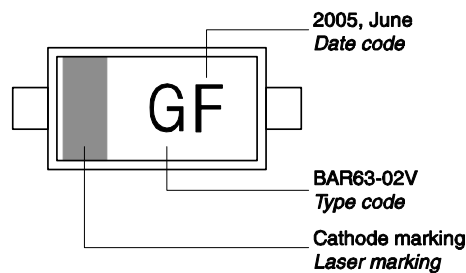
Package Outline



Foot Print

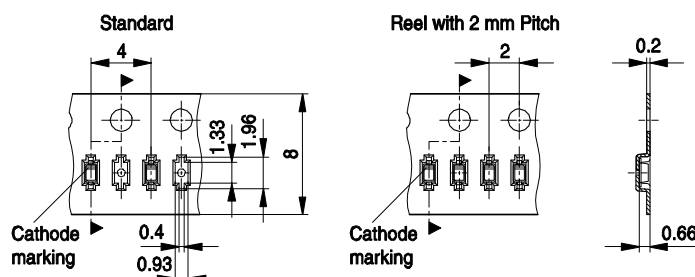


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 3.000 Pieces/Reel
 Reel \varnothing 180 mm = 8.000 Pieces/Reel (2 mm Pitch)
 Reel \varnothing 330 mm = 10.000 Pieces/Reel

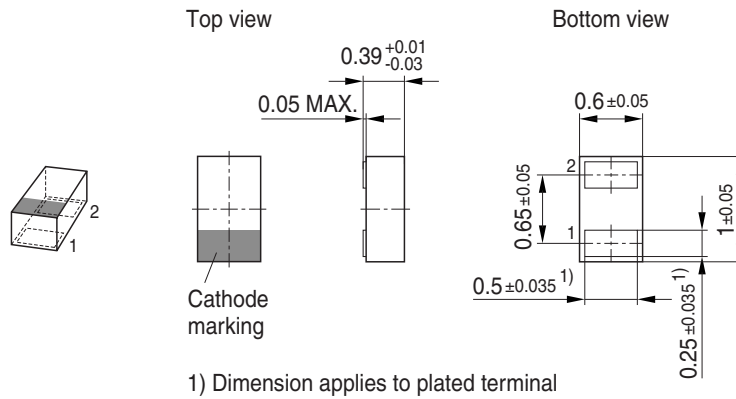


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

| Month | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 01 | a | p | A | P | a | p | A | P | a | p | A | P |
| 02 | b | q | B | Q | b | q | B | Q | b | q | B | Q |
| 03 | c | r | C | R | c | r | C | R | c | r | C | R |
| 04 | d | s | D | S | d | s | D | S | d | s | D | S |
| 05 | e | t | E | T | e | t | E | T | e | t | E | T |
| 06 | f | u | F | U | f | u | F | U | f | u | F | U |
| 07 | g | v | G | V | g | v | G | V | g | v | G | V |
| 08 | h | x | H | X | h | x | H | X | h | x | H | X |
| 09 | j | y | J | Y | j | y | J | Y | j | y | J | Y |
| 10 | k | z | K | Z | k | z | K | Z | k | z | K | Z |
| 11 | l | 2 | L | 4 | l | 2 | L | 4 | l | 2 | L | 4 |
| 12 | n | 3 | N | 5 | n | 3 | N | 5 | n | 3 | N | 5 |

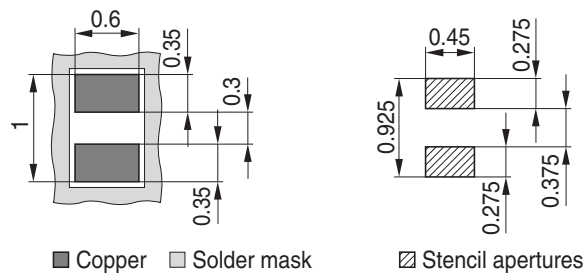
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

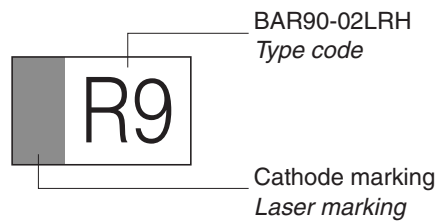


Foot Print

For board assembly information please refer to Infineon website "Packages"

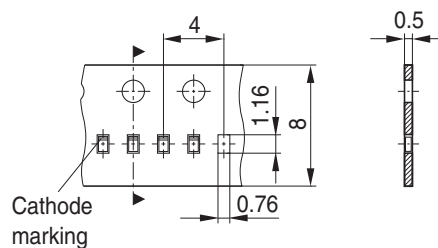


Marking Layout (Example)



Standard Packing

Reel \varnothing 180 mm = 15.000 Pieces/Reel
 Reel \varnothing 330 mm = 50.000 Pieces/Reel (optional)



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