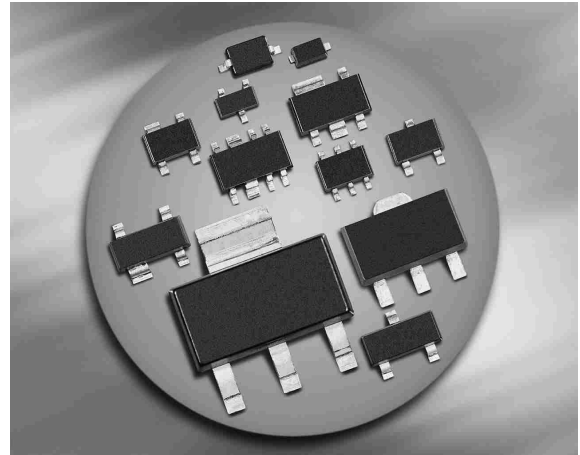
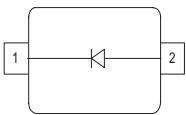


Silicon Tuning Diodes

- High Q hyperabrupt tuning diode
- Designed for low tuning voltage operation
- For VCO`s in mobile communications equipment
- Pb-free (RoHS compliant) package



BBY52-02L
BBY52-02W



| Type | Package | Configuration | L_S (nH) | Marking |
|-----------|----------|------------------|------------|---------|
| BBY52-02L | TSLP-2-1 | single, leadless | 0.4 | K |
| BBY52-02W | SCD80 | single | 0.6 | KK |

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

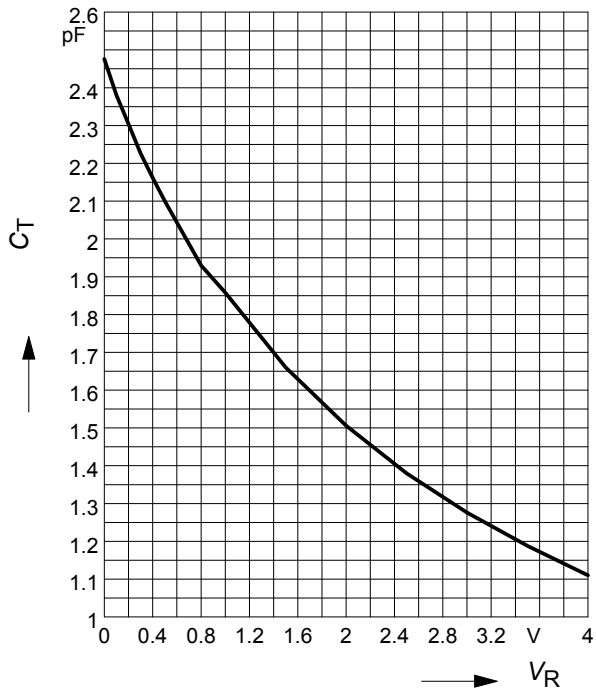
| Parameter | Symbol | Value | Unit |
|-----------------------------|-----------|-------------|------|
| Diode reverse voltage | V_R | 7 | V |
| Forward current | I_F | 20 | mA |
| Operating temperature range | T_{op} | -55 ... 150 | °C |
| Storage temperature | T_{stg} | -55 ... 150 | |

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

| Parameter | Symbol | Values | | | Unit |
|--|-----------------|--------|------|------|----------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Reverse current | I_R | | | | nA |
| $V_R = 6\text{ V}$ | | - | - | 10 | |
| $V_R = 6\text{ V}, T_A = 85^\circ\text{C}$ | | - | - | 200 | |
| AC Characteristics | | | | | |
| Diode capacitance | C_T | | | | pF |
| $V_R = 1\text{ V}, f = 1\text{ MHz}$ | | 1.4 | 1.85 | 2.2 | |
| $V_R = 2\text{ V}, f = 1\text{ MHz}$ | | 0.95 | 1.5 | 2 | |
| $V_R = 3\text{ V}, f = 1\text{ MHz}$ | | 0.9 | 1.35 | 1.75 | |
| $V_R = 4\text{ V}, f = 1\text{ MHz}$ | | 0.85 | 1.15 | 1.45 | |
| Capacitance ratio | C_{T1}/C_{T4} | 1.1 | 1.6 | 2.1 | |
| $V_R = 1\text{ V}, V_R = 4\text{ V}, f = 1\text{ MHz}$ | | | | | |
| Series resistance | r_S | - | 0.9 | 1.7 | Ω |
| $V_R = 1\text{ V}, f = 1\text{ GHz}$ | | | | | |

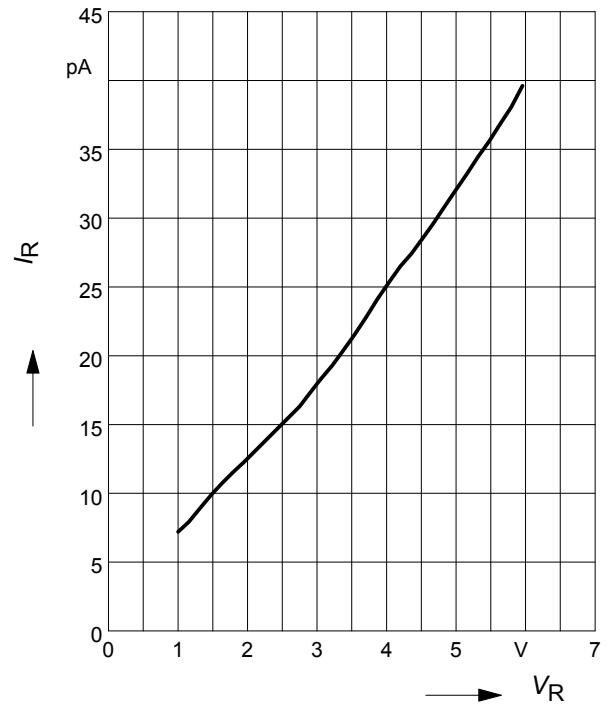
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$

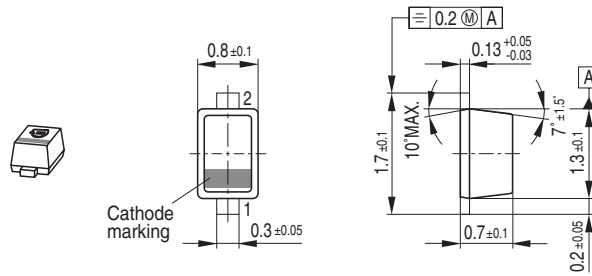


Reverse current $I_R = f(V_R)$

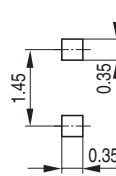
$T_A = 25^\circ\text{C}$



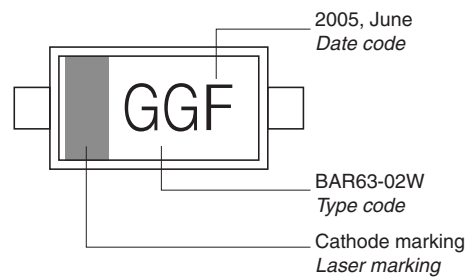
Package Outline



Foot Print

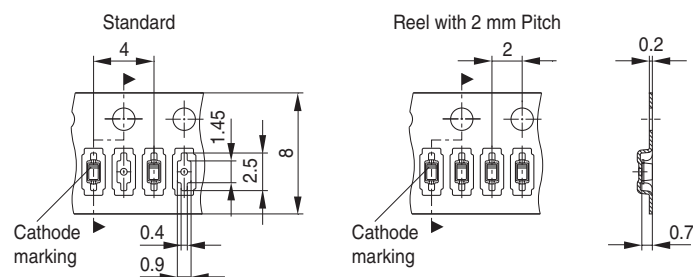


Marking Layout (Example)



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

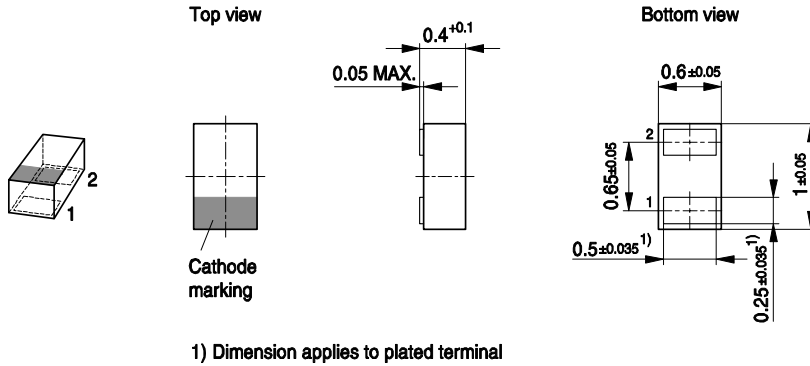


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

| 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 |

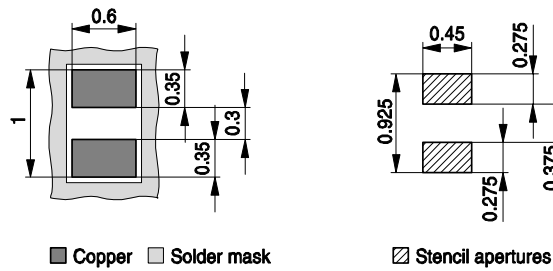
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

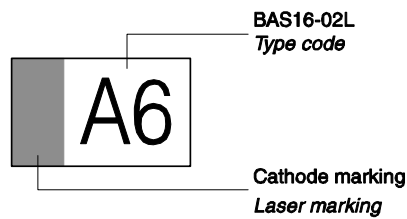


Foot Print

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

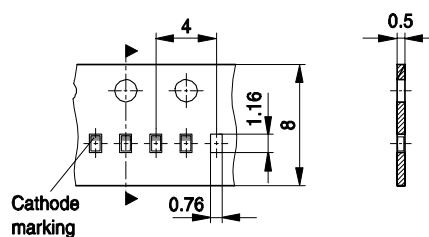


Marking Layout (Example)



Standard Packing

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



Edition 2009-11-16

**Published by
Infineon Technologies AG
81726 Munich, Germany**

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