

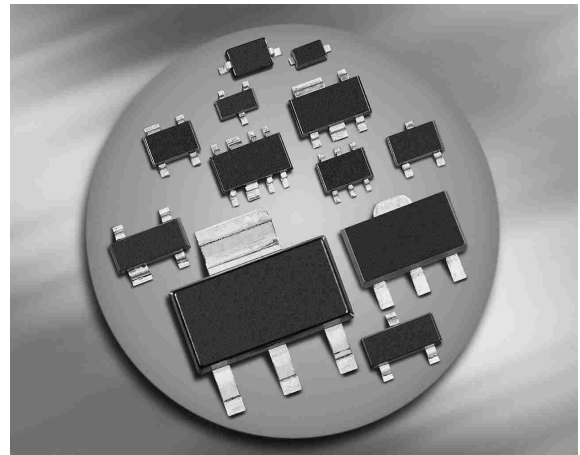


**THE DATASHEET OF
BAR8802VH6327XTSA1**

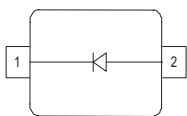


Silicon PIN Diode

- Optimized for low current antenna switches in hand held applications
- Very low forward resistance (typ. $1.5 \Omega @ I_F = 1 \text{ mA}$)
- Low capacitance at zero volt reverse bias at frequencies above 1 GHz (typ. 0.28 pF)
- Very low signal distortion
- Pb-free (RoHS compliant) package



BAR88-02LRH
BAR88-02V



| Type | Package | Configuration | L_S (nH) | Marking |
|-------------|----------|------------------|------------|---------|
| BAR88-02LRH | TSLP-2-7 | single, leadless | 0.4 | U8 |
| BAR88-02V | SC79 | single | 0.6 | U |

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

| Parameter | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Diode reverse voltage | V_R | 80 | V |
| Forward current | I_F | 100 | mA |
| Total power dissipation | P_{tot} | | mW |
| BAR88-02LRH $T_S \leq 133^\circ\text{C}$ | | 250 | |
| BAR88-02V, $T_S \leq 123^\circ\text{C}$ | | 250 | |
| Junction temperature | T_j | 150 | °C |
| Operating temperature range | T_{op} | -55 ... 125 | |
| Storage temperature | T_{stg} | -55 ... 150 | |

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|-------|------|
| Junction - soldering point ¹⁾ | R_{thJS} | | K/W |
| BAR88-02LRH | | ≤ 65 | |
| BAR88-02V | | ≤ 105 | |

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

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

DC Characteristics

| | | | | | |
|---|------------|----|--------------|------------|----|
| Breakdown voltage $I_{(BR)} = 5 \mu\text{A}$ | $V_{(BR)}$ | 80 | - | - | V |
| Reverse current $V_R = 60 \text{ V}$ | I_R | - | - | 50 | nA |
| Forward voltage $I_F = 1 \text{ mA}$ $I_F = 100 \text{ mA}$ | V_F | - | 0.75 0.95 | 0.9 1.2 | V |

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

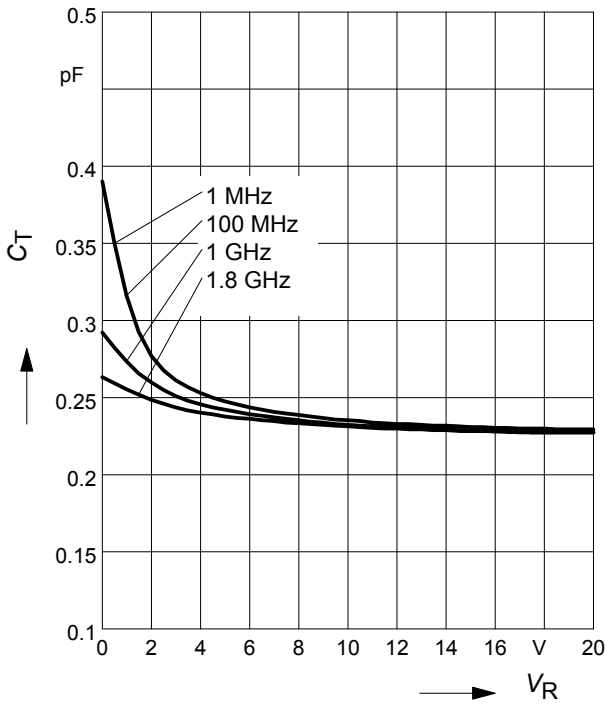
Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

| Parameter | Symbol | Values | | | Unit |
|---|-------------|--------|----------------------------|----------|---------------|
| | | min. | typ. | max. | |
| AC Characteristics | | | | | |
| Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$ $V_R = 0\text{ V}, f = 1.8\text{ GHz}$ | C_T | - | 0.3 0.4 0.28 0.25 | 0.4 - | pF |
| Reverse parallel resistance $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 0\text{ V}, f = 1\text{ GHz}$ $V_R = 0\text{ V}, f = 1.8\text{ GHz}$ | R_P | - | 65 2.5 1.5 | - | k Ω |
| Forward resistance $I_F = 1\text{ mA}, f = 100\text{ MHz}$ $I_F = 5\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$ | r_f | - | 1.5 0.8 0.6 | 2.5 - | Ω |
| Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\ \Omega$ | τ_{rr} | - | 500 | - | ns |
| I-region width | W_I | - | 13 | - | μm |
| Insertion loss ¹⁾ $I_F = 1\text{ mA}, f = 1.8\text{ GHz}$ $I_F = 5\text{ mA}, f = 1.8\text{ GHz}$ $I_F = 10\text{ mA}, f = 1.8\text{ GHz}$ | I_L | - | 0.11 0.07 0.06 | - | dB |
| Isolation ¹⁾ $V_R = 0\text{ V}, f = 0.9\text{ GHz}$ $V_R = 0\text{ V}, f = 1.8\text{ GHz}$ $V_R = 0\text{ V}, f = 2.45\text{ GHz}$ | I_{SO} | - | 15 11 9 | - | |

¹⁾BAR88-02LRH in series configuration, $Z = 50\ \Omega$

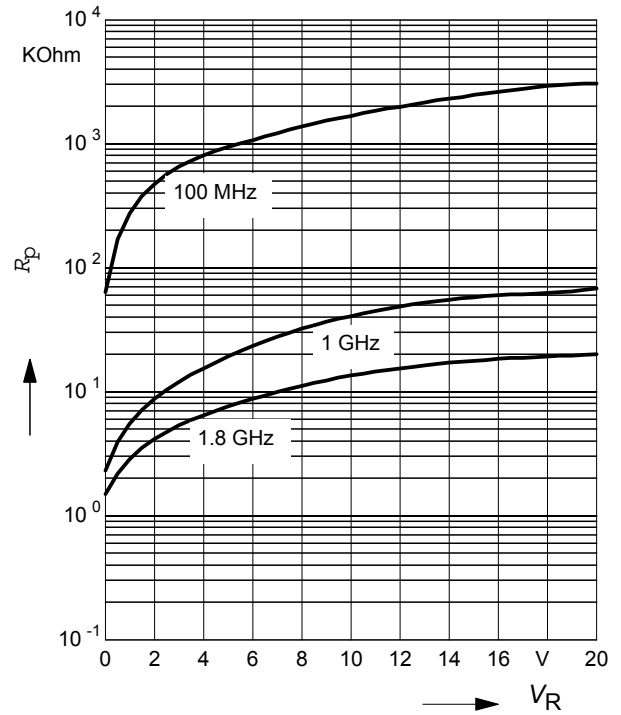
Diode capacitance $C_T = f(V_R)$

$f =$ Parameter



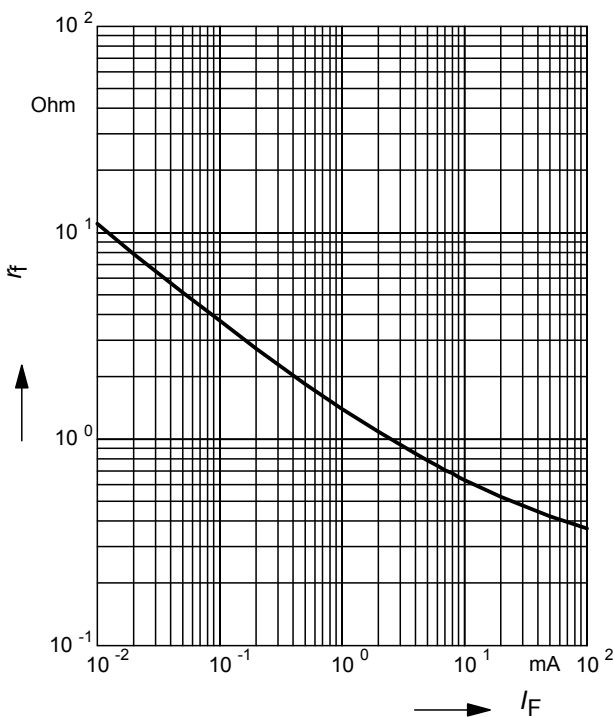
Reverse parallel resistance $R_P = f(V_R)$

$f =$ Parameter



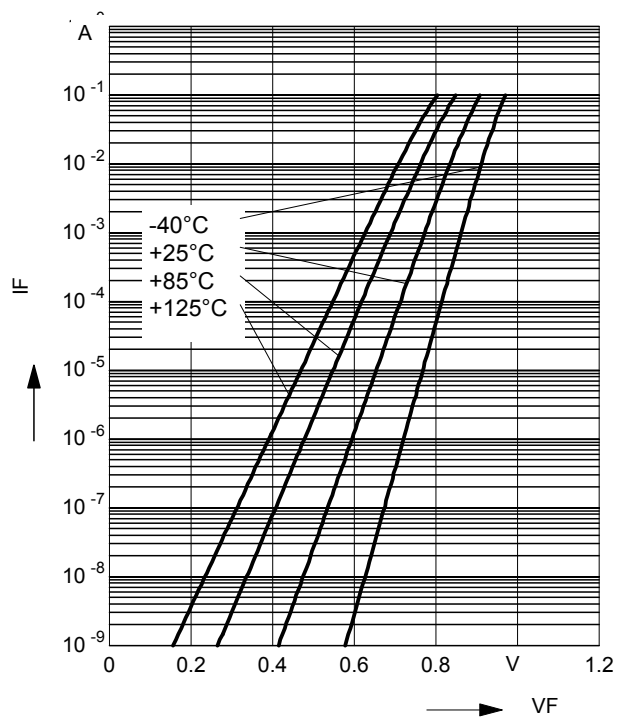
Forward resistance $r_f = f(I_F)$

$f = 100\text{MHz}$



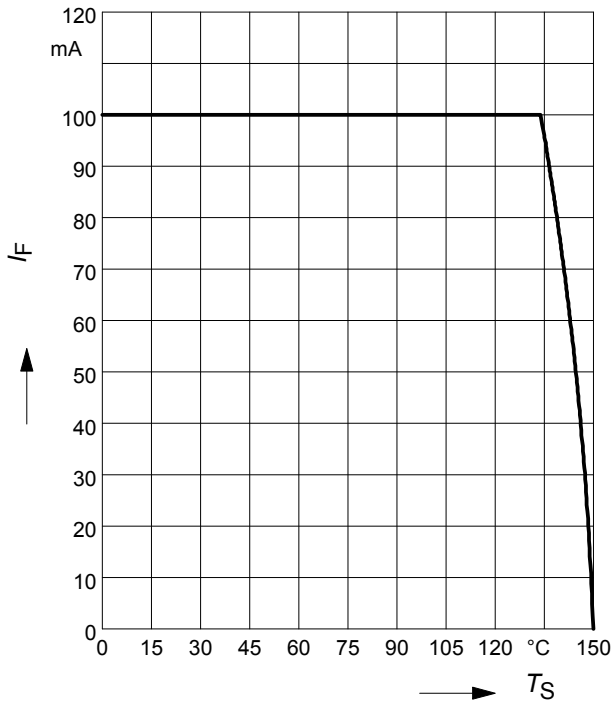
Forward current $I_F = f(V_F)$

$T_A =$ Parameter



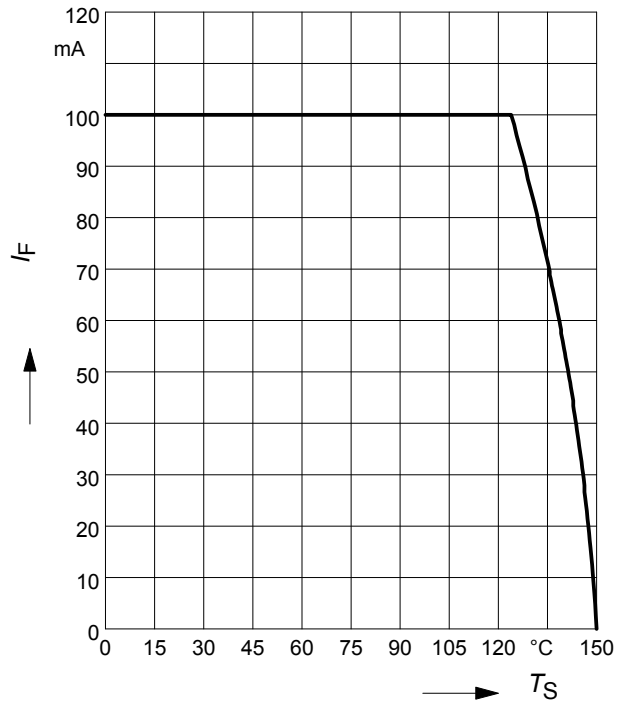
Forward current $I_F = f(T_S)$

BAR88-02LRH



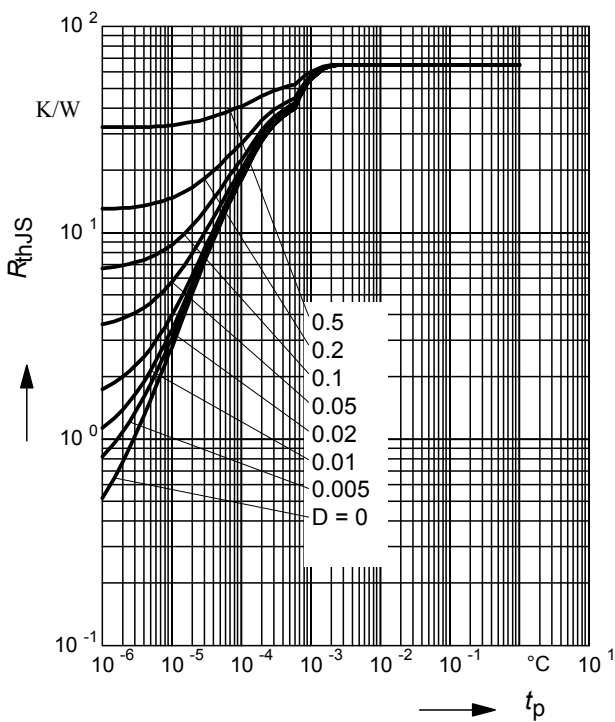
Forward current $I_F = f(T_S)$

BAR88-02V



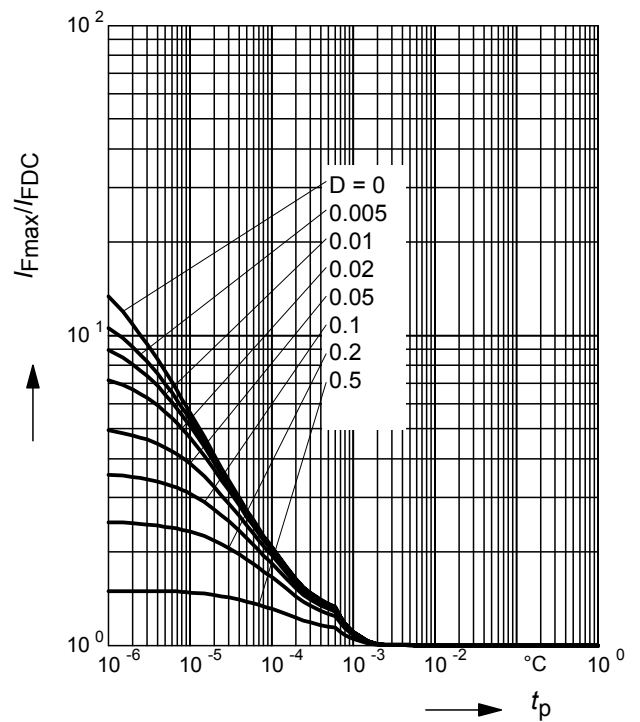
Permissible Puls Load $R_{thJS} = f(t_p)$

BAR88-02LRH



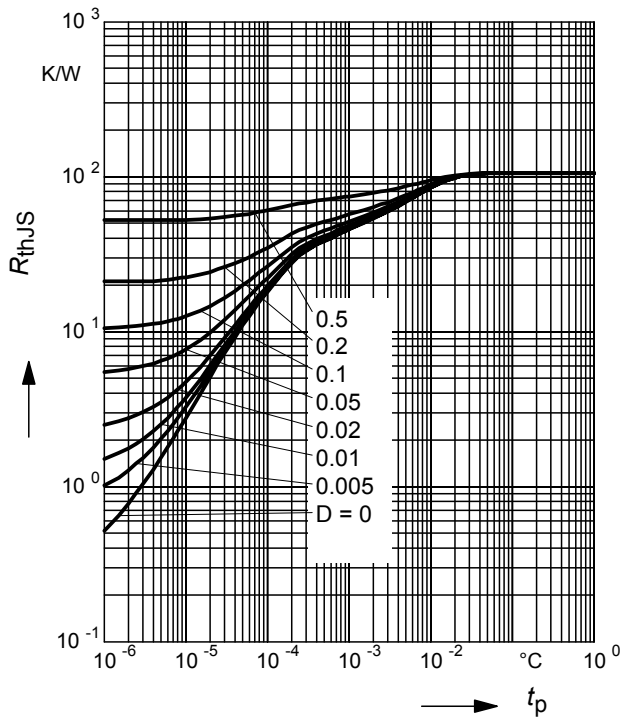
Permissible Pulse Load

$I_{Fmax}/I_{FDC} = f(t_p)$, BAR88-02LRH



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

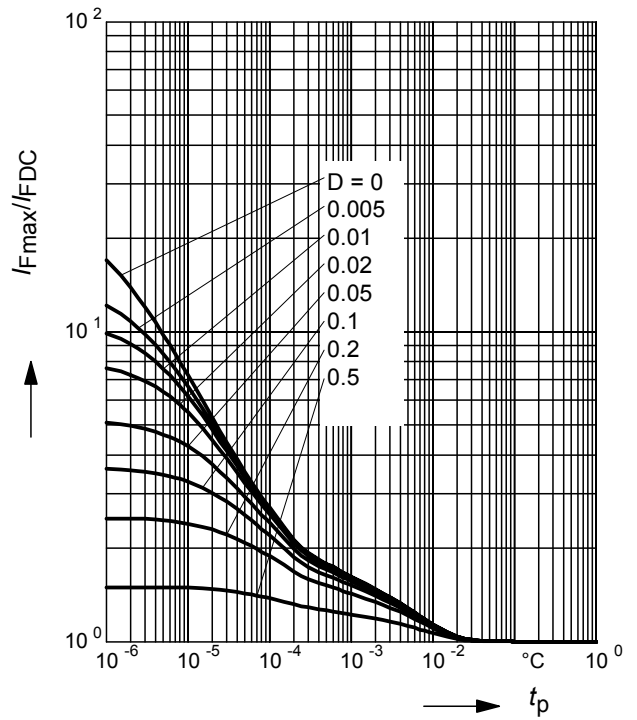
BAR88-02V



Permissible Pulse Load

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

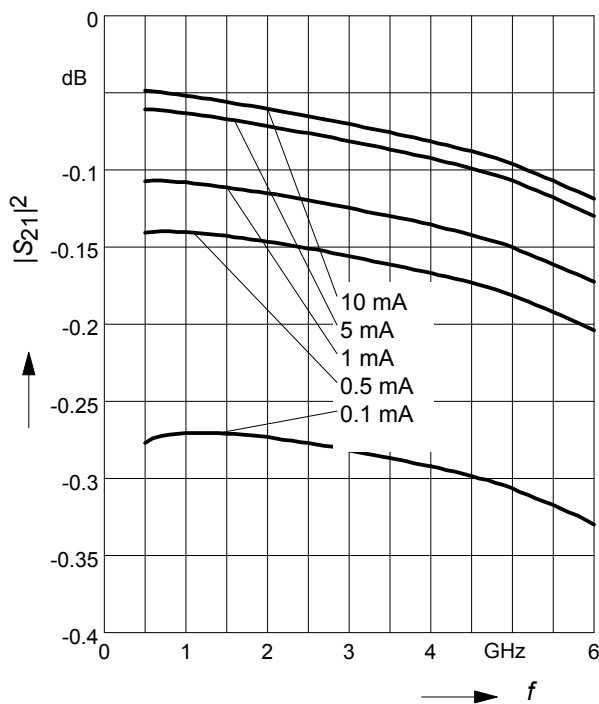
BAR88-02V



Insertion loss $I_L = -|S_{21}|^2 = f(f)$

I_F = Parameter

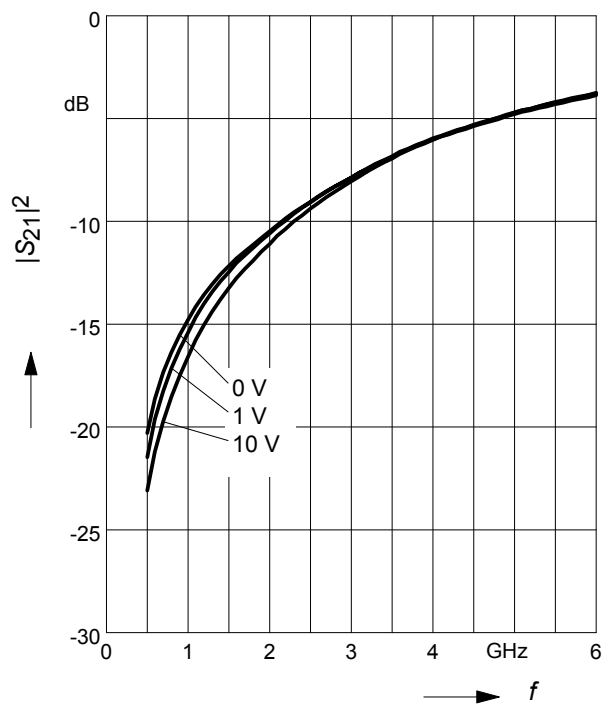
BAR88-02LRH in series configuration, $Z = 50\Omega$



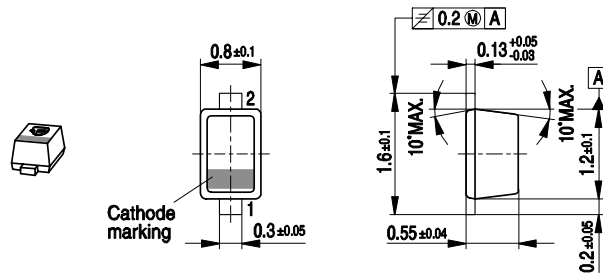
Isolation $I_{SO} = -|S_{21}|^2 = f(f)$

V_R = Parameter

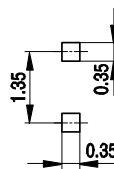
BAR88-02LRH in series configuration, $Z = 50\Omega$



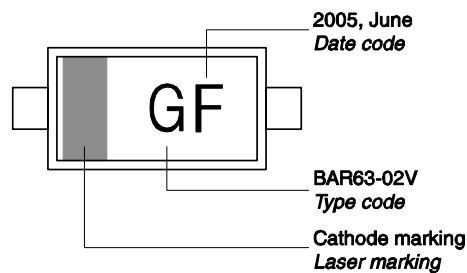
Package Outline



Foot Print

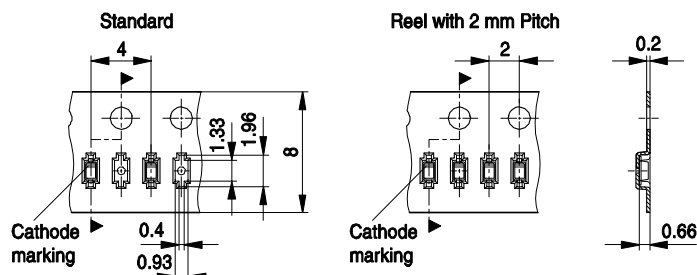


Marking Layout (Example)



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

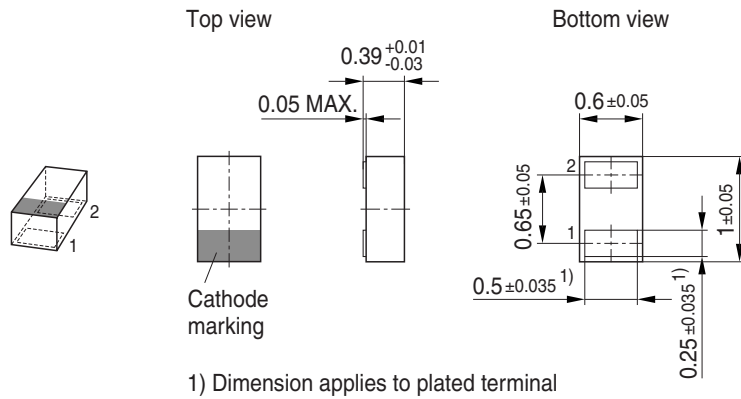


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

| 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 |

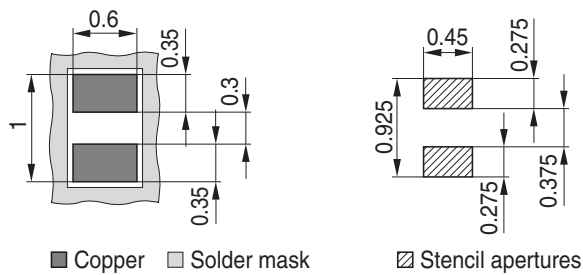
1) New Marking Layout for SC75, implemented at October 2005.

Package Outline

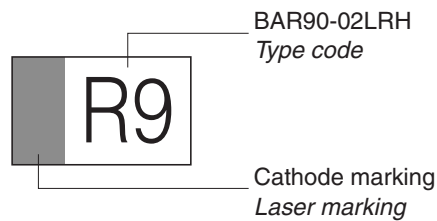


Foot Print

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

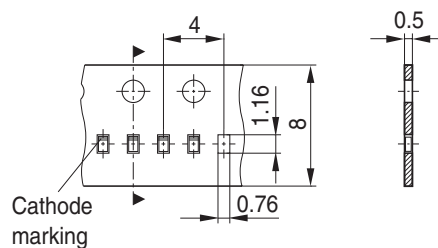


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 15.000 Pieces/Reel
 Reel ø330 mm = 50.000 Pieces/Reel (optional)



Edition 2009-11-16

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

**© 2009 Infineon Technologies AG
All Rights Reserved.**

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office ([<www.infineon.com>](http://www.infineon.com)).



Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.

Infineon Technologies components may be used in life-support devices or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View BAR8802VH6327XTSA1 on WIN SOURCE](#)
-  [Infineon Technologies Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management