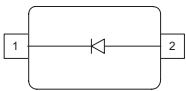


Silicon Schottky Diodes

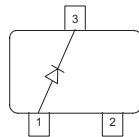
- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Guard ring protected
- Low forward voltage
- Pb-free (RoHS compliant) package
- Qualified according AEC Q101¹⁾



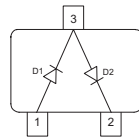
BAT54-02LRH
BAT54-02V
BAT54-03W



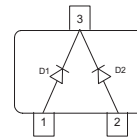
BAT54
BAT54W



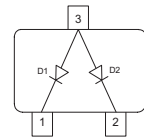
BAT54-04
BAT54-04W



BAT54-05
BAT54-05W



BAT54-06
BAT54-06W



| Type | Package | Configuration | L_S (nH) | Marking |
|--------------|----------|----------------|------------|---------|
| BAT54 | SOT23 | single | 1.8 | T |
| BAT54-02LRH* | TSLP-2-7 | single | 0.4 | 54 |
| BAT54-02V | SC79 | single | 0.6 | b |
| BAT54-03W | SOD323 | single | 1.8 | blue 5 |
| BAT54-04 | SOT23 | series | 1.8 | TS |
| BAT54-04W | SOT323 | series | 1.4 | TS |
| BAT54-05 | SOT23 | common cathode | 1.8 | TC |
| BAT54-05W | SOT323 | common cathode | 1.4 | TC |
| BAT54-06 | SOT23 | common anode | 1.8 | TA |
| BAT54-06W | SOT323 | common anode | 1.4 | TA |
| BAT54W | SOT323 | single | 1.4 | T5 |

¹⁾BAT54-02LRH is not qualified according AEC Q101

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

| Parameter | Symbol | Value | Unit |
|---|-----------|-------------|------|
| Diode reverse voltage | V_R | 30 | V |
| Forward current | I_F | 200 | mA |
| Non-repetitive peak surge forward current ($t \leq 10$ ms) | I_{FSM} | 600 | |
| Repetitive peak forward current ¹⁾ $t_p \leq 1$ s, $\delta = 0.5$ | I_{FRM} | 300 | mA |
| Total power dissipation | P_{tot} | | mW |
| BAT54, $T_S \leq 94$ °C | | 230 | |
| BAT54-02LRH, $T_S \leq 135$ °C | | 230 | |
| BAT54-02V, $T_S \leq 126$ °C | | 230 | |
| BAT54-03W, $T_S \leq 122$ °C | | 230 | |
| BAT54-04, $T_S \leq 71$ °C | | 230 | |
| BAT54-04W, $T_S \leq 117$ °C | | 230 | |
| BAT54-05, $T_S \leq 48$ °C | | 230 | |
| BAT54-05W, $T_S \leq 110$ °C | | 230 | |
| BAT54-06, $T_S \leq 71$ °C | | 230 | |
| BAT54-06W, $T_S \leq 117$ °C | | 230 | |
| BAT54W, $T_S \leq 125$ °C | | 230 | |
| Junction temperature | T_j | 150 | °C |
| Storage temperature | T_{stg} | -65 ... 150 | |

¹⁾Device mounted on epoxy PCB 40 x 40 x 1.5 mm / 6 cm² Cu

Thermal Resistance

| Parameter | Symbol | Value | Unit |
|--|------------|------------|------|
| Junction - soldering point ¹⁾ | R_{thJS} | | |
| BAT54 | | ≤ 245 | |
| BAT54-02LRH | | ≤ 65 | |
| BAT54-02V | | ≤ 105 | |
| BAT54-03W | | ≤ 120 | |
| BAT54-04 | | ≤ 345 | |
| BAT54-04W | | ≤ 145 | |
| BAT54-05 | | ≤ 445 | |
| BAT54-05W | | ≤ 175 | |
| BAT54-06 | | ≤ 345 | |
| BAT54-06W | | ≤ 145 | |
| BAT54W | | ≤ 110 | |

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

| Parameter | Symbol | Values | | | Unit |
|---|------------|--------|------|---------------------------------|---------------|
| | | min. | typ. | max. | |
| DC Characteristics | | | | | |
| Breakdown voltage ²⁾ $I_{(BR)} = 10 \mu\text{A}$ | $V_{(BR)}$ | 30 | - | - | V |
| Reverse current ²⁾ $V_R = 25 \text{ V}$ | I_R | - | - | 2 | μA |
| Forward voltage ²⁾ $I_F = 0.1 \text{ mA}$ $I_F = 1 \text{ mA}$ $I_F = 10 \text{ mA}$ $I_F = 30 \text{ mA}$ $I_F = 100 \text{ mA}$ | V_F | - | - | 240 320 400 500 800 | mV |

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

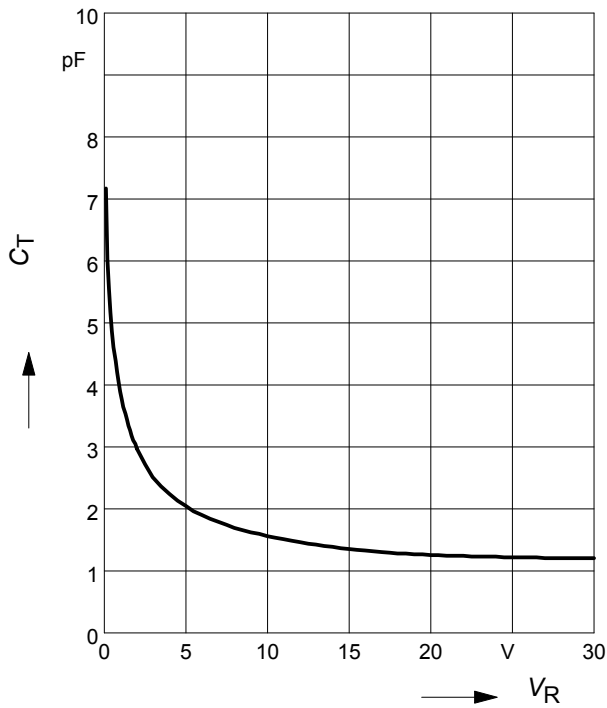
²⁾Pulsed test: $t_p = 300 \mu\text{s}$; $D = 0.01$

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

| Parameter | Symbol | Values | | | Unit |
|--|----------|--------|------|------|------|
| | | min. | typ. | max. | |
| AC Characteristics | | | | | |
| Diode capacitance $V_R = 1\text{ V}, f = 1\text{ MHz}$ | C_T | - | - | 10 | pF |
| Reverse recovery time $I_F = 10\text{ mA}, I_R = 10\text{ mA}, \text{measured } I_R = 1\text{ mA}, R_L = 100\ \Omega$ | t_{rr} | - | - | 5 | ns |

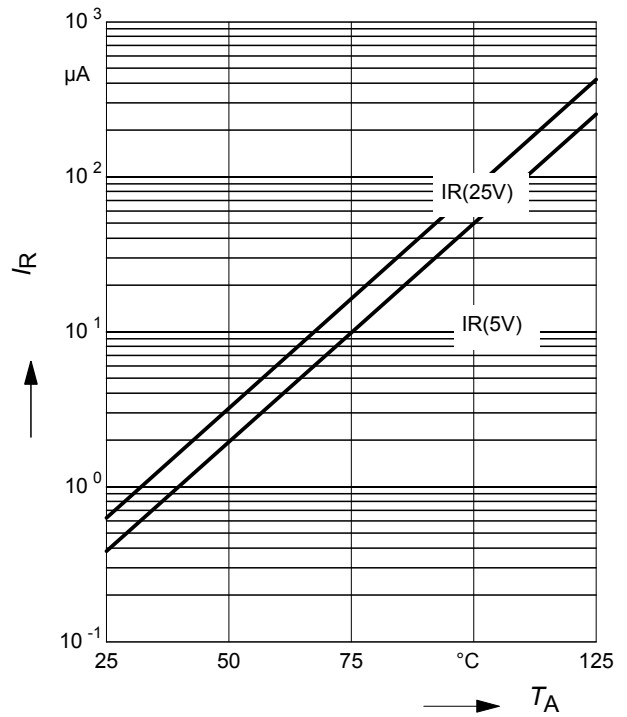
Diode capacitance $C_T = f(V_R)$

$f = 1\text{MHz}$



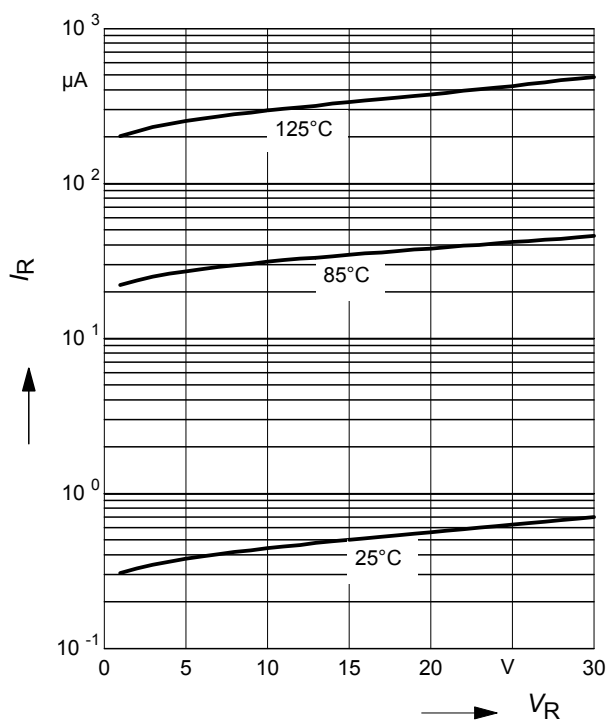
Reverse current $I_R = f(T_A)$

$V_R = \text{Parameter}$



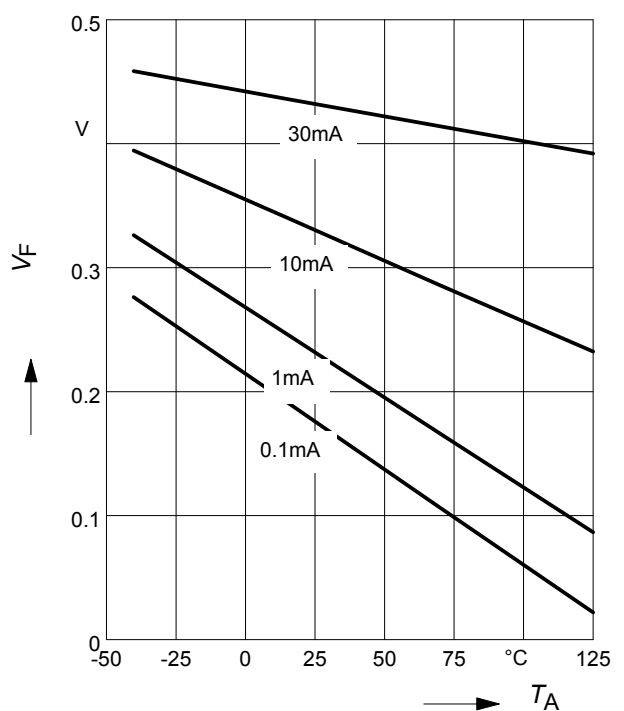
Reverse current $I_R = f(V_R)$

$T_A = \text{Parameter}$



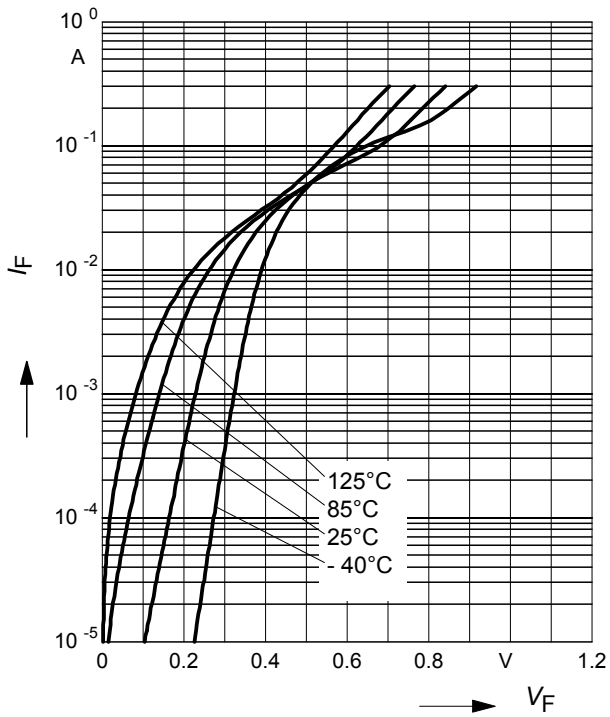
Forward Voltage $V_F = f(T_A)$

$I_F = \text{Parameter}$



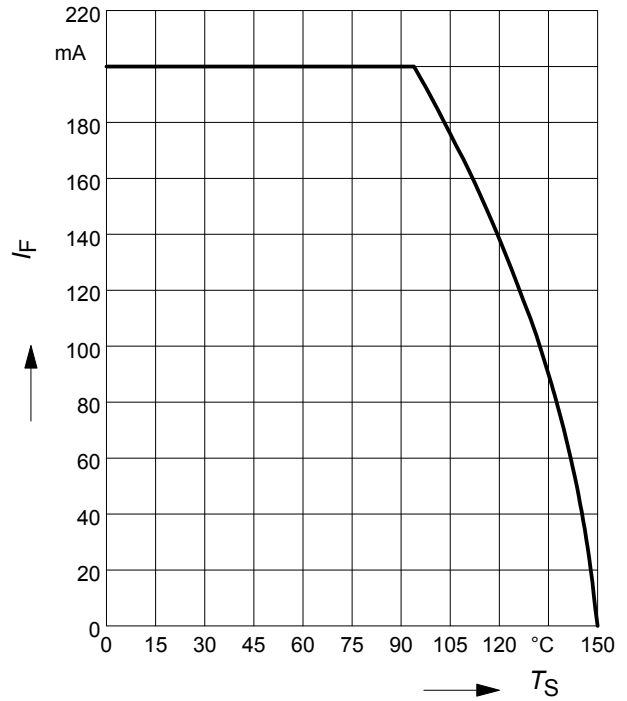
Forward current $I_F = f(V_F)$

$T_A =$ Parameter



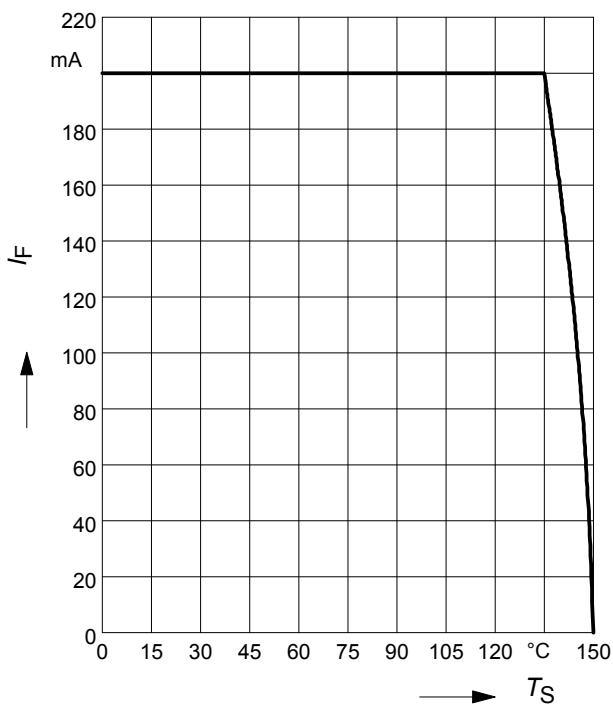
Forward current $I_F = f(T_S)$

BAT54



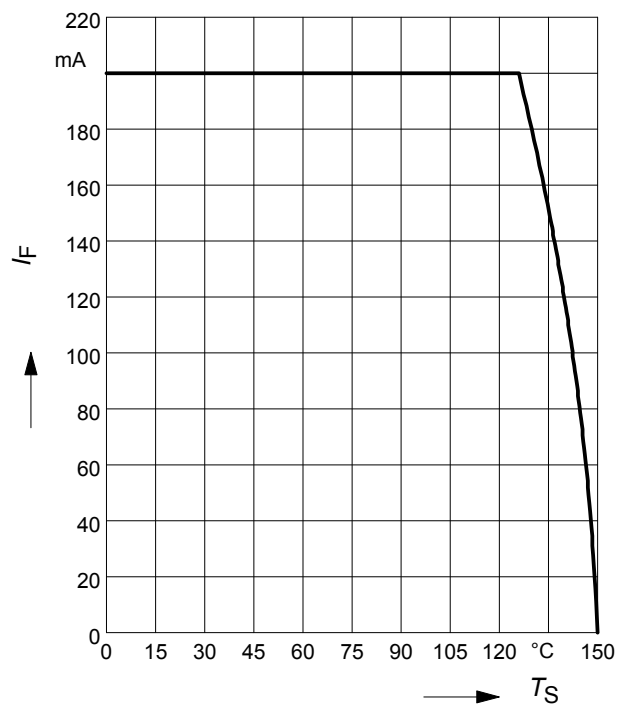
Forward current $I_F = f(T_S)$

BAT54-02LRH



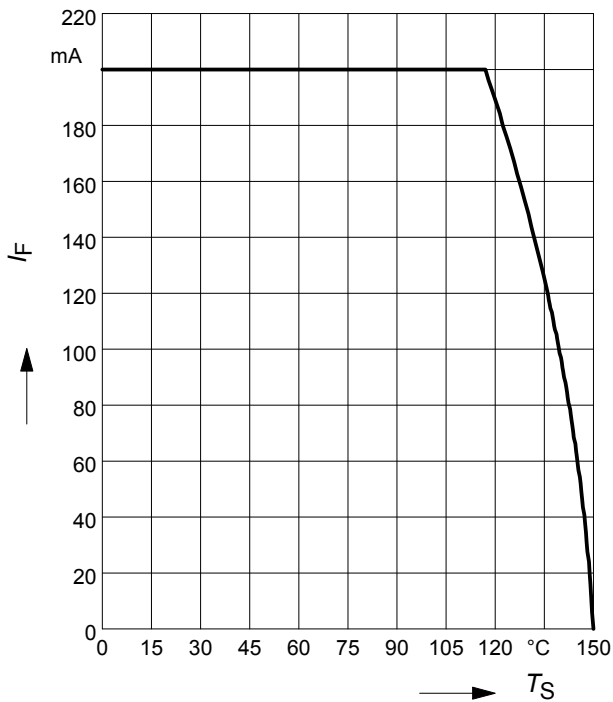
Forward current $I_F = f(T_S)$

BAT54-02V



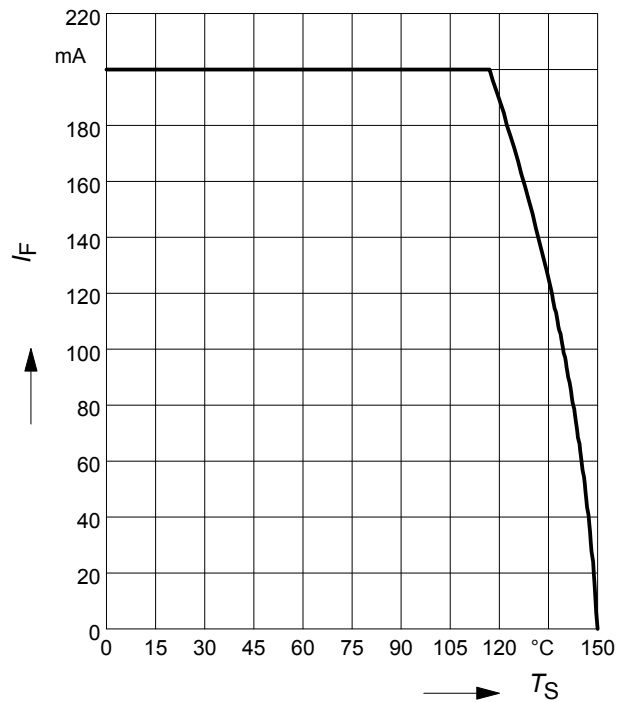
Forward current $I_F = f(T_S)$

BAT54-04



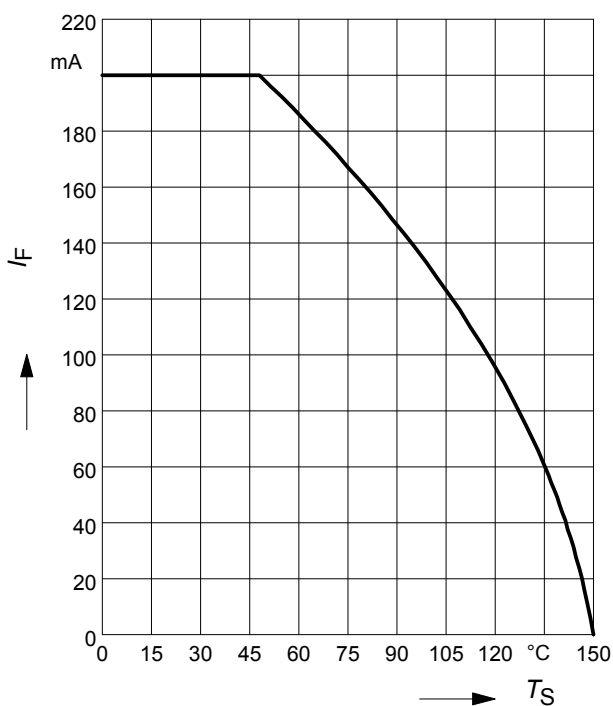
Forward current $I_F = f(T_S)$

BAT54-04W



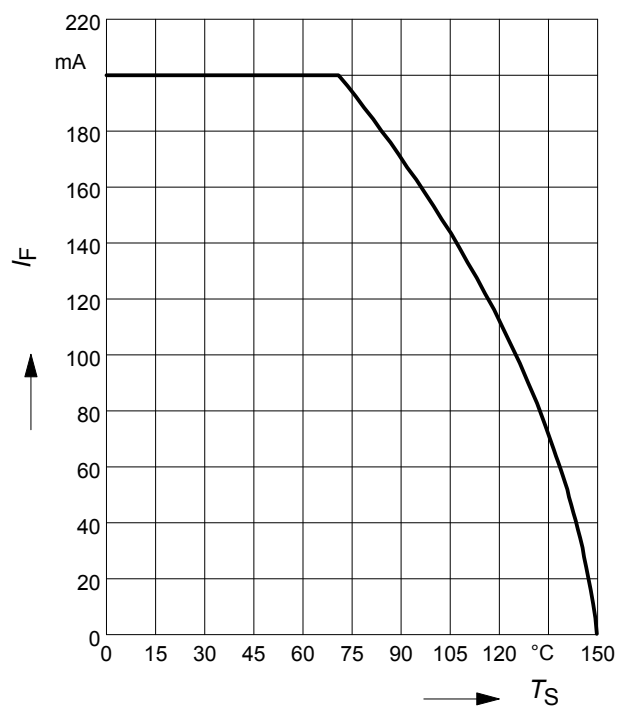
Forward current $I_F = f(T_S)$

BAT54-05



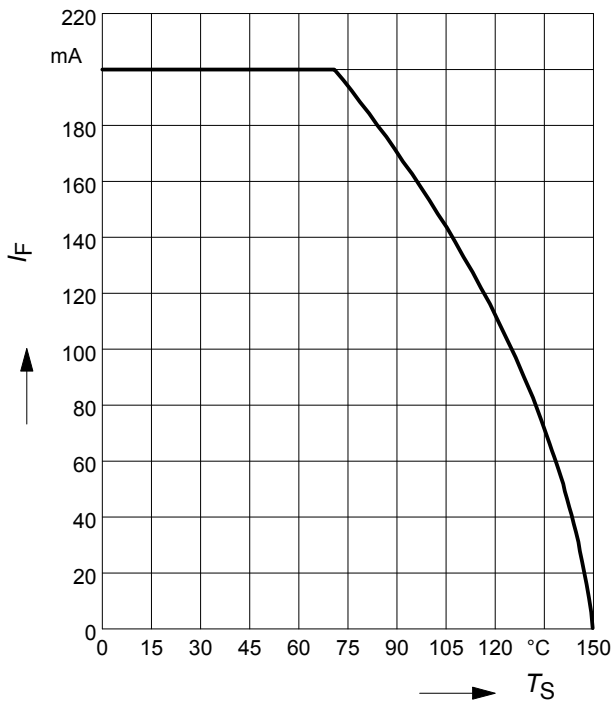
Forward current $I_F = f(T_S)$

BAT54-05W



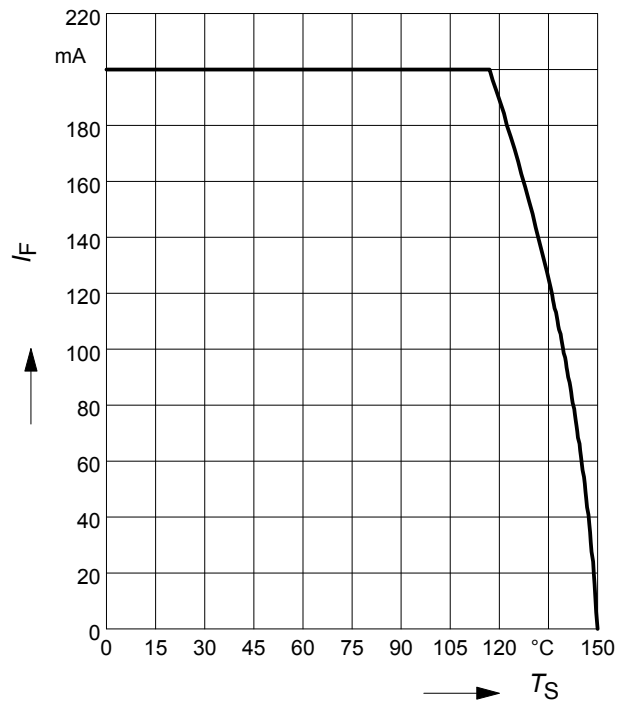
Forward current $I_F = f(T_S)$

BAT54-06



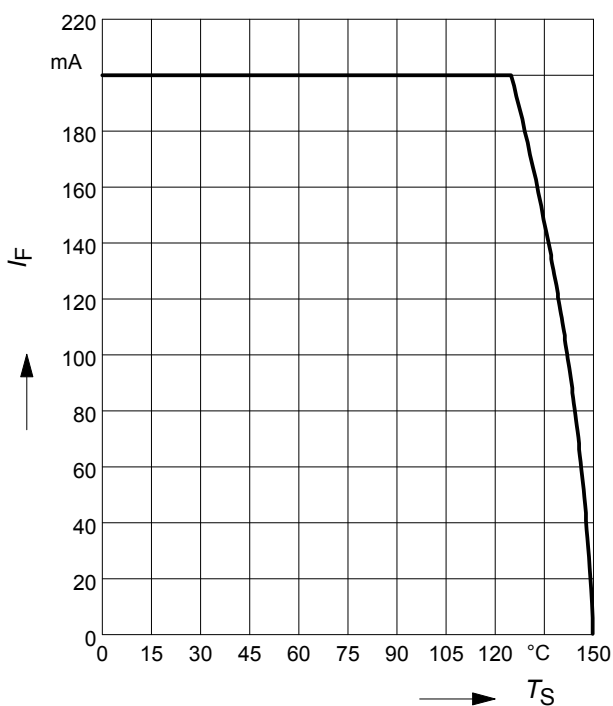
Forward current $I_F = f(T_S)$

BAT54-06W



Forward current $I_F = f(T_S)$

BAT54W



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

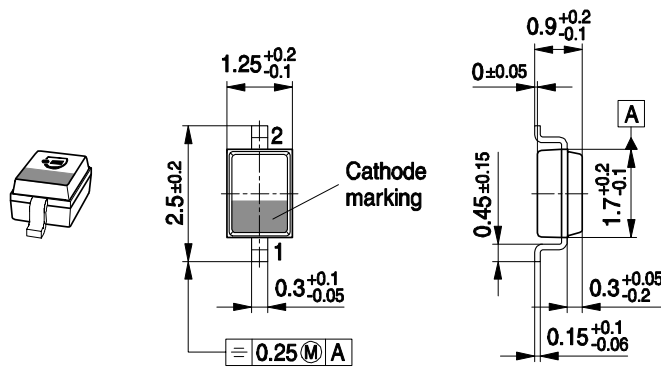


Date Code marking for discrete packages with one digit (SCD80, SC79, SC75¹⁾) CES-Code

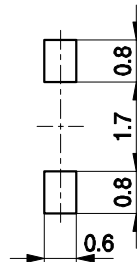
| Month | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 01 | a | p | A | P | a | p | A | P | a | p | A | P |
| 02 | b | q | B | Q | b | q | B | Q | b | q | B | Q |
| 03 | 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

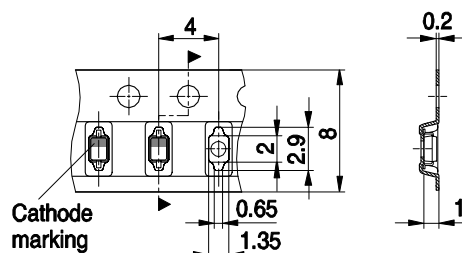


Marking Layout (Example)



Standard Packing

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



Package Outline



1) Lead width can be 0.6 max. in dambar area

Foot Print

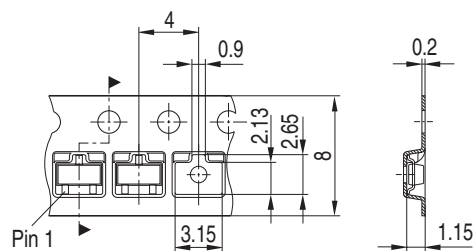


Marking Layout (Example)



Standard Packing

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



Package Outline



Foot Print

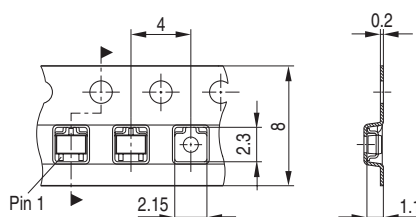


Marking Layout (Example)

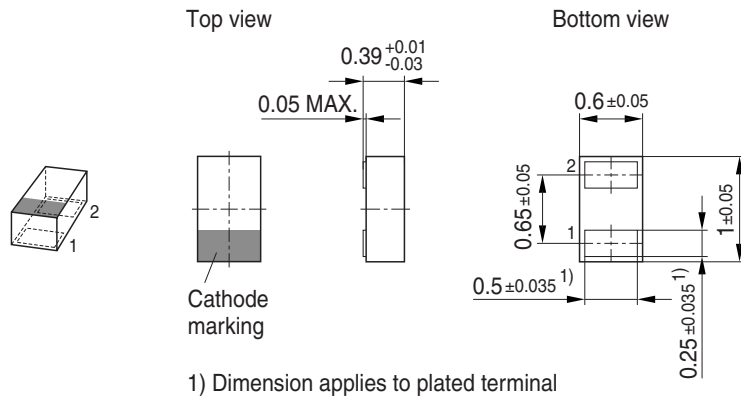


Standard Packing

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

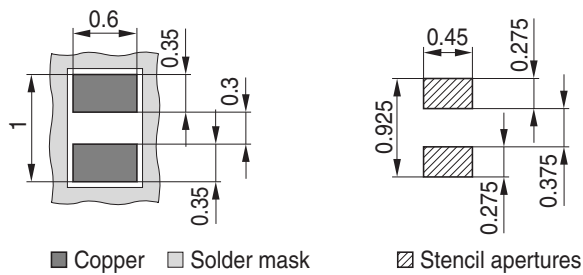


Package Outline

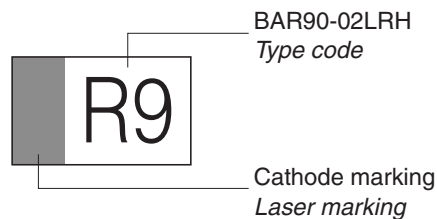


Foot Print

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**

**© 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).

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.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Infineon Technologies\(英飞凌\)](#)

[>>点击查看相关商品](#)