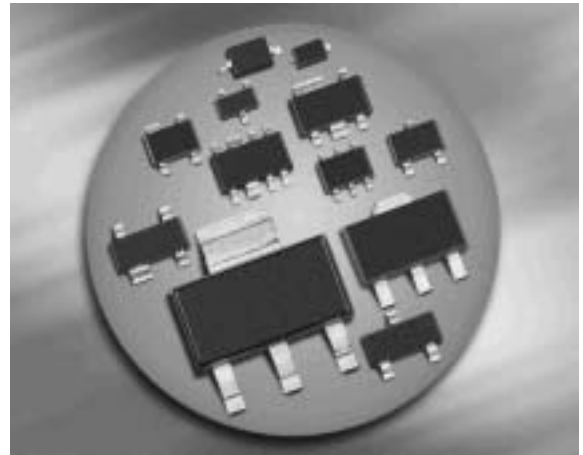
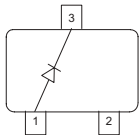
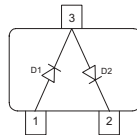
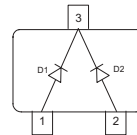
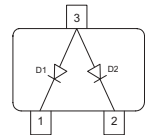


## Silicon Schottky Diodes

- For low-loss, fast-recovery, meter protection, bias isolation and clamping application
- Integrated diffused guard ring
- Low forward voltage
- Pb-free (RoHS compliant) package <sup>1)</sup>
- Qualified according AEC Q101


**BAT64**

**BAT64-02W**

**BAT64-04  
BAT64-04W**

**BAT64-05  
BAT64-05W**

**BAT64-06  
BAT64-06W**


**ESD (Electrostatic discharge) sensitive device, observe handling precaution!**

| Type      | Package | Configuration  | $L_S$ (nH) | Marking |
|-----------|---------|----------------|------------|---------|
| BAT64     | SOT23   | single         | 1.8        | 63s     |
| BAT64-02W | SCD80   | single         | 0.6        | 64      |
| BAT64-04  | SOT23   | series         | 1.8        | 64s     |
| BAT64-04W | SOT323  | series         | 1.4        | 64s     |
| BAT64-05  | SOT23   | common cathode | 1.8        | 65s     |
| BAT64-05W | SOT323  | common cathode | 1.4        | 65s     |
| BAT64-06  | SOT23   | common anode   | 1.8        | 66s     |
| BAT64-06W | SOT323  | common anode   | 1.4        | 66s     |

<sup>1</sup>Pb-containing package may be available upon special request

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

| Parameter                                                             | Symbol    | Value       | Unit             |
|-----------------------------------------------------------------------|-----------|-------------|------------------|
| Diode reverse voltage                                                 | $V_R$     | 40          | V                |
| Forward current                                                       | $I_F$     | 250         | mA               |
| Non-repetitive peak surge forward current<br>( $t \leq 10\text{ms}$ ) | $I_{FSM}$ | 800         |                  |
| Average rectified forward current (50/60Hz, sinus)                    | $I_{FAV}$ | 120         |                  |
| Total power dissipation                                               | $P_{tot}$ |             | mW               |
| BAT64, $T_S \leq 86^\circ\text{C}$                                    |           | 250         |                  |
| BAT64-02W, $T_S \leq 121^\circ\text{C}$                               |           | 250         |                  |
| BAT64-04, BAT64-06, $T_S \leq 61^\circ\text{C}$                       |           | 250         |                  |
| BAT64-04W, BAT64-06W, $T_S \leq 111^\circ\text{C}$                    |           | 250         |                  |
| BAT64-05, $T_S \leq 36^\circ\text{C}$                                 |           | 250         |                  |
| BAT64-05W, $T_S \leq 104^\circ\text{C}$                               |           | 250         |                  |
| Junction temperature                                                  | $T_j$     | 150         | $^\circ\text{C}$ |
| Storage temperature                                                   | $T_{stg}$ | -55 ... 150 |                  |

### Thermal Resistance

| Parameter                                | Symbol     | Value      | Unit |
|------------------------------------------|------------|------------|------|
| Junction - soldering point <sup>1)</sup> | $R_{thJS}$ |            | K/W  |
| BAT64                                    |            | $\leq 255$ |      |
| BAT64-02W                                |            | $\leq 115$ |      |
| BAT64-04, BAT64-06,                      |            | $\leq 355$ |      |
| BAT64-04W, BAT64-06W                     |            | $\leq 155$ |      |
| BAT64-05                                 |            | $\leq 455$ |      |
| BAT64-05W                                |            | $\leq 185$ |      |

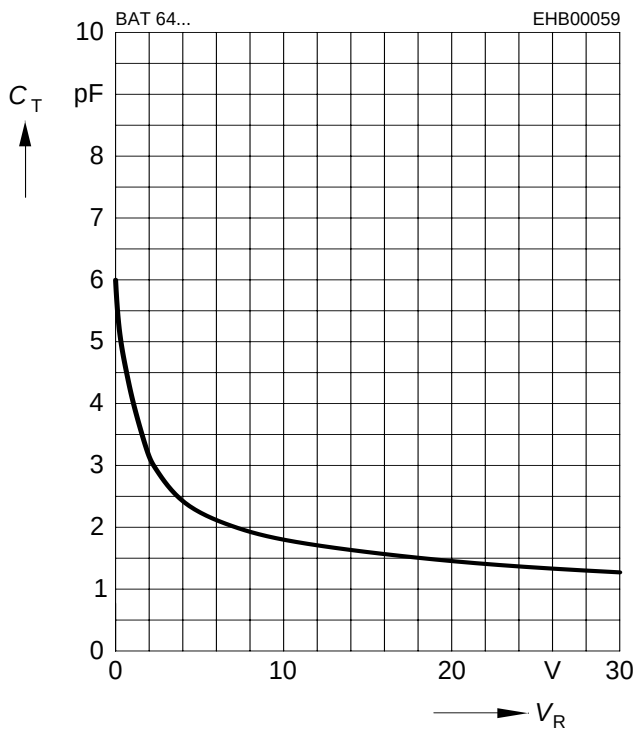
<sup>1)</sup>For calculation of  $R_{thJA}$  please refer to Application Note Thermal Resistance

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

| Parameter                                                                                                                    | Symbol     | Values                   |                          |                          | Unit          |
|------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------|--------------------------|--------------------------|---------------|
|                                                                                                                              |            | min.                     | typ.                     | max.                     |               |
| DC Characteristics                                                                                                           |            |                          |                          |                          |               |
| Breakdown voltage<br>$I_{(BR)} = 10\ \mu\text{A}$                                                                            | $V_{(BR)}$ | 40                       | -                        | -                        | V             |
| Reverse current<br>$V_R = 30\ \text{V}$<br>$V_R = 30\ \text{V}, T_A = 85\ ^\circ\text{C}$                                    | $I_R$      | -<br>-                   | -<br>-                   | 2<br>200                 | $\mu\text{A}$ |
| Forward voltage<br>$I_F = 1\ \text{mA}$<br>$I_F = 10\ \text{mA}$<br>$I_F = 30\ \text{mA}$<br>$I_F = 100\ \text{mA}$          | $V_F$      | 270<br>310<br>370<br>500 | 320<br>385<br>440<br>570 | 350<br>430<br>520<br>750 | mV            |
| AC Characteristics                                                                                                           |            |                          |                          |                          |               |
| Diode capacitance<br>$V_R = 1\ \text{V}, f = 1\ \text{MHz}$                                                                  | $C_T$      | -                        | 4                        | 6                        | pF            |
| Reverse recovery time<br>$I_F = 10\ \text{mA}, I_R = 10\ \text{mA}$ , measured $I_R = 1\ \text{mA}$ ,<br>$R_L = 100\ \Omega$ | $t_{rr}$   | -                        | -                        | 5                        | ns            |

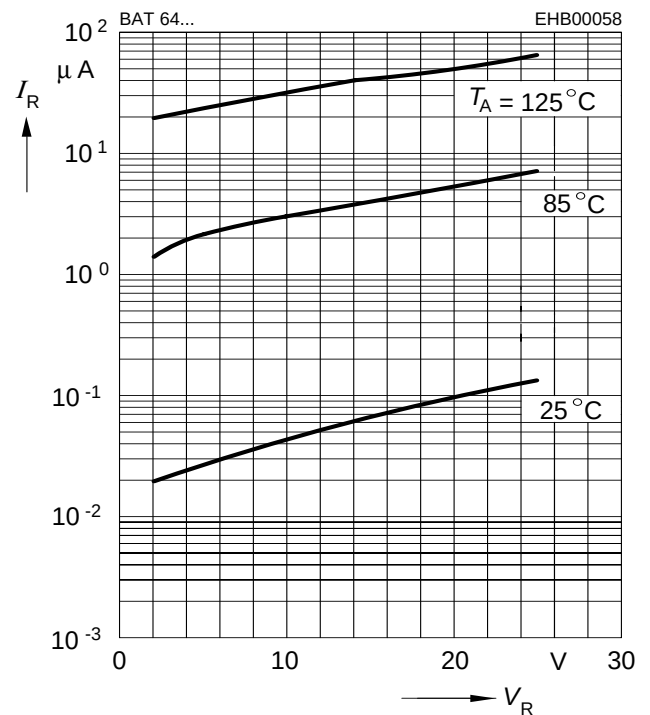
**Diode capacitance  $C_T = f(V_R)$**

$f = 1\text{MHz}$



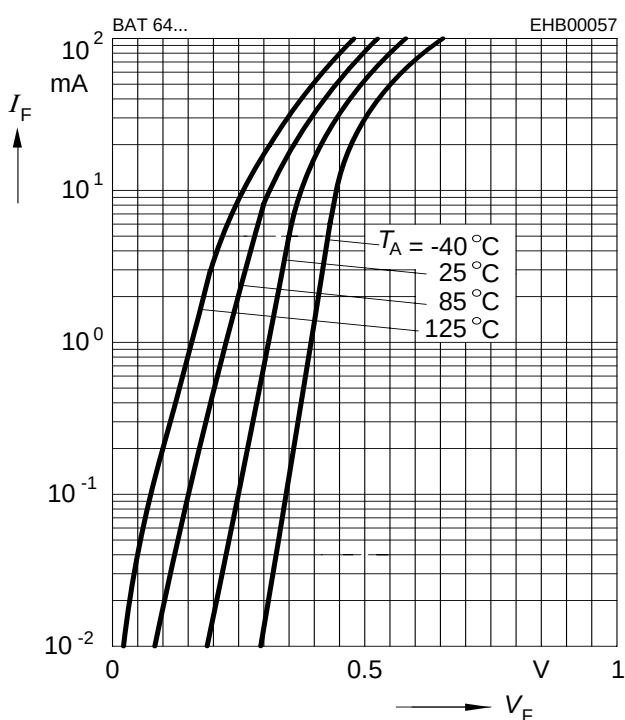
**Reverse current  $I_R = f(V_R)$**

$T_A = \text{Parameter}$



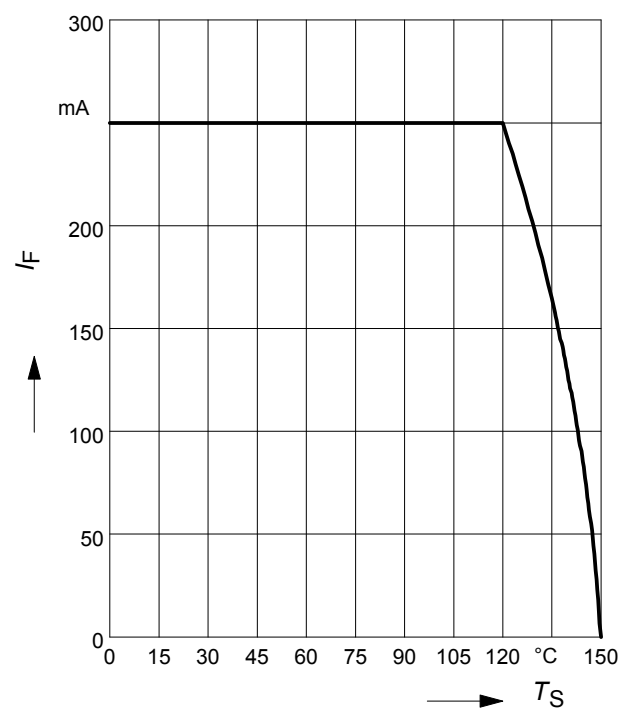
**Forward current  $I_F = f(V_F)$**

$T_A = \text{Parameter}$



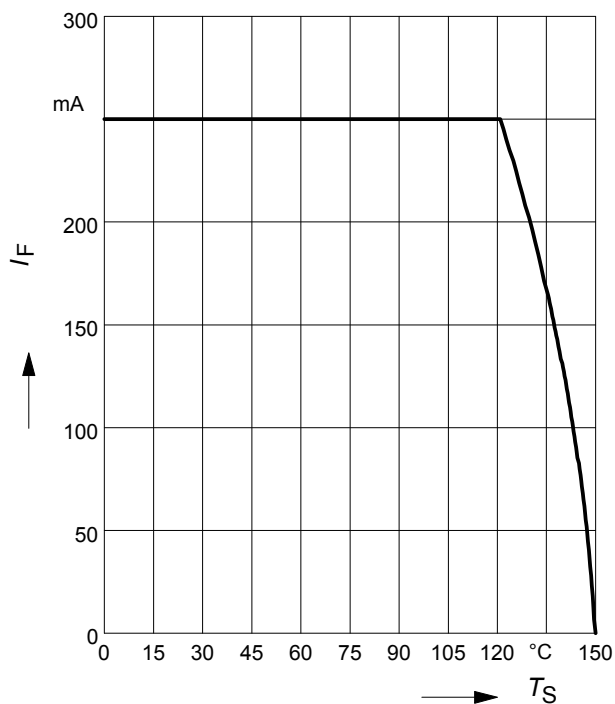
**Forward current  $I_F = f(T_S)$**

BAT64W



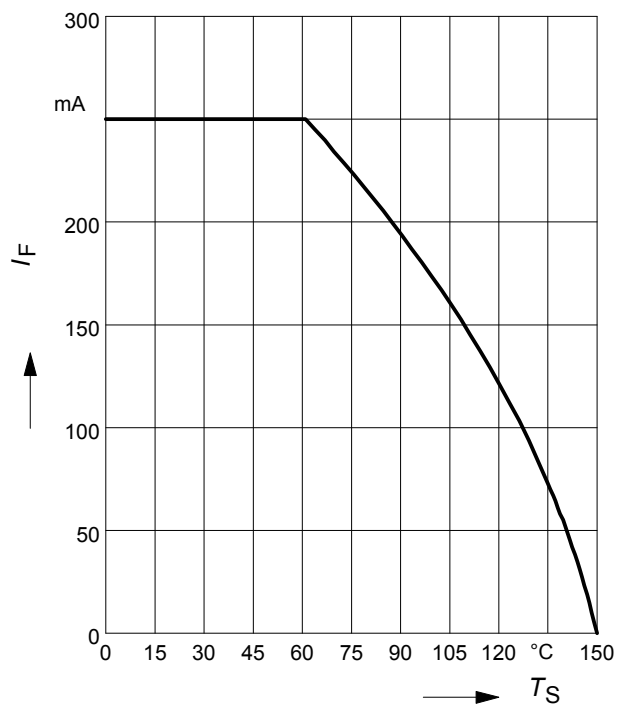
**Forward current  $I_F = f(T_S)$**

BAT64-02W



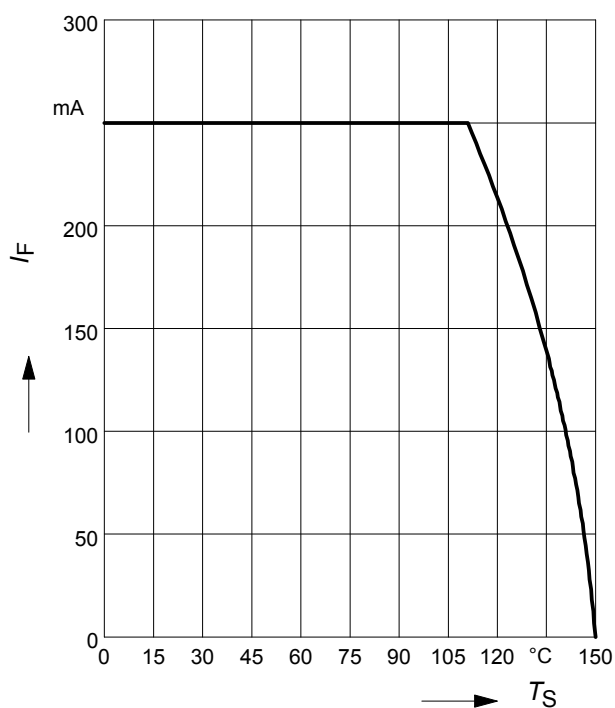
**Forward current  $I_F = f(T_S)$**

BAT64-04, BAT64-06



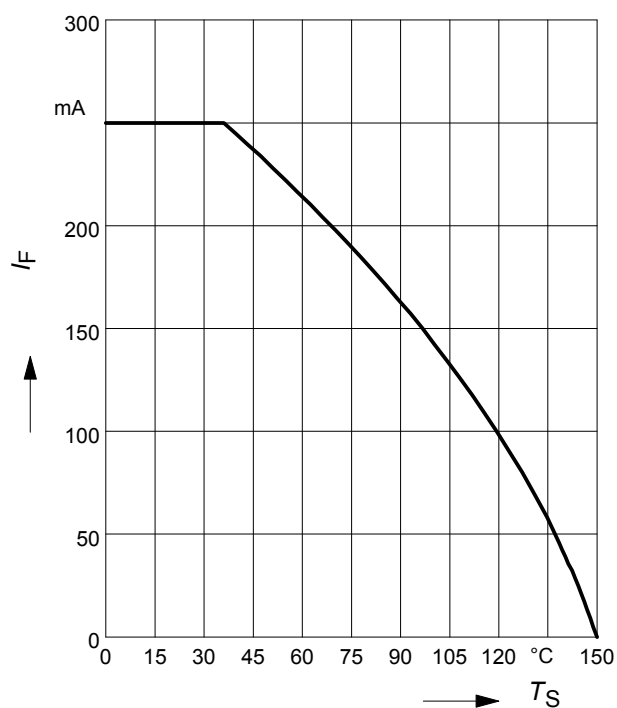
**Forward current  $I_F = f(T_S)$**

BAT64-04W, BAT64-06W



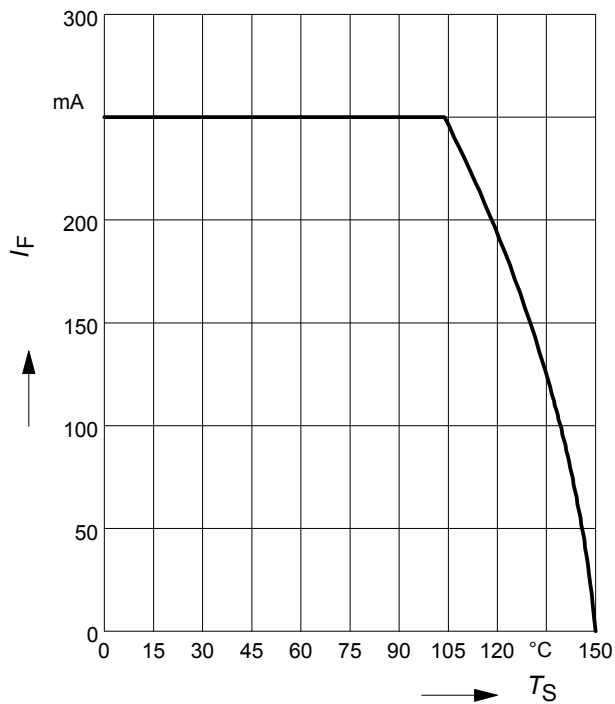
**Forward current  $I_F = f(T_S)$**

BAT64-05



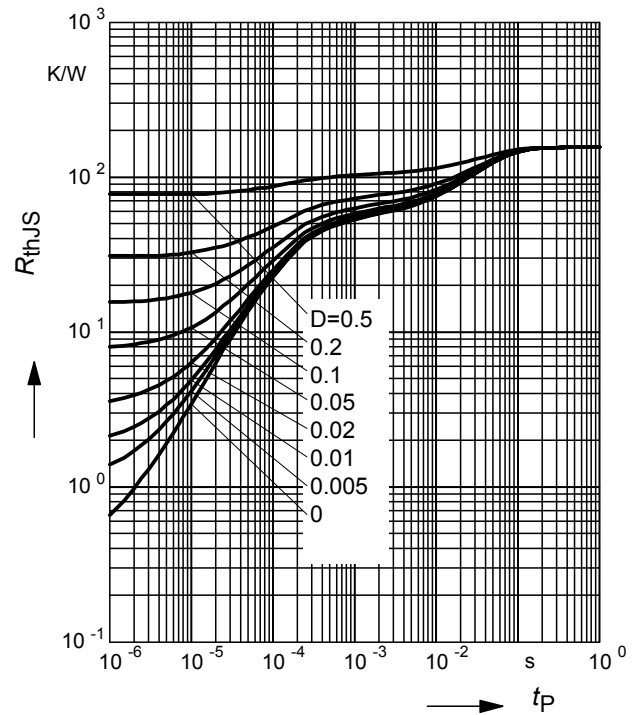
**Forward current  $I_F = f(T_S)$**

BAT64-05W



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

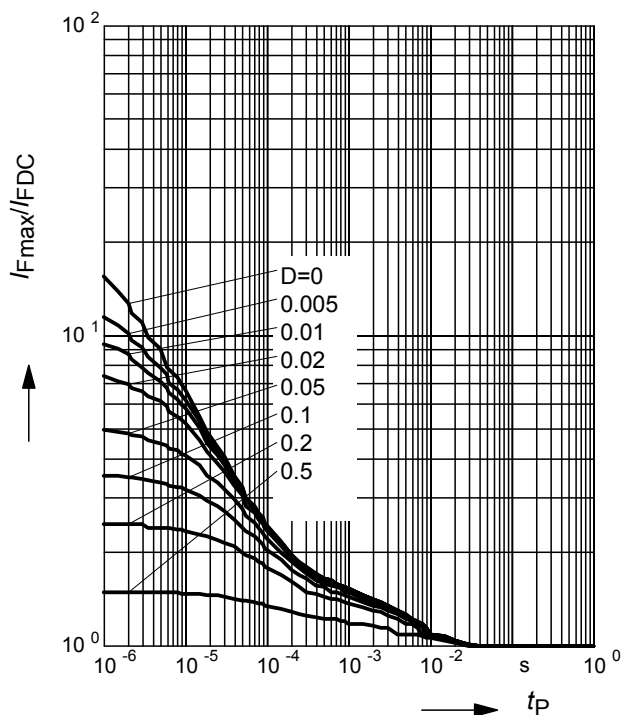
BAT64-02W



**Permissible Pulse Load**

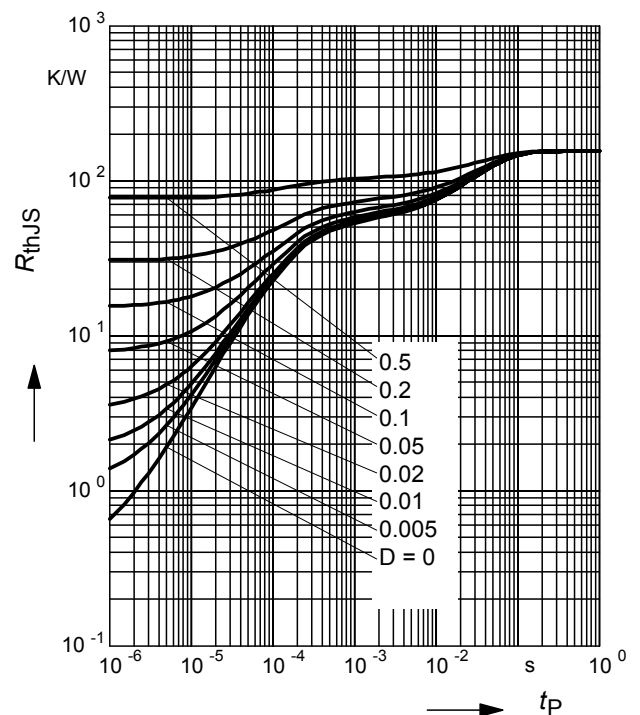
$I_{Fmax}/I_{FDC} = f(t_p)$

BAT64-02W



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

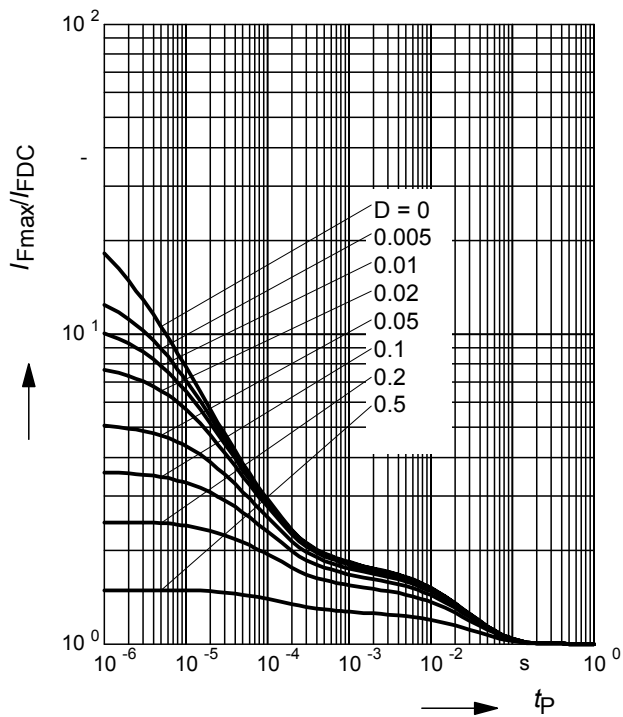
BAT64-04W, BAT64-06W



### Permissible Pulse Load

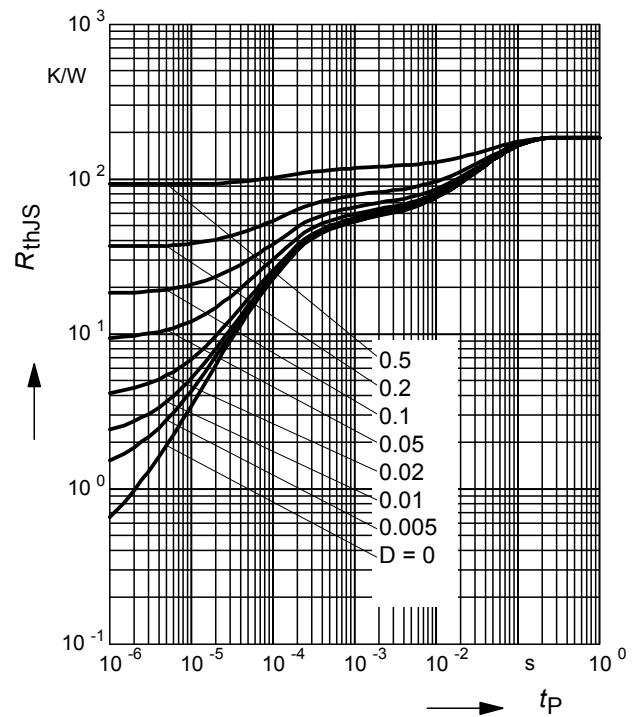
$$I_{Fmax}/I_{FDC} = f(t_p)$$

BAT64-04W, BAT64-06W



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

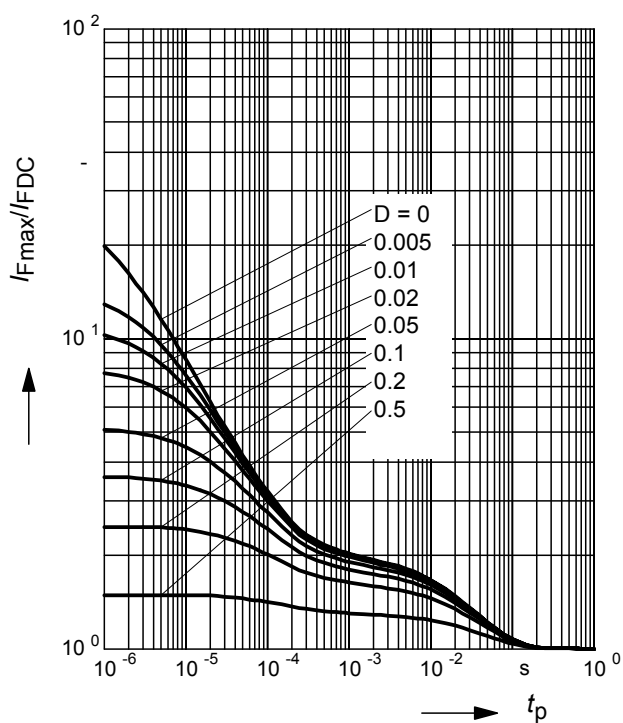
BAT64-05W



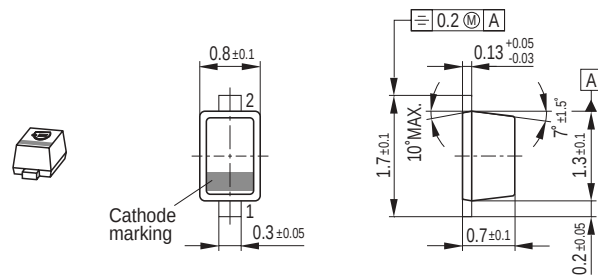
### Permissible Pulse Load

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

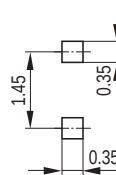
BAT64-05W



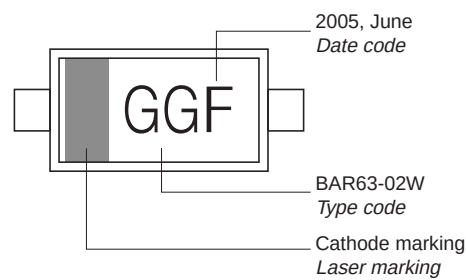
## Package Outline



## Foot Print

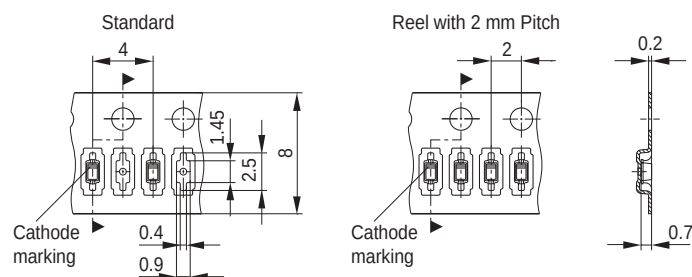


## Marking Layout (Example)



## Standard Packing

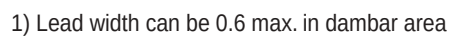
Reel ø180 mm = 3.000 Pieces/Reel  
 Reel ø180 mm = 8.000 Pieces/Reel (2 mm Pitch)  
 Reel ø330 mm = 10.000 Pieces/Reel



Date Code marking for discrete packages with one digit (SCD80, SC79, SC75<sup>1)</sup>) CES-Code

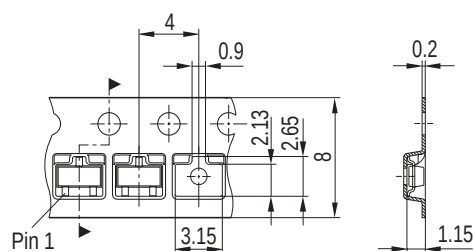
| Month | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| 01    | a    | p    | A    | P    | a    | p    | A    | P    | a    | p    | A    | P    |
| 02    | b    | q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

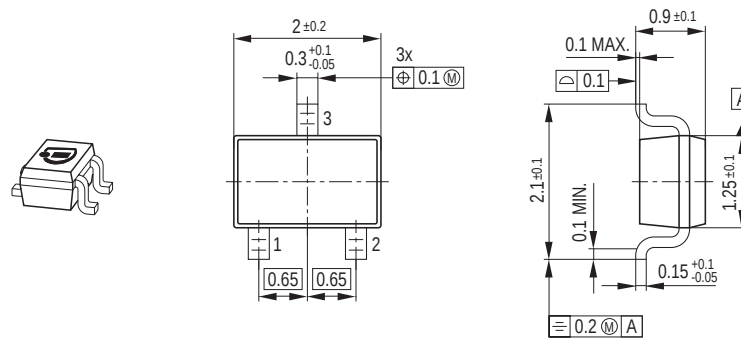


The diagram shows a top-down view of a BCW66 LED package. It is a rectangular component with four pins. The top pin is labeled 'Pin 1'. The package has a central rectangular area containing the text 'EH S' and a date code '05 05'. The date code is split into two parts: '05' on the left and '05' on the right. The '05' on the left is labeled '2005, June' and 'Date code (YM)'. The '05' on the right is labeled 'BCW66' and 'Type code'. The Infineon logo is shown in the top right corner, with the word 'Manufacturer' below it.

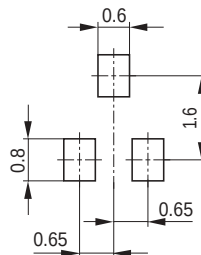
Reel ø180 mm = 3.000 Pieces/Reel  
Reel ø330 mm = 10.000 Pieces/Reel



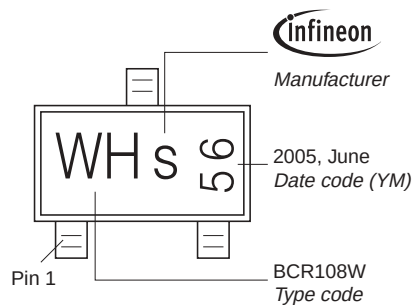
## Package Outline



## Foot Print

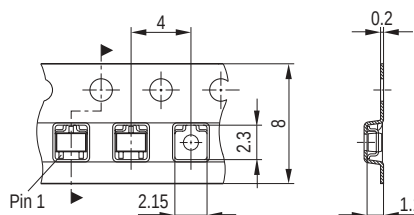


## Marking Layout (Example)



## Standard Packing

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



Edition 2006-02-01

Published by

Infineon Technologies AG

81726 München, Germany

© Infineon Technologies AG 2007.

All Rights Reserved.

### **Attention please!**

The information given in this dokument shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffenheitsgarantie"). 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 your 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 your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems 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.

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: [ocean@oceanchips.ru](mailto:ocean@oceanchips.ru)

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А