

### ■ Productor Character

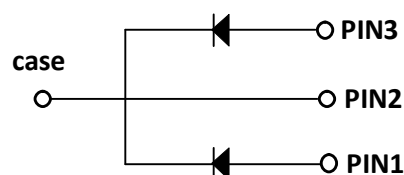
- Half Bridge Rectified、Common Cathode Structure.
- Multilayer Metal -Silicon Potential Structure.
- Beautiful High Temperature Character.
- Have Over Voltage protect loop, high reliability.
- RoHs Product.

### ■ Primary Use

- Low Voltage High Frequency Switching Power Supply.
- Low Voltage High Frequency Invers Circuit.
- Low Voltage Continued Circuit and Protection Circuit.

### ■ Summarize

- BD2045CS/BD2045CT Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications.



## Absolute Maximum Ratings

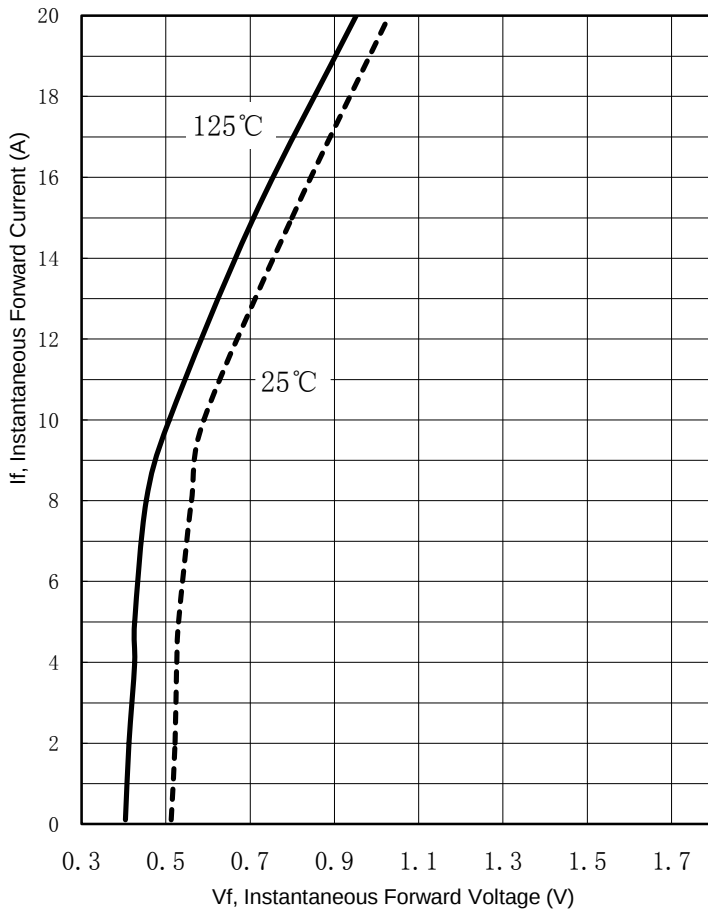
| Item                                                                                  | Symbol           | Data      | Unit |
|---------------------------------------------------------------------------------------|------------------|-----------|------|
| Maximal Inverted Repetitive Peak Voltage                                              | VRRM             | 45        | V    |
| *Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle      | IFAV             | 20        | A    |
| Typical Thermal Resistance (per leg)      Package = TO-252                            | R <sub>θjc</sub> | 2         | °C/W |
|                                                                                       |                  | 4         | °C/W |
| Forward Peak Surge Current(Rated Load 8.3 Half Mssine Wave-According to JEDEC Method) | IFSM             | 150       | A    |
| Maximum Rate of Voltage Change ( at Rated VR )                                        | dv/dt            | 10000     | V/uS |
| Peak Repetitive Reverse Surge Current (2uS-1Khz)                                      | IRRM             | 1         | A    |
| Operating Junction Temperature                                                        | TJ               | -40- +175 | °C   |
| Storage Temperature                                                                   | TSTG             | -40- +175 | °C   |

## Electricity Character

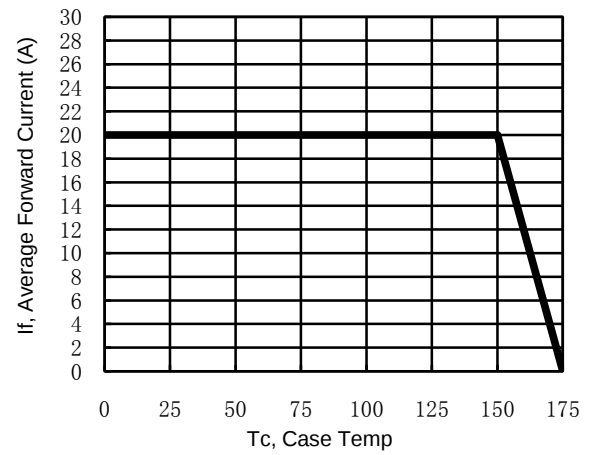
| Item | Test Condition |         | TYP. | MAX. | Unit |
|------|----------------|---------|------|------|------|
| IR   | TJ =25°C       | VR=VRRM |      | 10   | uA   |
|      | TJ =125°C      |         |      | 1    | mA   |
| VF   | TJ =25°C       | IF=10A  |      | 0.65 | V    |
|      | TJ =125°C      | IF=10A  | 0.48 | 0.51 | V    |

\*IF(AV)= 5A×2

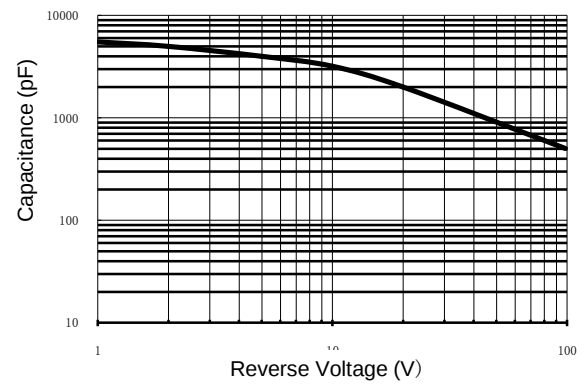
The forward voltage and forward current curve.



Current Derating Curve, Per Element

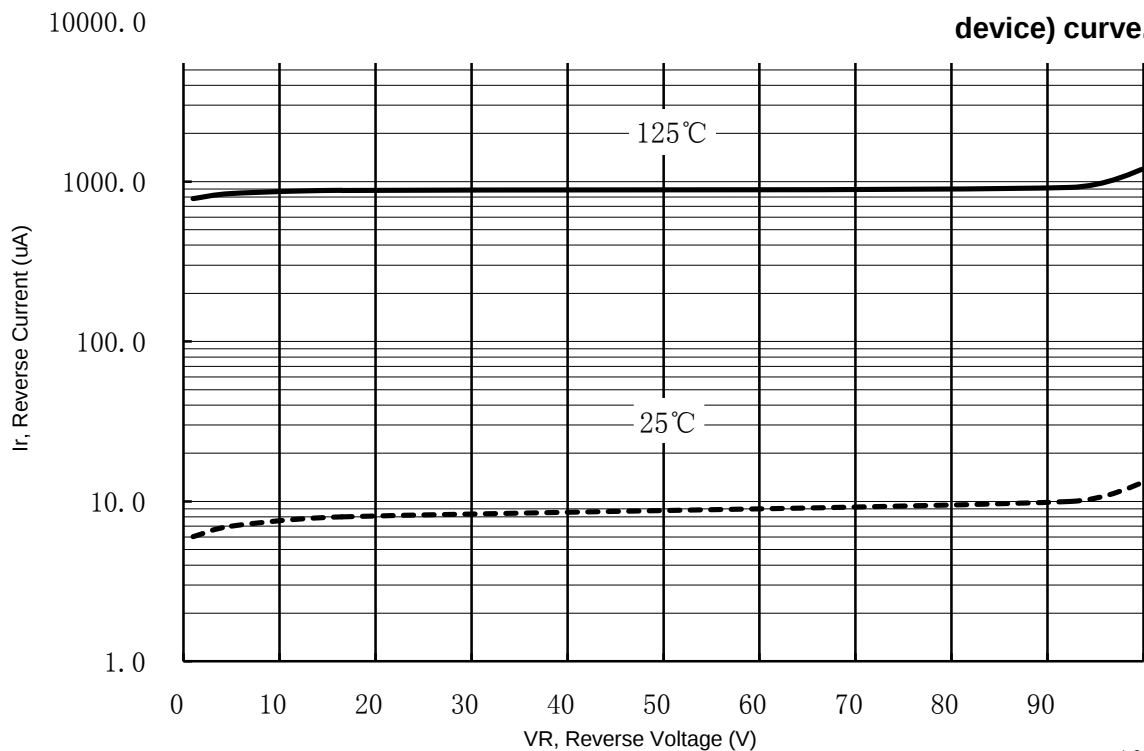


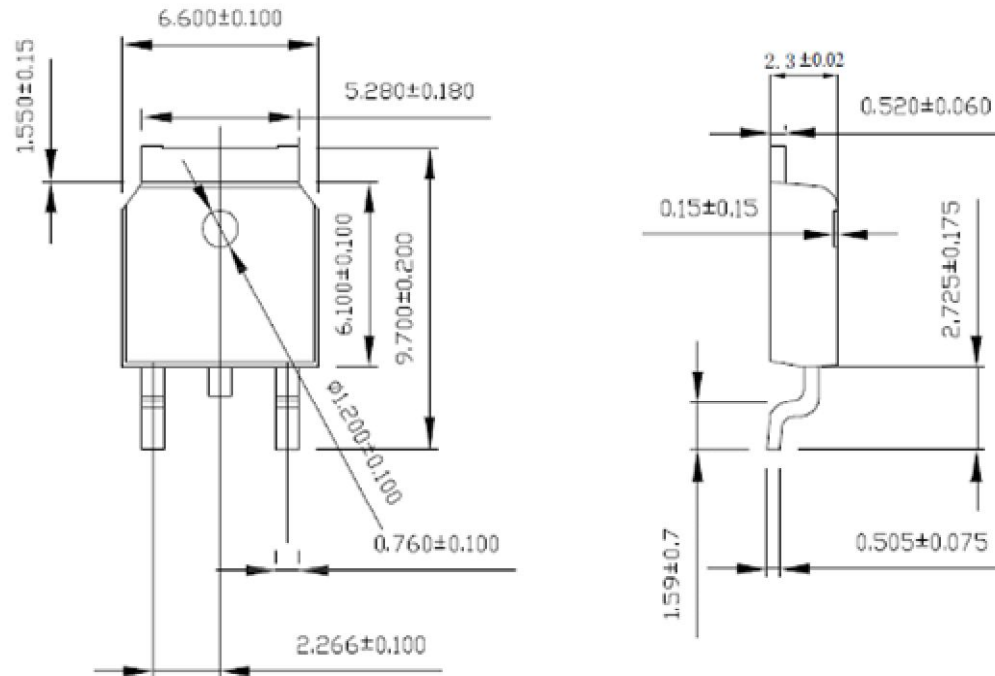
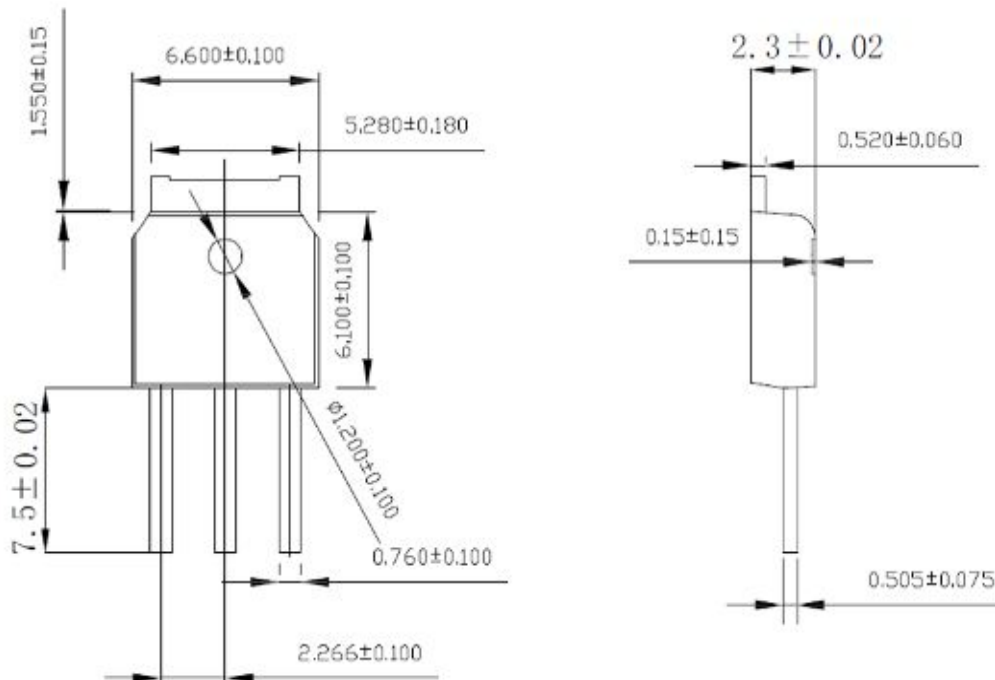
The crunode capacitance curve



The reverse leak current and the reverse voltage (single-

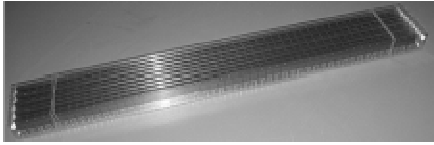
device) curve.



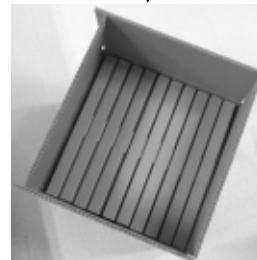
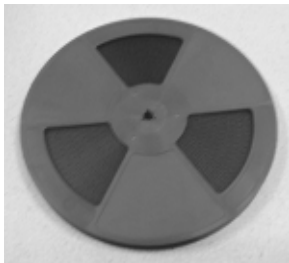
**Package Outline Dimensions****TO-252-2L****TO-251-3L**

## Packing Information

| Part Number     | Quantity     | Size (mm)   |
|-----------------|--------------|-------------|
| tube            | 80 pieces    | 540*15*5    |
| inner box       | 4000 pieces  | 554*135*70  |
| outer container | 40000 pieces | 572*382*300 |



| Part Number     | Quantity     | Size (mm)   |
|-----------------|--------------|-------------|
| reel            | 50 pieces    | 330*25      |
| inner box       | 2500 pieces  | 340*336*29  |
| outer container | 25000 pieces | 353*346*365 |



## Marking



BD2045CT

XXXX

- 1.BD2045CT/BD2045CS 为产品型号
- 2.XXXX代表日期码，第一码表示公元年的最后一码，第二码表示生产时当月码 (A,B,C...为一月，二月，三月...),第三，四码表示大量生产时批次码  
例如:2013年第一月生产的，D/C为HAXX。
- 3.TO-252封装型号后面加“CS”，TO-251封装型号后面加“CT”