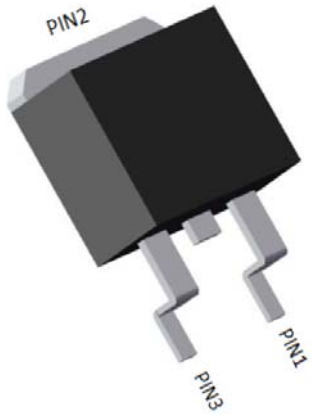
# General Purpose Rectifier







## Features

- Glass passivated chip junction
- High surge forward current capability
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7 s, per JESD 22-B106

## Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

## Mechanical Data

- **Package**: TO-263
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity**: As marked

## ■Maximum Ratings (Ta=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | GPB1010 |
|---|---|---|---|
| Device Marking Code | | | GPB1010 |
| Maximum Repetitive peak reverse voltage | $V_{RRM}$ | V | 1000 |
| Maximum RMS Voltage | $V_{RMS}$ | V | 700 |
| Maximum DC Blocking Voltage | $V_{DC}$ | V | 1000 |
| Average Rectified Output Current @60Hz half sine-wave, R-load, Tc(FIG.1) | Io | A | 10 |
| Surge(Non-repetitive) Forward Current @60Hz half sine-wave, 1 cycle, Ta=25℃ | IFSM | A | 200 |
| Current Squared Time @1ms≤t<8.3ms Ta=25℃ | I2t | A2s | 166 |
| Typical junction capacitance @ 1 MHz and Applied Reverse Voltage of 4.0V D.C. | Cj | pF | 50 |
| Storage Temperature | Tstg | ℃ | -55 ~ +150 |
| Junction Temperature | Tj | ℃ | -55 ~ +150 |

## ■Electrical Characteristics (Ta=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | GPB1010 |
|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per diode | VFM | V | IFM=10.0A | 1.1 |
| Maximum DC reverse current at rated DC blocking voltage per diode | IRRM1 | uA | VRM=VRRM Ta=25℃ | 5 |
| | IRRM2 | | VRM=VRRM Ta=125℃ | 100 |

## ■Thermal Characteristics （$T_a$=25℃ Unless otherwise specified）

| PARAMETER | | SYMBOL | UNIT | GPB1010 |
|---|---|---|---|---|
| Typical Thermal Resistance | Between junction and case | $R_{\theta J\text{-}C}$ | ℃/W | 3.0 |

## ■Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g) | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|
| GPB1010 | Approximate 1.48 | 50 | 1000 | 5000 | Tube |

## ■Characteristics (Typical)

FIG1:Io -Tc Curve

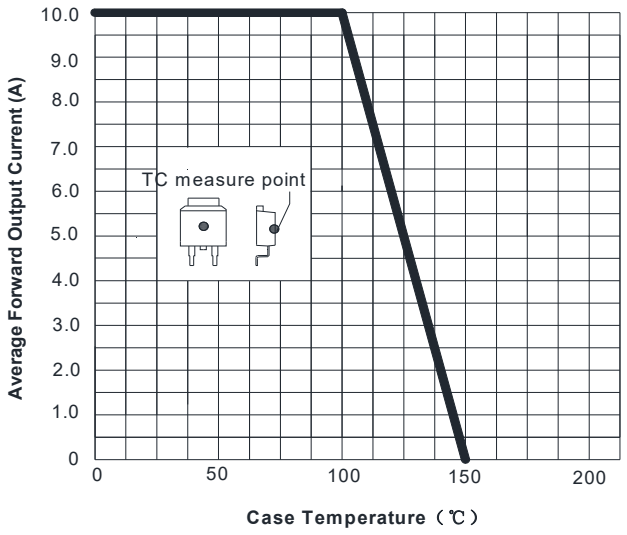



FIG2:Surge Forward Current Capability

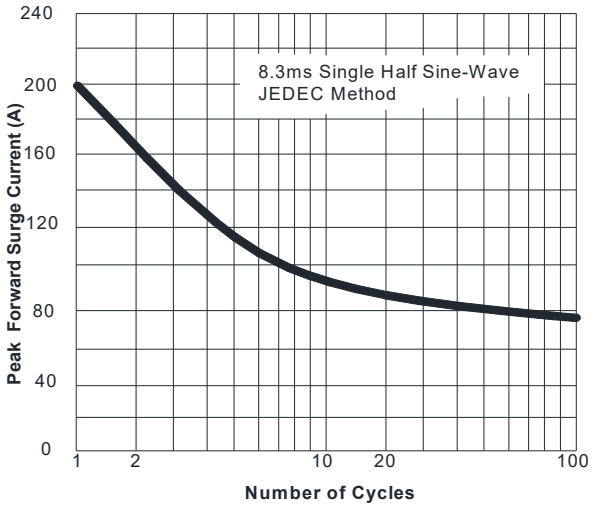



FIG3: Typical Forward Voltage

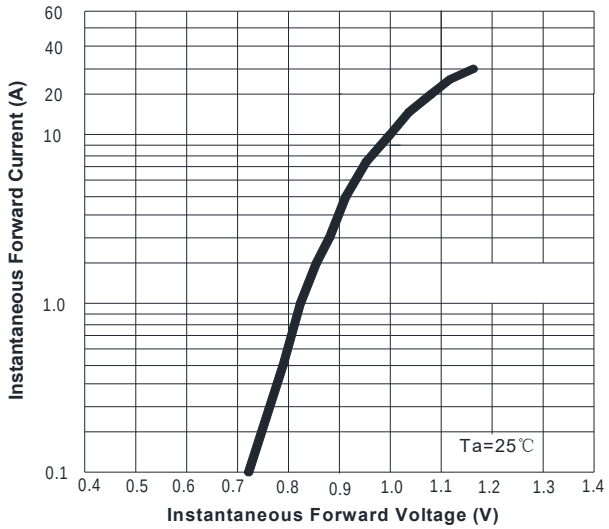
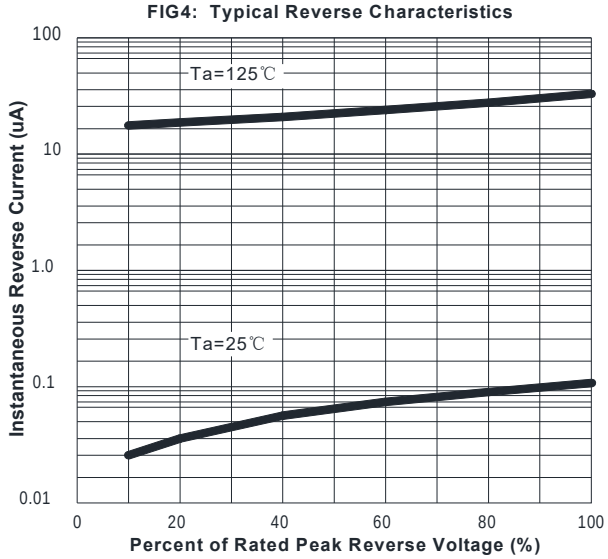
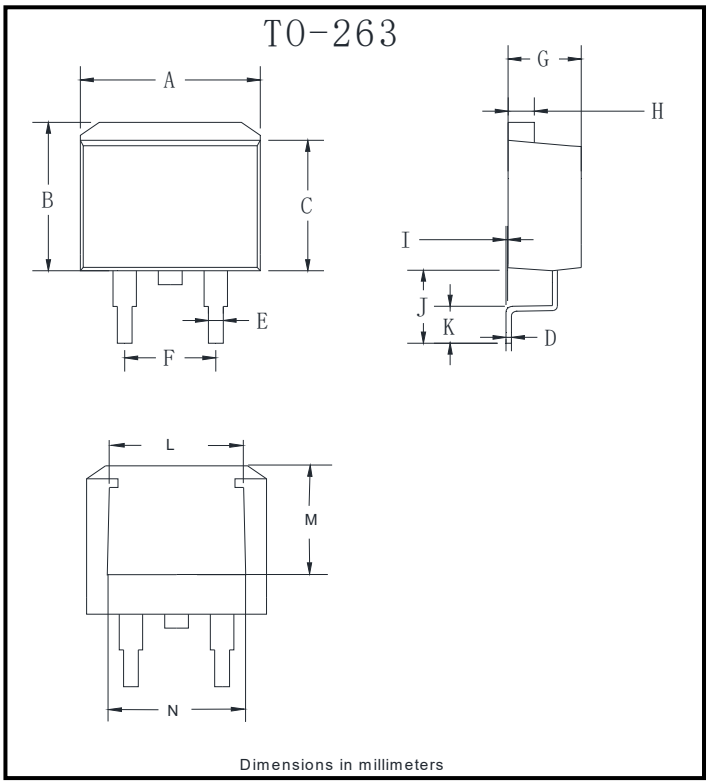



FIG4: Typical Reverse Characteristics



## ■Outline Dimensions




| TO-263 | | |
|---|---|---|
| Dim | Min | Max |
| A | 9.5 | 11.5 |
| B | 9.7 | 10.5 |
| C | 8.4 | 9.0 |
| D | 0.28 | 0.64 |
| E | 0.68 | 0.94 |
| F | 4.55 | 5.6 |
| G | 4.04 | 5.10 |
| H | 1.14 | 1.4 |
| I | 0 | 0.2 |
| J | 4.9 | 6.05 |
| K | 1.79 | 2.79 |
| L | 7.3 | 7.9 |
| M | 6.2 | 6.8 |
| N | 7.6 | 8.2 |

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