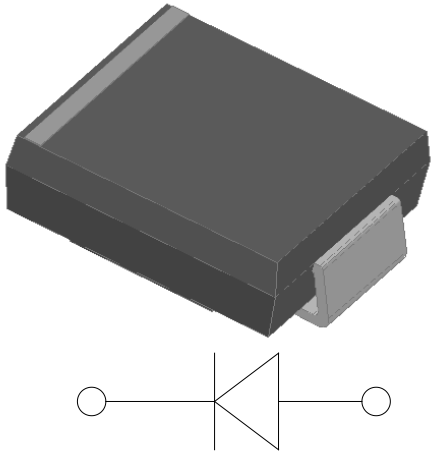
# Surface Mount Fast Recovery Rectifier



## Features

- High current capability
- High reliability
- High surge current capability
- Low power loss
- Solder dip 260 °C max. 10 s, per JESD 22-B106

## Mechanical Data

- **Package**: DO-214AB (SMC)
  Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes cathode end

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

| PARAMETER | SYMBOL | UNIT | GR5A | GR5B | GR5D | GR5G | GR5J | GR5K | GR5M |
|---|---|---|---|---|---|---|---|---|---|
| Device marking code | | | GR5A | GR5B | GR5D | GR5G | GR5J | GR5K | GR5M |
| Repetitive Peak Reverse Voltage | $V_{RRM}$ | V | 50 | 100 | 200 | 400 | 600 | 800 | 1000 |
| Average Rectified Output Current @60Hz sine wave, Resistance load, Ta (FIG.1) | $I_O$ | A | 5.0 | | | | | | |
| Surge(Non-repetitive)Forward Current @ 60Hz Half-sine wave,1 cycle, Ta=25℃ | $I_{FSM}$ | A | 120 | | | | | | |
| Storage Temperature | Tstg | ℃ | -55 ~+150 | | | | | | |
| Junction Temperature | Tj | ℃ | -55 ~+150 | | | | | | |

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

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | GR5A | GR5B | GR5D | GR5G | GR5J | GR5K | GR5M |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous forward voltage drop per diode | $V_F$ | V | $I_{FM}$=5.0A | 1.3 | | | | | | |
| Maximum reverse recovery time | $T_{RR}$ | ns | $I_F$=0.5A,IR=1.0A, Irr=0.25A | 150 | | | | 250 | 500 | |
| Maximum DC reverse current at rated DC blocking voltage per diode | $I_R$ | μA | Ta=25℃ | 10 | | | | | | |
| | | | Ta=100℃ | 250 | | | | | | |

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

| PARAMETER | | SYMBOL | UNIT | GR5A | GR5B | GR5D | GR5G | GR5J | GR5K | GR5M |
|---|---|---|---|---|---|---|---|---|---|---|
| Thermal Resistance | Junction to ambient | $R_{\theta J-A}$ | ℃/W | 47[1)] | | | | | | |
| | Junction tolead | $R_{\theta J-L}$ | | 13[1)] | | | | | | |

Note(1)
Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.6" x 0.6" (16 mm x 16 mm) copper pad areas

## ■Ordering Information (Example)

| PREFERED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|---|
| GR5A~GR5M | F1 | Approximate 0.254 | 3000 | 6000 | 48000 | 13” reel |

## ■ Characteristics(Typical)

FIG.1: Io-TL Curve

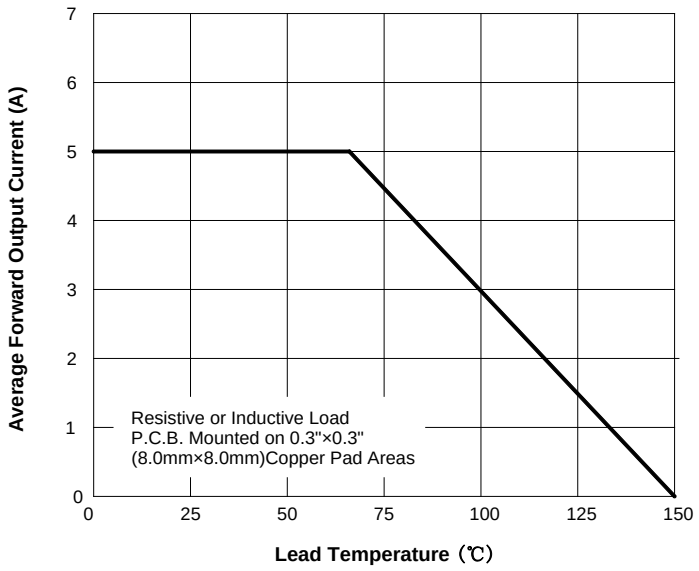



FIG.2: Forward Surge Current Capability

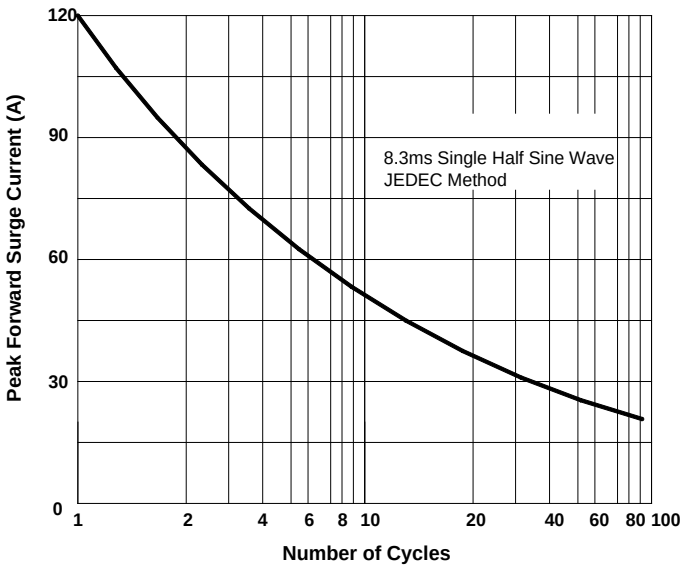



FIG.3: Forward Voltage

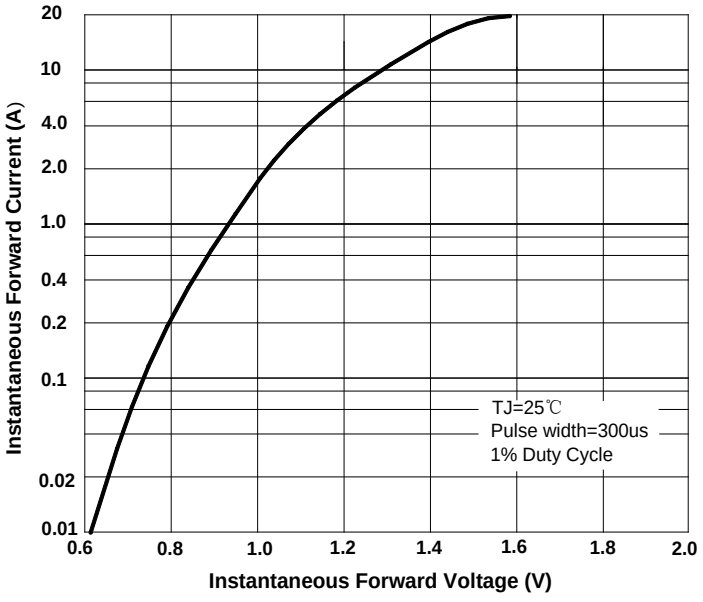



FIG.4: Typical Reverse Characteristics

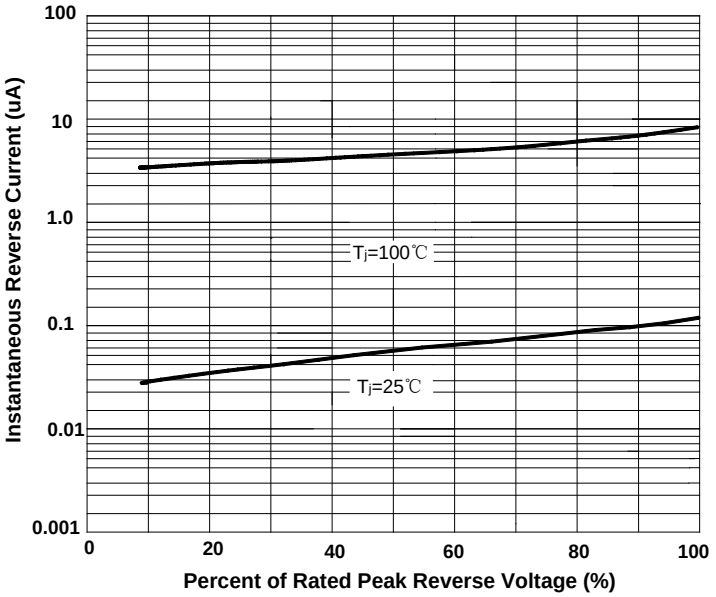
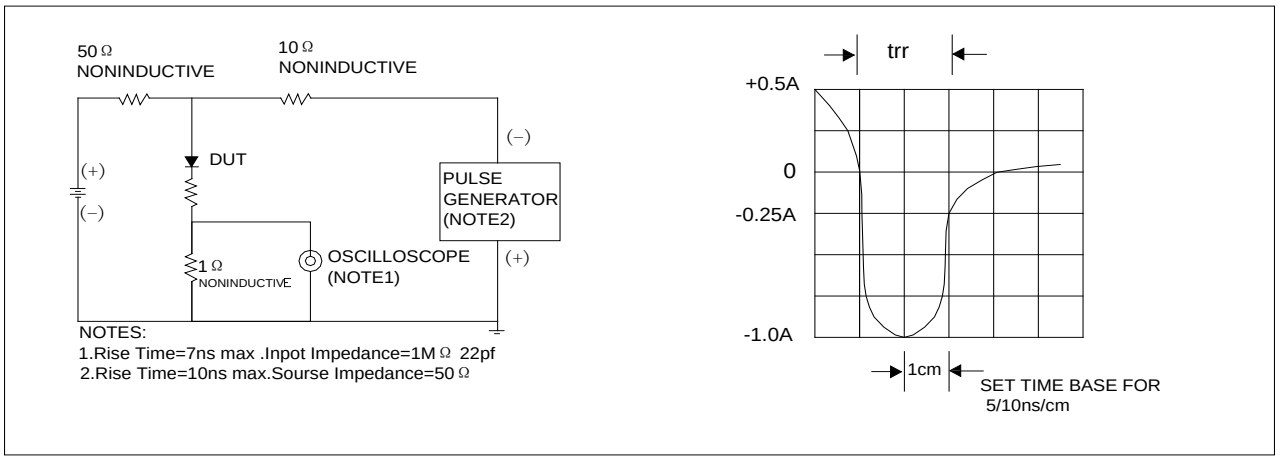
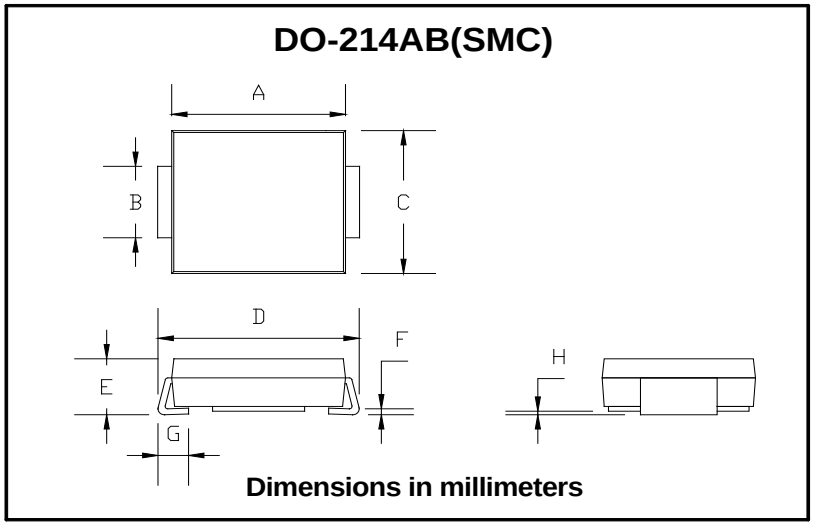


**FIG.5: Diagram of circuit and Testing wave form of reverse recovery time**

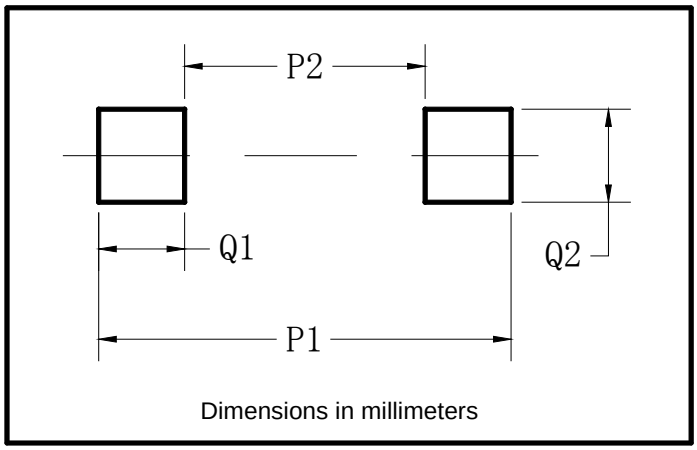



## ■ Outline Dimensions




| DO-214AB (SMC) | | |
|---|---|---|
| Dim | Min | Max |
| A | 6.60 | 7.11 |
| B | 2.85 | 3.27 |
| C | 5.59 | 6.22 |
| D | 7.75 | 8.13 |
| E | 1.99 | 2.61 |
| F | 0.15 | 0.31 |
| G | 0.76 | 1.52 |
| H | 0.10 | 0.20 |

## ■ Suggested pad layout




| Dim | Min |
|---|---|
| P1 | 9.9 |
| P2 | 3.84 |
| Q1 | 3.03 |
| Q2 | 3.82 |

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