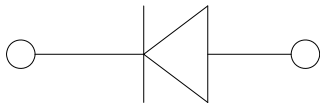
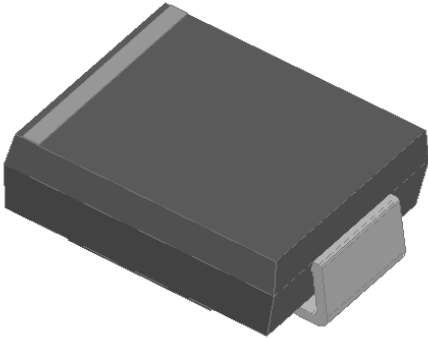


Super Fast Recovery Rectifier Diode



Features

- Ultrafast reverse recovery time
- Low leakage current
- Low switching losses, high efficiency
- High forward surge capability
- Solder dip 260°C max. 10 s, per JESD 22-B106

Typical Applications

For use in high frequency rectification and freewheeling application in switching mode converters and inverters for consumer, computer and telecommunication.

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 the cathode end

■Maximum Ratings (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | ES5A | ES5B | ES5C | ES5D | ES5F | ES5G | ES5H | ES5J |
|--|-----------|------|-----------|------|------|------|------|------|------|------|
| Device marking code | | | ES5A | ES5B | ES5C | ES5D | ES5F | ES5G | ES5H | ES5J |
| Repetitive Peak Reverse Voltage | V_{RRM} | V | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 |
| Average Rectified Output Current @60Hz sine wave, Resistance load, TL (FIG.1) | I_o | A | 5.0 | | | | | | | |
| Forward Surge Current (Non-repetitive) @60Hz Half-sine wave, 1 cycle, Ta=25°C | I_{FSM} | A | 150 | | | | | | | |
| Storage Temperature | T_{stg} | °C | -55 ~+150 | | | | | | | |
| Junction Temperature | T_j | °C | -55 ~+150 | | | | | | | |

■Electrical Characteristics (Ta=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | ES5A | ES5B | ES5C | ES5D | ES5F | ES5G | ES5H | ES5J |
|---|----------|---------|--|------|------|------|------|------|------|------|------|
| Maximum instantaneous forward voltage drop per diode | V_F | V | $I_{FM}=5.0A$ | 0.95 | | | | 1.3 | | 1.7 | |
| Maximum reverse recovery time | T_{RR} | ns | $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$ | 35 | | | | | | | |
| Maximum DC reverse current at rated DC blocking voltage per diode | I_R | μA | Ta=25°C | 5 | | | | | | | |
| | | | Ta=125°C | 100 | | | | | | | |
| Typical junction capacitance | C_j | pF | Measured at 1MHZ and Applied Reverse Voltage of 4.0 V.D.C. | 80 | | | | 35 | | | |



ES5A THRU ES5J

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | | SYMBOL | UNIT | ES5A | ES5B | ES5C | ES5D | ES5F | ES5G | ES5H | ES5J |
|----------------------------|---------------------|-------------------|------|-------------------|------|------|------|------|------|------|------|
| Typical Thermal Resistance | Junction to ambient | R _{θJ-A} | °C/W | 45 ⁽¹⁾ | | | | | | | |
| | Junction to lead | R _{θJ-L} | | 12 ⁽¹⁾ | | | | | | | |
| | Junction to case | R _{θJ-C} | | 10 ⁽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)

| PREFERRED P/N | PACKAGE CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|-------------------------|----------------------------|---------------|
| ES5A-ES5J | F1 | Approximate 0.254 | 3000 | 6000 | 42000 | 13" reel |

■ Characteristics(Typical)

FIG.1: I_o-T_L Curve

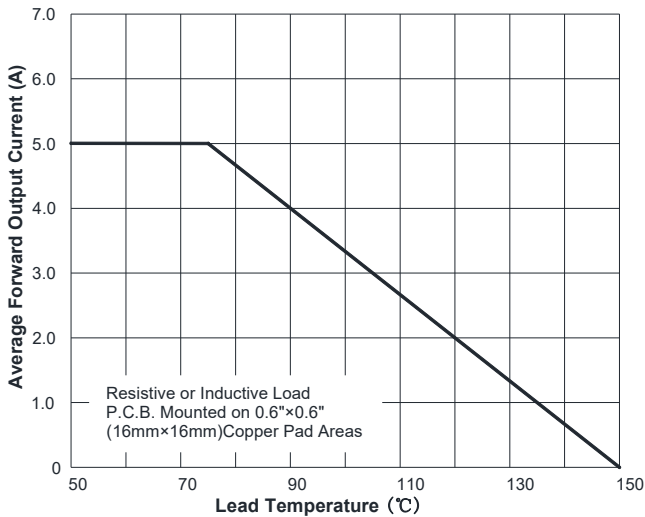


FIG.2: Forward Surge Current Capability

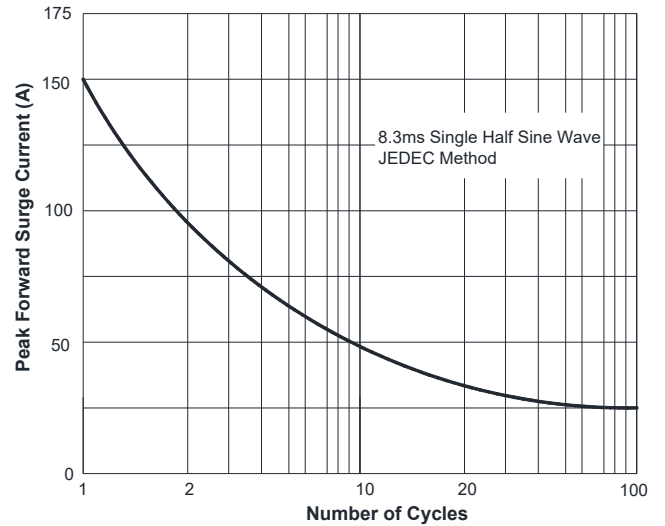


FIG.3: Forward Voltage

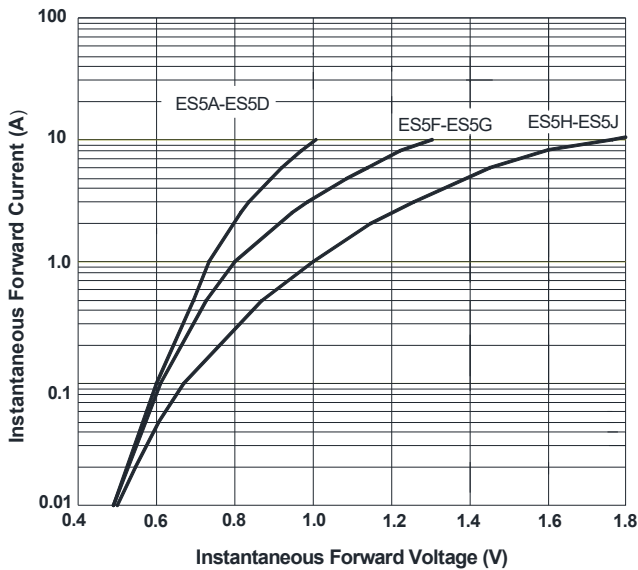


FIG.4: Typical Reverse Characteristics

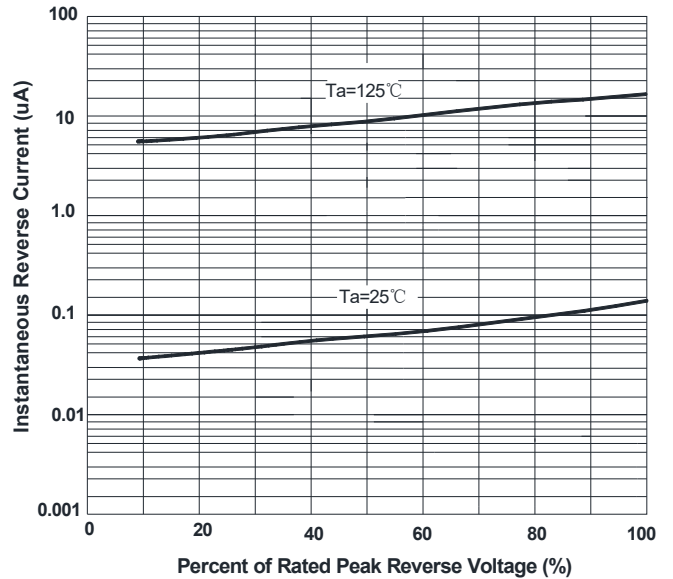
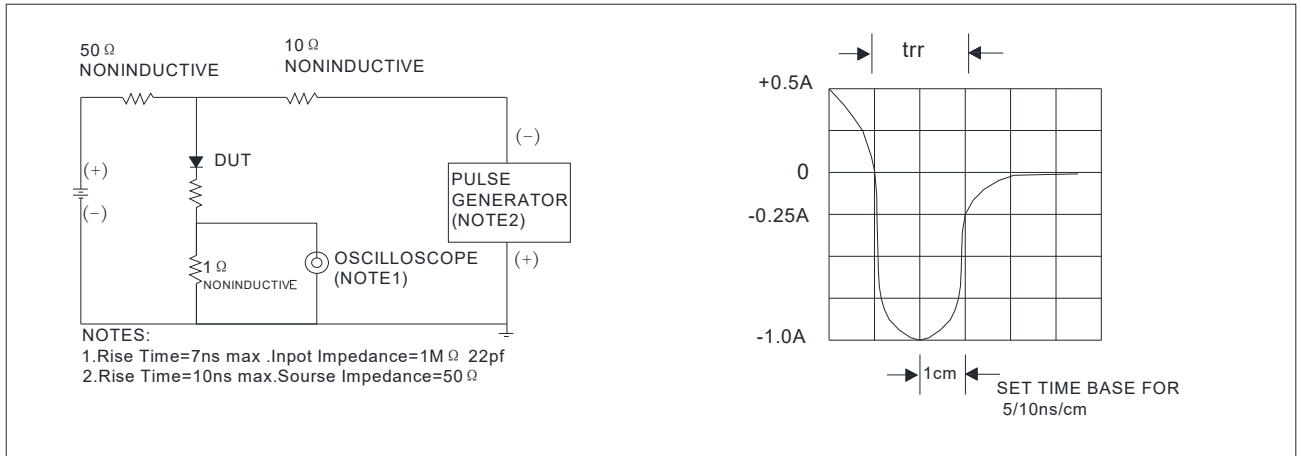
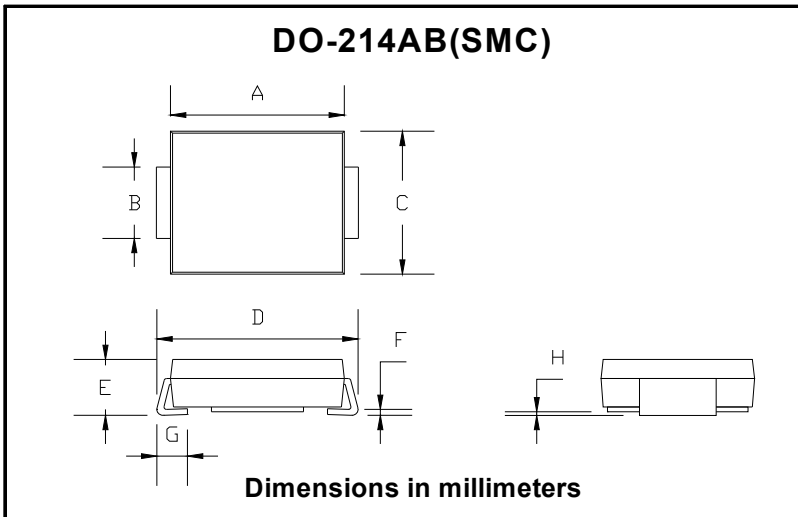


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

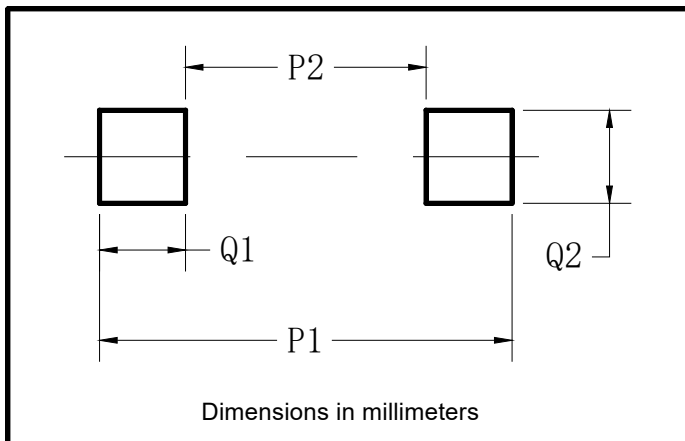


■ Outline Dimensions



| 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 | Typ |
|-----|------|
| P1 | 9.9 |
| P2 | 3.84 |
| Q1 | 3.03 |
| Q2 | 3.82 |



ES5A THRU ES5J

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