

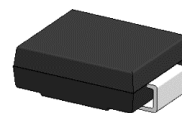
4A,200V Superfast Rectifier

Features

- Low leakage current
- Low forward voltage drop
- Glass passivated chip junction
- Moisture sensitivity: level 1, per J-STD-020
- Halogen-free according to IEC 61249-2-21 definition
- High temperature soldering guaranteed: 260°C/10 seconds



RoHS
COMPLIANT



SMC (DO-214AB)

Applications

For use in secondary rectification and freewheeling for superfast switching speeds of converters in consumer applications.

| Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted) | | | |
|--|--------------------|-------------|------|
| Parameter | Symbol | ES4HDC | Unit |
| Maximum repetitive peak reverse voltage | V _{RRM} | 200 | V |
| Maximum RMS voltage | V _{RMS} | 140 | V |
| Maximum DC blocking voltage | V _{DC} | 200 | V |
| Maximum average forward rectified current | I _{F(AV)} | 4 | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I _{FSM} | 100 | A |
| Operating junction temperature range | T _J | -55 to +175 | °C |
| Storage temperature range | T _{STG} | -55 to +175 | °C |

| Thermal-Mechanical Specifications (T _A =25°C unless otherwise noted) | | | |
|---|-------------------|-----|-------|
| Parameter | Symbol | Typ | Unit |
| Thermal Resistance, Junction to Ambient | R _{thJA} | 65 | °C /W |
| Thermal Resistance, Junction to Case | R _{thJC} | 10 | °C /W |
| Thermal Resistance, Junction to Lead | R _{thJL} | 15 | °C /W |

| Electrical Specifications($T_A=25^{\circ}\text{C}$ unless otherwise noted) | | | | |
|---|----------|--|--------|---------------|
| Parameter | Symbol | Test Conditions | ES4HDC | Unit |
| Maximum forward drop voltage | V_F | $I_F=4\text{A}$ | 0.875 | V |
| Maximum reverse leakage current @ V_R | I_R | $T_J=25^{\circ}\text{C}$ | 5 | μA |
| Typical junction capacitance | C_J | $V_R=4.0\text{V}$, $f=1\text{MHz}$ | 720 | pF |
| Maximum reverse recovery time | t_{rr} | $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{RR}=0.25\text{A}$ | 25 | ns |

Note:

1. Mounted on copper pad area of 5 x 5mm to each terminal.

Ratings and Characteristics Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

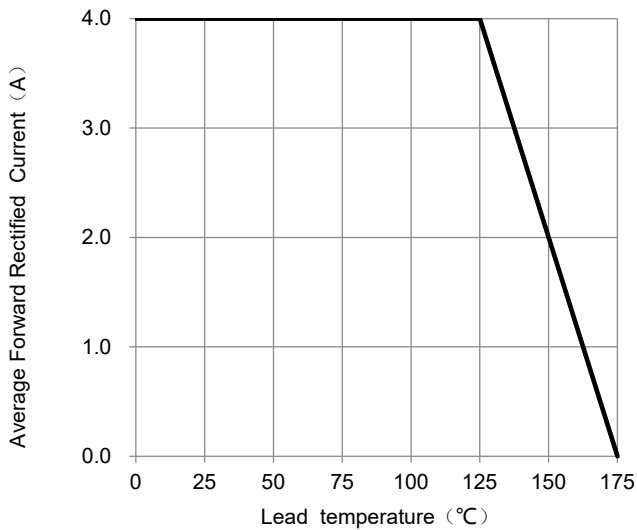


Fig.1 -Forward Current Derating Curve

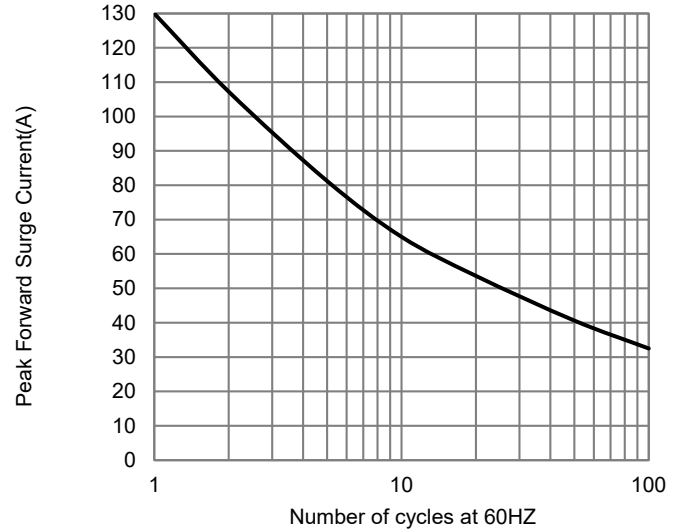


Fig.2 - Maximum Non-Repetitive Surge Current

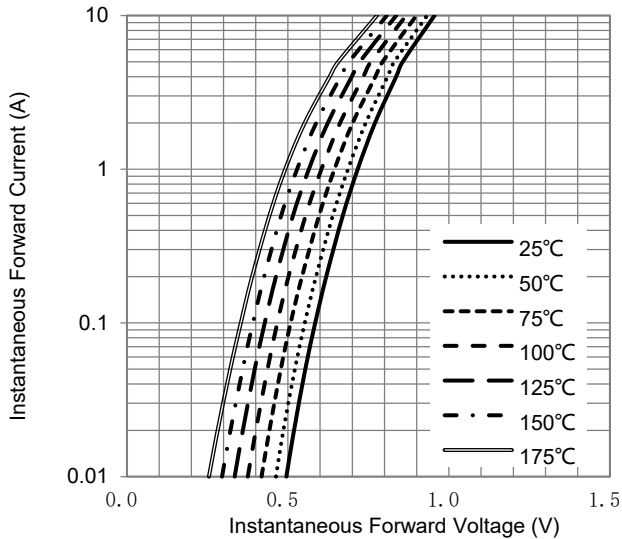


Fig.3 -Typical Forward Voltage Characteristics

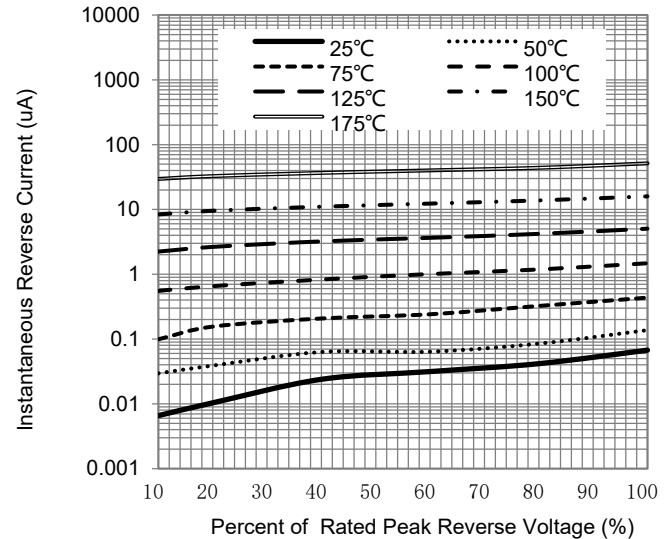


Fig.4 -Typical Reverse Current Characteristics

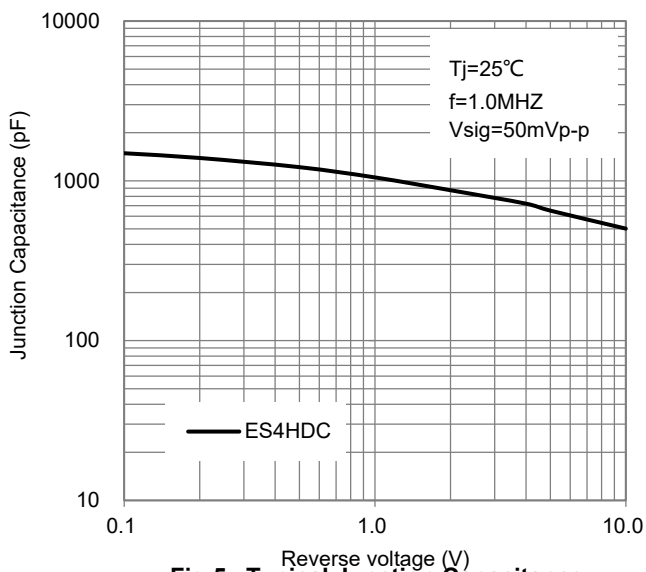
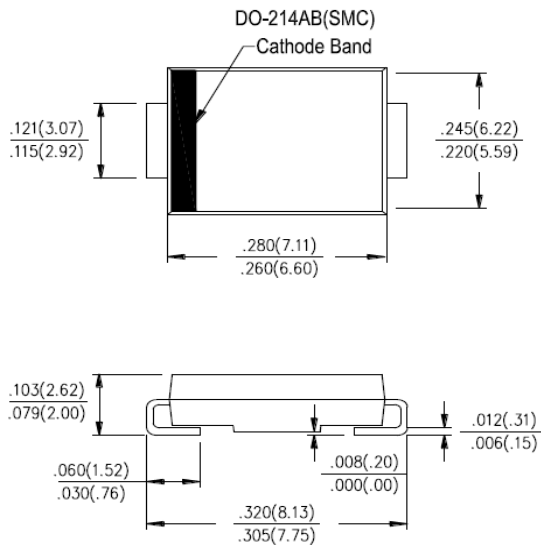


Fig.5 -Typical Junction Capacitance

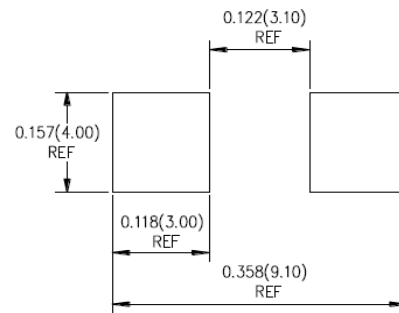
Package Outline Dimensions

in inches (millimeters)

SMC (DO-214AB)



Mounting Pad Layout



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