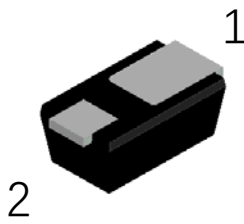
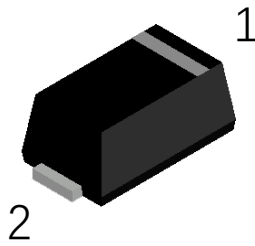


Surface Mount Schottky Rectifier



Features

- Low profile package
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- High forward surge capability
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Part no. with suffix "Q" means AEC-Q101 qualified

Typical Applications

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, automotive and polarity protection applications.

Mechanical Data

- **Package:** SOD-323HE
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Cathode line denotes the cathode end

■ Maximum Ratings ($T_j=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | FM14EQ |
|---|-------------|------------------|-----------|
| Device marking code | | | 14 |
| Repetitive peak reverse voltage | V_{RRM} | V | 40 |
| Maximum RMS voltage | V_{RMS} | V | 28 |
| Maximum DC blocking voltage | V_{DC} | V | 40 |
| Maximum average forward rectified current at T_L (Fig.1) | $I_{F(AV)}$ | A | 1.0 |
| Surge(non-repetitive)forward current @60Hz half-sine wave,1 cycle, $T_j=25^\circ\text{C}$ | I_{FSM} | A | 30 |
| Voltage rate of change (rated V_R) | dV/dt | V/ μs | 10000 |
| Storage temperature | T_{stg} | $^\circ\text{C}$ | -55 ~+150 |
| Junction temperature | T_j | $^\circ\text{C}$ | -55 ~+150 |

■ Electrical Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | TEST CONDITIONS | TYP | MAX | UNIT | |
|-------------------------------|--------|--------------------------------|-------------------------|-----|------|---------------|
| Instantaneous forward voltage | V_F | $I_F=1\text{A}$ | $T_j=25^\circ\text{C}$ | 0.5 | 0.55 | V |
| | | | $T_j=125^\circ\text{C}$ | - | 0.45 | |
| Reverse current | I_R | Rated V_R | $T_j=25^\circ\text{C}$ | 2 | 50 | μA |
| | | | $T_j=125^\circ\text{C}$ | - | 10 | mA |
| Typical junction capacitance | C_J | $V_R=4\text{V}, f=1\text{MHz}$ | 55 | - | pF | |



FM14EQ

■ Thermal Characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | FM14EQ |
|--------------------|-------------------|--------------------|--------------------|
| Thermal resistance | $R_{\theta J-A}$ | $^\circ\text{C/W}$ | 260 ⁽¹⁾ |
| | $R_{\theta J-L}$ | | 65 ⁽¹⁾ |
| | $R_{\theta J-SP}$ | | 10 ⁽²⁾ |

Note:

- (1) Thermal resistance between junction and ambient and between junction and lead mounted on P.C.B without copper pad areas.
- (2) Thermal resistance between junction and cathode tab solder point.

■ Characteristics(Typical)

Fig.1:Forward Current Derating Curve

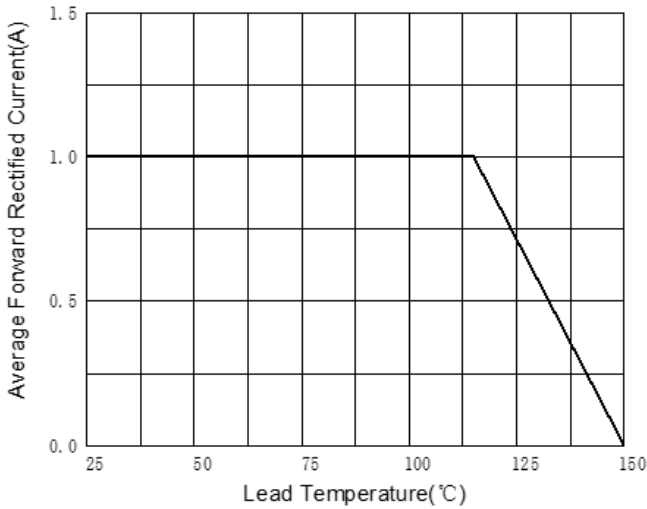


Fig.2:Maximum Non-Repetitive Peak Forward Surge Current

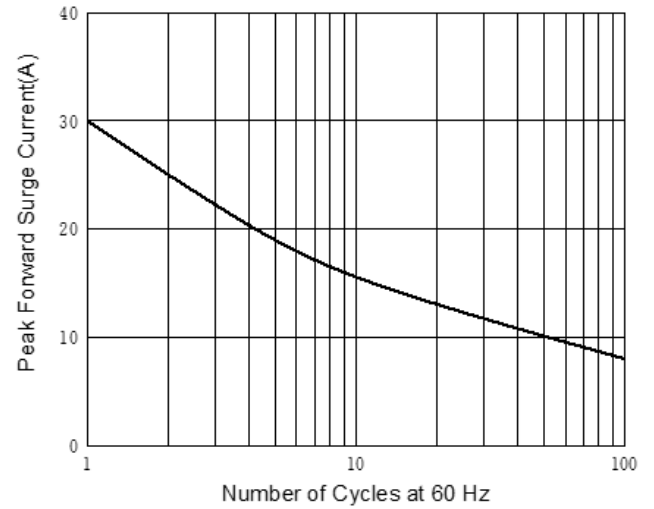


Fig.3:Typical Instantaneous Forward Characteristics

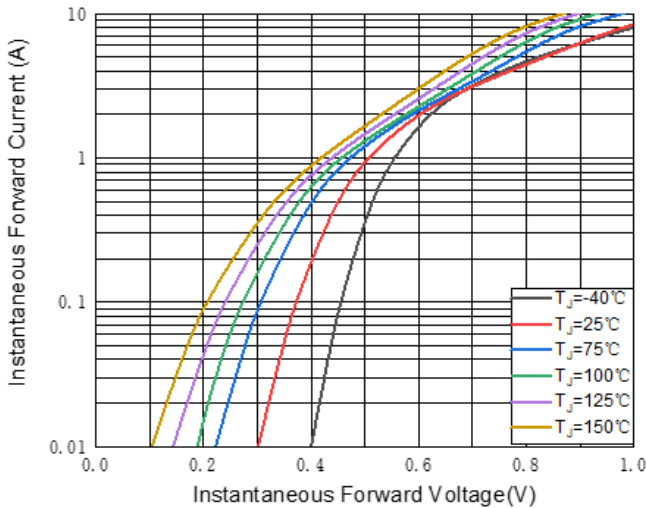
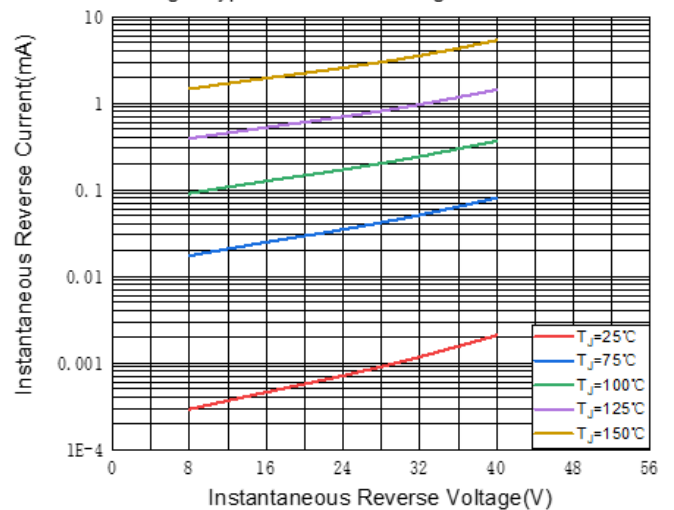


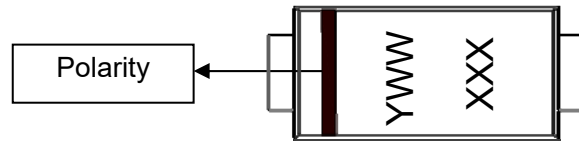
Fig.4:Typical Reverse Leakage Characteristics



■ Ordering Information (Example)

| PREFERRED P/N | PACKING CODE | UNIT WEIGHT(g) | MINIMUM PACKAGE(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---------------|--------------|-------------------|----------------------|----------------------------|---------------|
| FM14EQ | F1 | Approximate 0.008 | 3000 | 120000 | 7" reel |

■ Marking Information



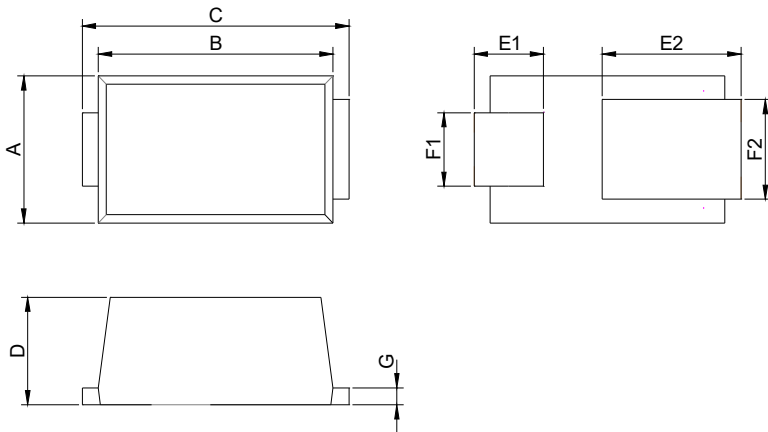
Note:

1. All marking is at middle of the product body
2. All marking is in laser printing
3. XXX is marking code, like FM14EQ marking code is 14
4. Body color: Black
5. YWW is date code, "Y" is year. "WW" is week.

For instance:

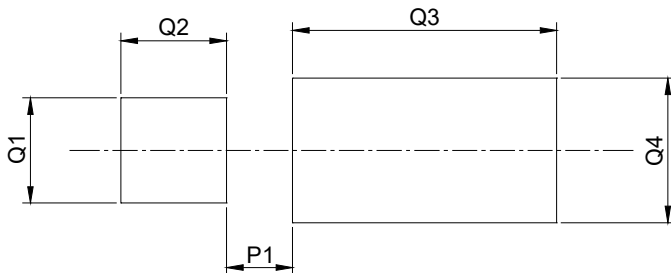
The 17th week of 2022, date code is 217
 The 17th week of 2023, date code is 317

■ Outline Dimensions



| SOD-323HE | | |
|-----------|-------------|------|
| Dim | Millimeters | |
| | Min | Max |
| A | 1.20 | 1.40 |
| B | 2.10 | 2.30 |
| C | 2.30 | 2.70 |
| D | 0.90 | 1.00 |
| E1 | 0.55 | 0.75 |
| E2 | 1.10 | 1.50 |
| F1 | 0.55 | 0.75 |
| F2 | 0.78 | 0.98 |
| G | 0.12 | 0.27 |

■ Suggested pad layout



| SOD-323HE | |
|-----------|-------------|
| Dim | Millimeters |
| P1 | 0.50 |
| Q1 | 0.80 |
| Q2 | 0.80 |
| Q3 | 2.00 |
| Q4 | 1.10 |



FM14EQ

Disclaimer

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