

**SURFACE MOUNT
SCHOTTKY BARRIER RECTIFIERS**

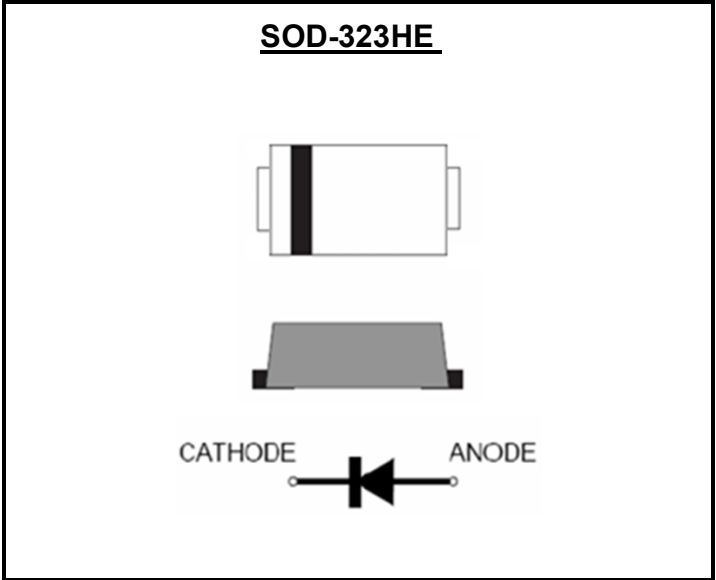
**REVERSE VOLTAGE – 20 to 200 Volts
FORWARD CURRENT –1.0 Ampere**

FEATURES

- Low power loss, high efficiency.
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications.
- Guarding for over voltage protection.
- High temperature soldering guaranteed; 260°C/10 seconds at terminals.

MECHANICAL DATA

- Case: SOD-323HE molded plastic over sky die.
- Case material: “Green” molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl) “Halogen-free”
- Polarity: Color band denotes cathode end.
- Mounting Position: Any.
- Weight : 0.0053 g (Approximate)



MAXIMUM RATINGS @ T_A = 25°C unless otherwise specified

| PARAMETER | SYMBOL | FB 1020 HC | FB 1030 HC | FB 1040 HC | FB 1050 HC | FB 1060 HC | FB 1080 HC | FB 1100 HC | FB 1150 HC | FB 1200 HC | UNIT |
|--|--------------------|-------------|------------|------------|------------|-------------|------------|------------|------------|------------|------|
| Device marking code | Note | 12 | 13 | 14 | 15 | 16 | 18 | 110 | 115 | 120 | -- |
| Maximum repetitive peak reverse voltage | V _{RRM} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum DC blocking voltage | V _{DC} | 20 | 30 | 40 | 50 | 60 | 80 | 100 | 150 | 200 | V |
| Maximum average forward rectified current @ T _C = 75°C | I _{F(AV)} | 1.0 | | | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I _{FSM} | 22 | | | | | | | | | A |
| Operating junction temperature range | T _J | -55 to +125 | | | | -55 to +150 | | | | | °C |
| Storage temperature range | T _{STG} | -55 to +150 | | | | | | | | | °C |

STATIC ELECTRICAL CHARACTERISTICS @ T_A = 25°C unless otherwise specified

| PARAMETER | TEST CONDITION | SYMBOL | FB 1020 HC | FB 1030 HC | FB 1040 HC | FB 1050 HC | FB 1060 HC | FB 1080 HC | FB 1100 HC | FB 1150 HC | FB 1200 HC | UNIT |
|--|--|----------------|--------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
| Forward voltage | I _F = 0.7A I _F = 1.0A T _J = 25°C | V _F | 0.48 0.55 | | 0.68 | | 0.85 | | 0.9 | | 0.92 | V |
| Leakage current | V _R at rated T _J = 25°C T _J = 125°C | I _R | 0.25 10 | 0.13 10 | 0.03 10 | | | | | | mA | |
| Typical junction capacitance at 4.0V, 1MHz | | C _J | 160 | | | | | | | | | pF |

THERMAL CHARACTERISTICS @ T_A = 25°C unless otherwise specified

| PARAMETER | SYMBOL | TYP. | UNIT |
|-----------------------------|--|-----------|------|
| Thermal resistance (Note 1) | R _{thJA} R _{thJL} | 220 50 | °C/W |

REV.1, Dec.-2018, KSHR03

Note :
(1) 8.0mm² (0.013mm thick) land areas

RATING AND CHARACTERISTIC CURVES FB1020HC thru FB1200HC



FIG. 1 –Forward Current Derating Curve

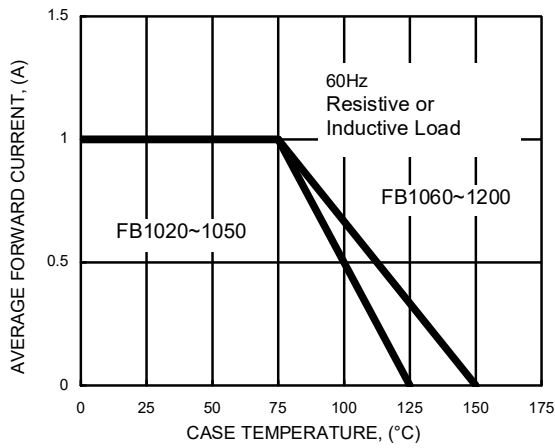


FIG. 2 –Maximum Non-repetitive Peak Forward Surge Current

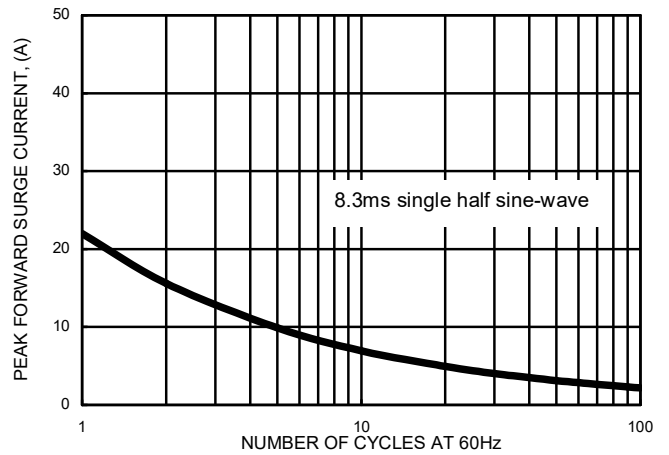


FIG. 3 –Typical Instantaneous Forward Characteristics

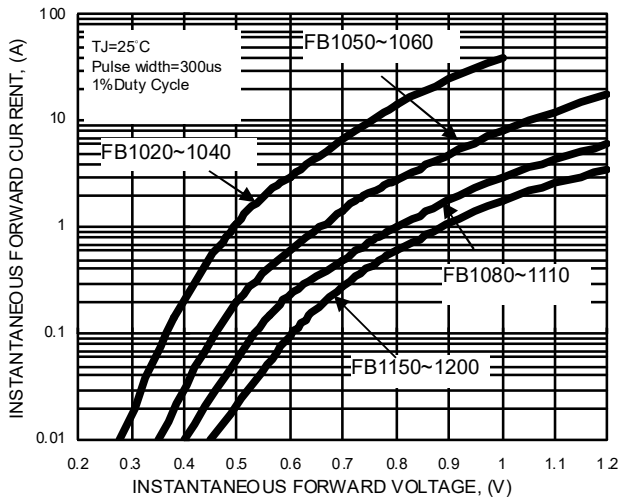


FIG. 4 –Typical Reverse Characteristics

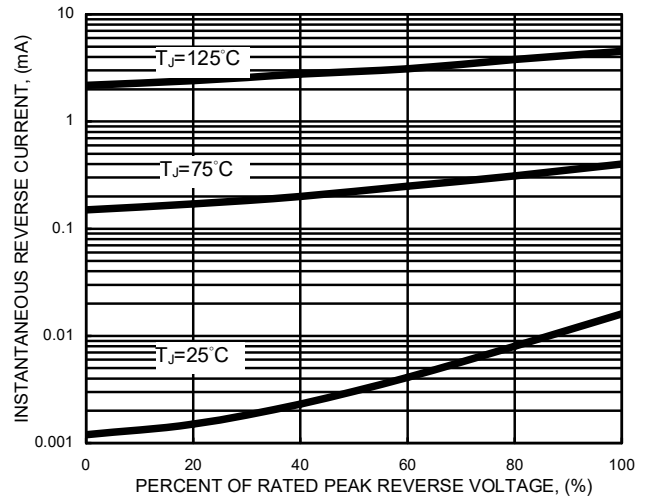


FIG. 5 –Typical transient thermal impedance

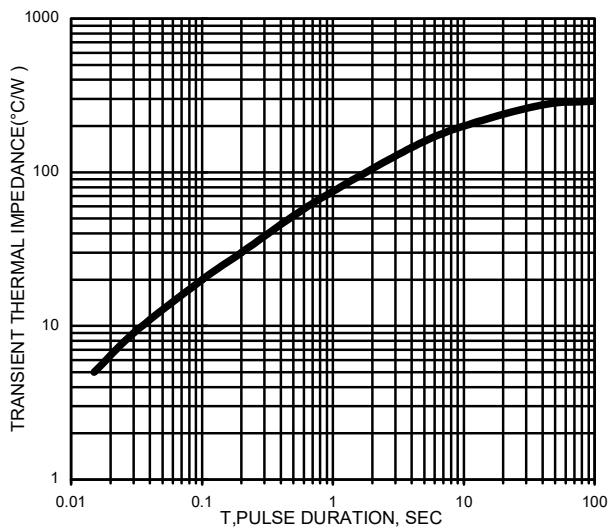
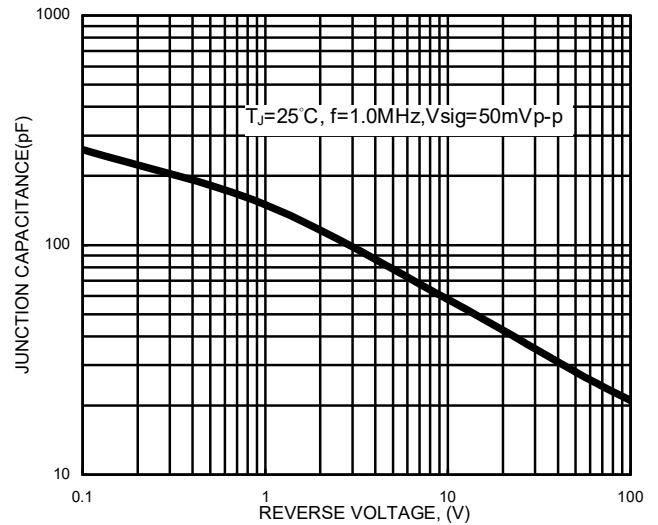


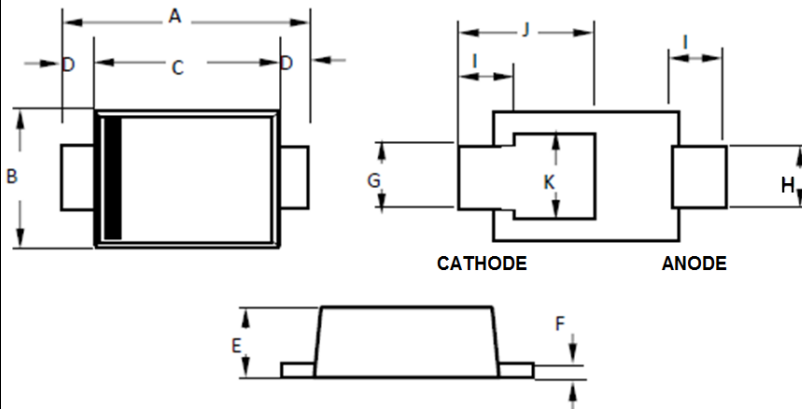
FIG. 6 –Typical Junction Capacitance



MECHANICAL INFORMATION
FB1020HC thru FB1200HC

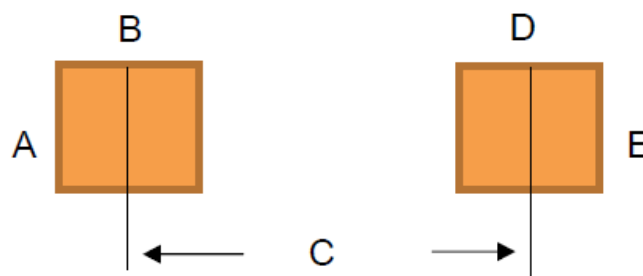
Package Dimensions :

SOD-323HE



| Dim. | INCHES | | MILLIMETERS | |
|------|------------|-------|-------------|------|
| | Min. | Max. | Min. | Max. |
| A | 0.091 | 0.106 | 2.30 | 2.70 |
| B | 0.047 | 0.053 | 1.20 | 1.35 |
| C | 0.069 | 0.077 | 1.75 | 1.95 |
| D | 0.012 Typ. | | 0.30 Typ. | |
| E | 0.022 | 0.030 | 0.55 | 0.75 |
| F | 0.004 | 0.008 | 0.10 | 0.20 |
| G | 0.020 | 0.022 | 0.50 | 0.55 |
| H | 0.020 | 0.022 | 0.50 | 0.55 |
| I | 0.016 | 0.024 | 0.40 | 0.60 |
| J | 0.045 | 0.061 | 1.15 | 1.55 |
| K | 0.032 Typ. | | 0.80 Typ. | |

Soldering Pad Layout :



Dimensions in inches and (millimeters)

| PACKAGE | A | B | C | D | E |
|-----------|------------|------------|------------|------------|------------|
| SOD-323HE | 0.043(1.1) | 0.079(2.0) | 0.078(1.9) | 0.031(0.8) | 0.039(1.0) |

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