

B220A-B240A(LS)

SURFACE MOUNT SCHOTTKY BARRIER RECTIFIERS

REVERSE VOLTAGE – 20 to 40 Volts
FORWARD CURRENT – 2.0 Amperes

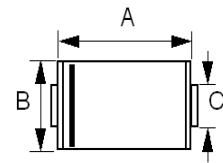
FEATURES

- For surface mounted application
- Metal-semiconductor junction with guardring
- Epitaxial construction
- Very low forward voltage drop
- High current capability
- Qualified according to AEC-Q101 Rec_C
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection application
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

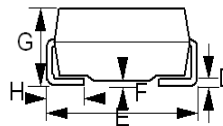
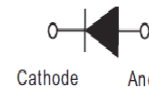
MECHANICAL DATA

- Case: Molded plastic
- Case Material: Molding compound, UL Flammability classification 94V-0, "Halogen-free".
- Polarity: Indicated by cathode band.
- Weight: 0.064 grams (Approximate)

SMA



COLOR BAND DENOTES CATHODE



| SMA | | |
|------|------|------|
| DIM. | MIN. | MAX. |
| A | 4.06 | 4.57 |
| B | 2.29 | 2.92 |
| C | 1.27 | 1.63 |
| D | 0.15 | 0.31 |
| E | 4.83 | 5.59 |
| F | 0.05 | 0.20 |
| G | 2.01 | 2.40 |
| H | 0.76 | 1.52 |

All Dimensions in millimeter

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| CHARACTERISTICS | SYMBOL | B220A | B230A | B240A | UNIT |
|--|---|----------------|-------|-------|--------------------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 20 | 30 | 40 | V |
| Maximum RMS Voltage | V_{RMS} | 14 | 21 | 28 | V |
| Maximum DC Blocking Voltage | VDC | 20 | 30 | 40 | V |
| Maximum Average Forward Rectified Current @ $T_L=100^\circ\text{C}$ | I_{AV} | 2.0 | | | A |
| Peak Forward Surge 8.3ms single half sine-wave super imposed on rated load (JEDEC METHOD) | I_{FSM} | 50 | | | A |
| Maximum Forward Voltage at 2.0A DC | V_F | 0.5 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_j=25^\circ\text{C}$ @ $T_j=100^\circ\text{C}$ | I_R | 0.15 20 | | | mA |
| Typical Junction Capacitance (Note 4) | C_T | 200 | | | pF |
| Typical Thermal Resistance (Note 5) | $R_{\theta JL}$ $R_{\theta JC}$ $R_{\theta JA}$ | 15 12 65 | | | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range | T_j | -55 to +125 | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{STG} | -55 to +150 | | | $^\circ\text{C}$ |

Notes :

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
5. Unit mounted on 0.75t glass-epoxy substrate with 5x7 mm copper pad.

REV.-13, Oct-2021, KSHA04

RATING AND CHARACTERISTIC CURVES
B220A-B240A(LS)

FIG.1 - FORWARD CURRENT DERATING CURVE

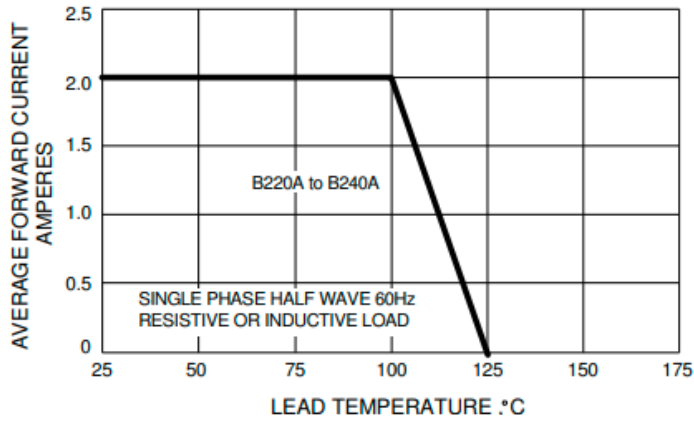


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

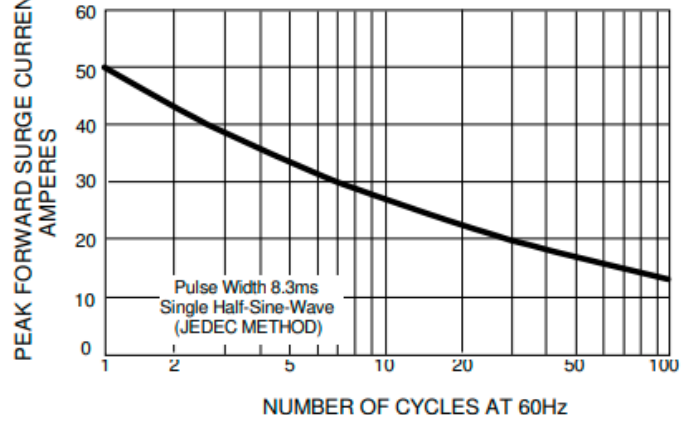


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

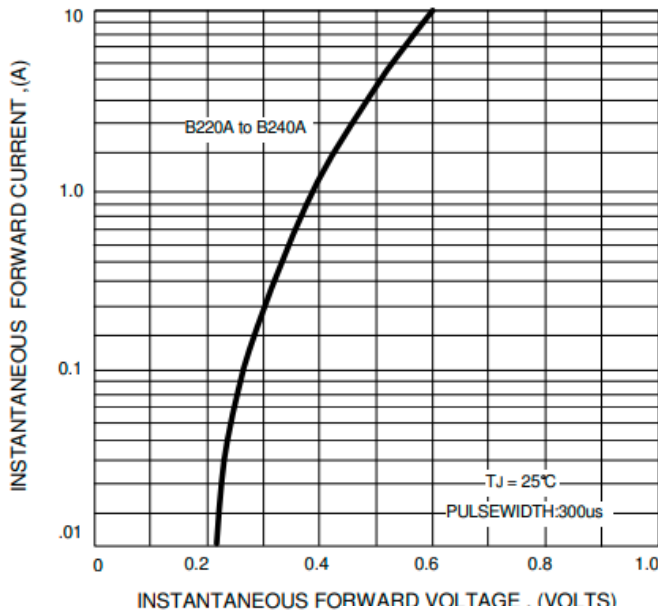


FIG.4 - TYPICAL JUNCTION CAPACITANCE

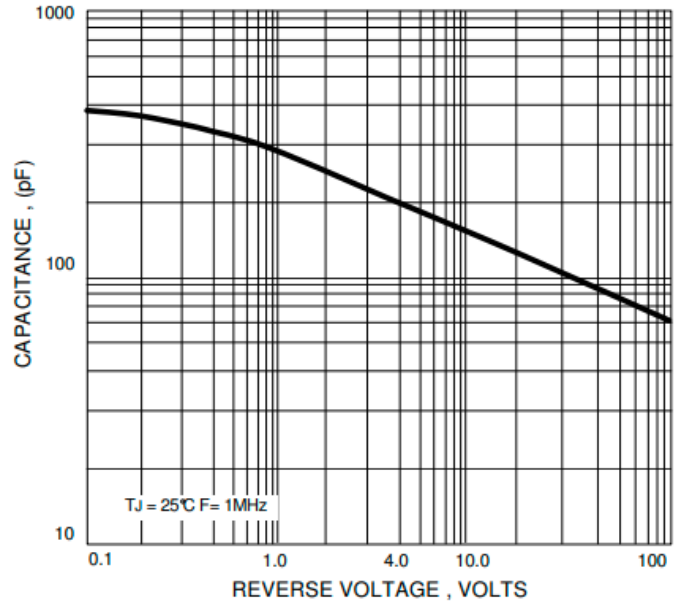
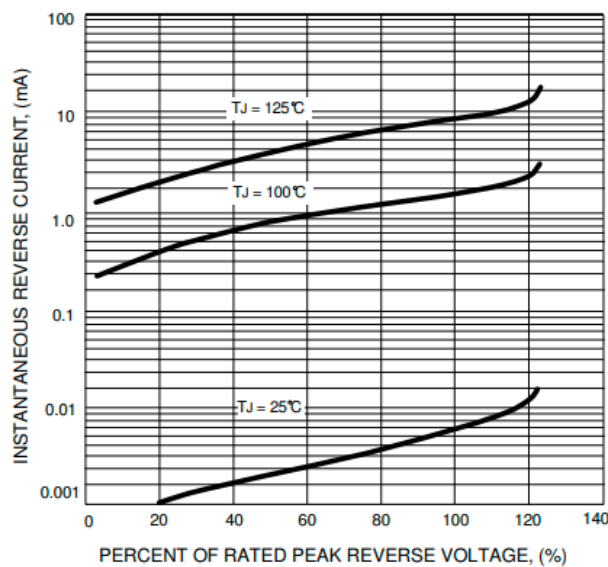


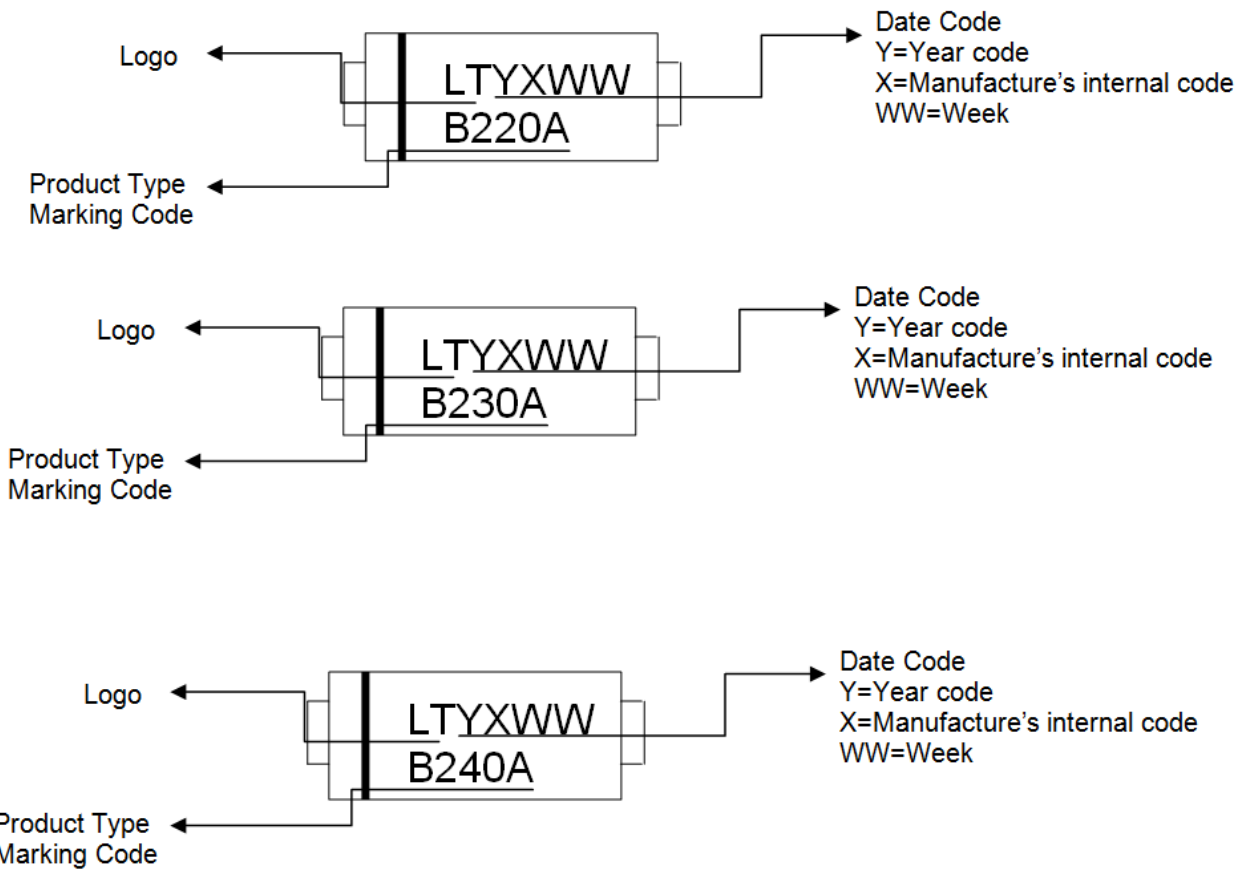
FIG.5 - TYPICAL REVERSE CHARACTERISTICS



Ordering Information

| Part Number | Package | Packing | |
|-------------|---------|---------|-------------|
| | | Qty. | Carrier |
| B220A | SMA | 5000 | Tape & Reel |
| B230A | SMA | 5000 | Tape & Reel |
| B240A-LS | SMA | 5000 | Tape & Reel |

Marking Information



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