



T10E120B



Excellent Schottky Barrier Rectifiers



DO-214AA(SMB)

Features

- High current capability
- High surge current capability
- Low reverse current
- Component in accordance to RoHS 2002/95/EC
- AEC-Q101 qualified

Ordering Information

| Part No. | Package | Packing |
|----------|---------|--------------------|
| T10E120B | SMB | 3000 / Tape & Reel |

Device P/N

| Part Number | Remark |
|-------------|--------------|
| T10E120B | General |
| T10E120B-H | Halogen Free |
| T10E120B-Q | Automotive |

Primary Characteristics

| | | |
|-------------------|------|----|
| I_F | 10 | A |
| V_{RRM} | 120 | V |
| I_{FSM} | 150 | A |
| V_F | 0.79 | V |
| $T_J \text{ max}$ | 150 | °C |

Mechanical Data

- Cases: DO-214AA(SMB)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead free Plating (Tin Finish)
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.095 grams (approximate)

Maximum Ratings (TA=25°C unless otherwise noted)

| PARAMETER | SYMBOL | T10E120B | UNIT |
|--|-----------------|------------------------|------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 100 | V |
| Maximum RMS voltage | V_{RMS} | 70 | V |
| Maximum DC blocking voltage | V_{DC} | 100 | V |
| Maximum average forward rectified current | I_F | 10 | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 150 | A |
| Maximum Instantaneous Forward Voltage IF=2A @ 25°C IF=10A @ 25°C | V_F | 0.60 Typ. 0.79 Max. | V |
| Maximum DC Reverse Current @ TA=25°C at Rated DC Blocking Voltage @ TA=100°C | I_R | 0.2 20 | mA |
| Typical Junction Capacitance(NOTE1) | C_j | 685 | pF |
| Typical Thermal Resistance | $R_{\theta JC}$ | 40 | °C/W |
| Operating Temperature Range | T_J | -55 to +150 | °C |
| Storage Temperature Range | T_{STG} | -55 to +150 | °C |
| Marking Code | | T10E120B · 10E120B | |

NOTES:

1.Measured at 1.0MHZ and applied reverse voltage of 4.0V DC



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Rating and Characteristics Curves

FIG. 1-Typical Forward Current Derating Curve

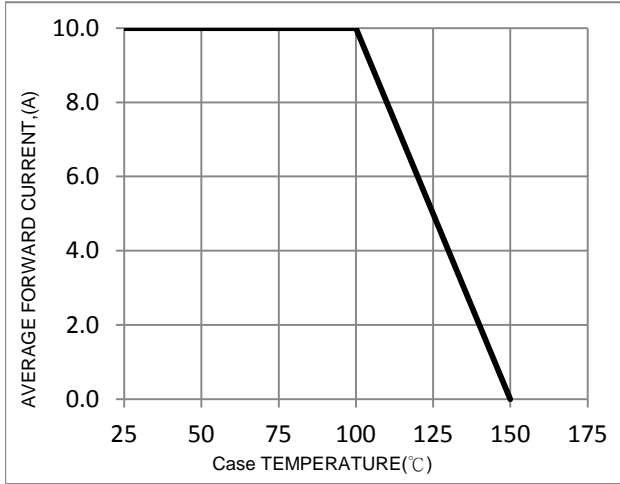


FIG. 2-Typical Forward Characteristics

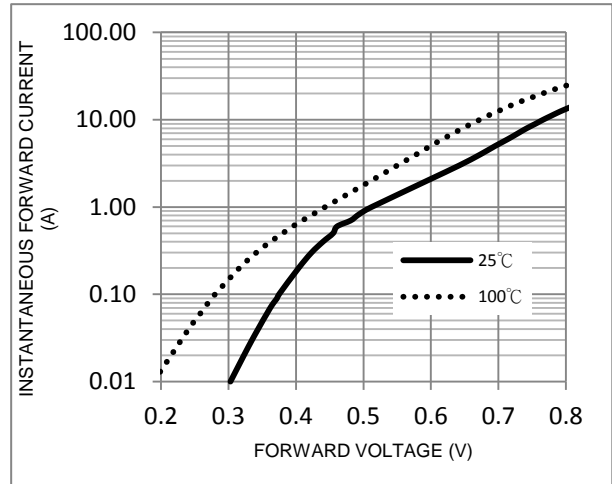


FIG. 3-Maximum Non-Repetitive Forward Surge Current

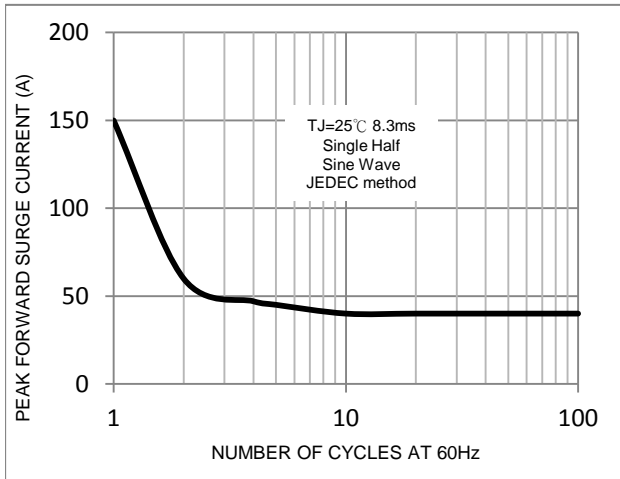


FIG. 4-Typical Reverse Characteristics

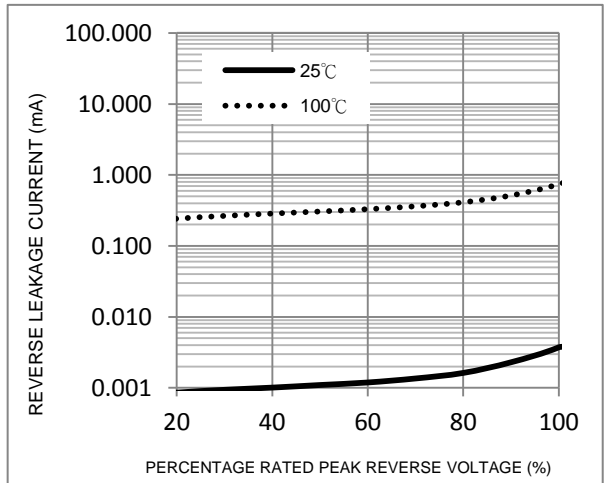
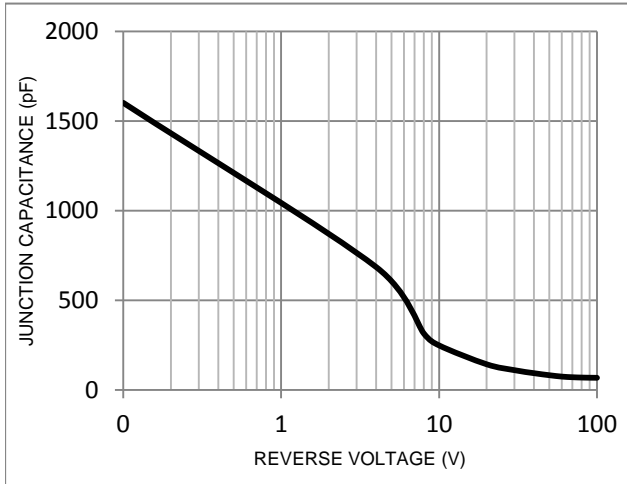
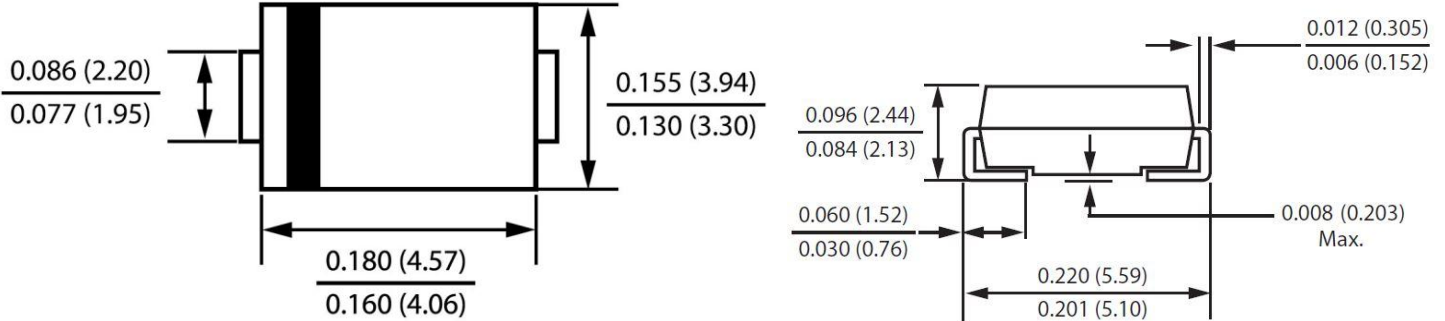


FIG. 5-Typical Junction Capacitance



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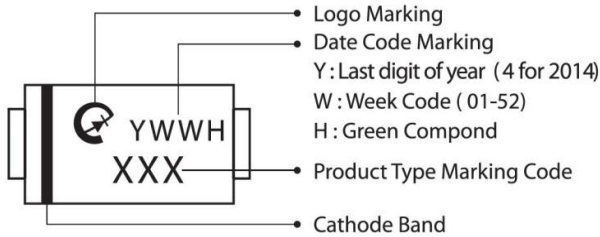
Package Outline Dimensions



DO-214AA(SMB)

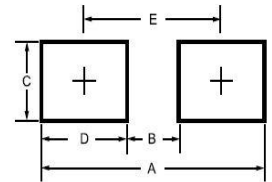
Dimensions in inches and (millimeters)

Marking Information



Suggested Pad Layout

| Outline Dimension | SMB (DO-214AA) |
|-------------------|----------------|
| A | 6.80 |
| B | 1.80 |
| C | 2.30 |
| D | 2.50 |
| E | 4.30 |



Tape & Reel Specification

| ITEM | SYMBOL | SMB(mm) DO-214AA |
|------------------------|--------|---------------------|
| Carrier width | A | 4.0(max) |
| Carrier length | B | 5.9(max) |
| Carrier depth | C | 3.0(max) |
| Sprocket hole | d | 1.50±0.1 |
| Reel outside diameter | D | 330±2.0 |
| Feed hole diameter | D0 | 13.5±1 |
| Reel inner diameter | D1 | 50 (min.) |
| Sprocket hole position | E | 1.75±0.1 |
| Punch hole position | F | 5.5±0.05 |
| Sprocket hole pitch | P | 8.0±0.1 |
| Sprocket hole pitch | Po | 4.0±0.1 |
| Embossment center | P1 | 2.0±0.05 |
| Overall tape thickness | T | 0.6 (max) |
| Tape width | W | 12.0±0.3 |
| Reel width | W2 | 18.4 (max) |
| Reel width | W1 | 14.4 (max) |

