

Product Summary

- $V_R = 40V$
- $I_C = 2A$

Description and Applications

A surface mount Schottky Barrier Diode featuring low forward voltage drop suitable for high frequency rectification and reverse voltage protection.

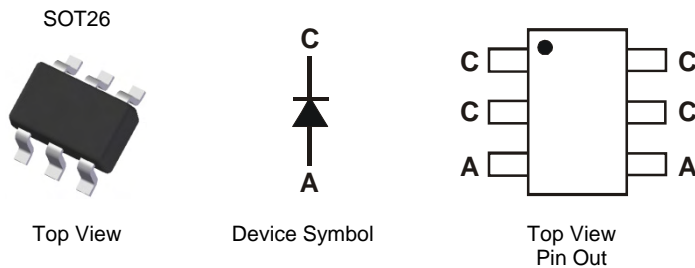
- Mobile Telecomms
- DC – DC Converters
- High Frequency Rectification

Features and Benefits

- High current capability
- Low Forward Voltage
- Fast Recovery Time
- Small Package Size
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper leadframe (Lead Free Plating) Solderable per MIL-STD-202, Method 208
- Weight: 0.016 grams (approximate)

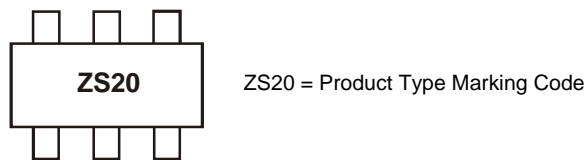


Ordering Information (Note 1)

| Device | Packaging | Shipping |
|------------|-----------|------------------|
| ZHCS2000TA | SOT26 | 3000/Tape & Reel |

Notes: 1. For Packaging Details, go to our website at <http://www.diodes.com>.

Marking Information



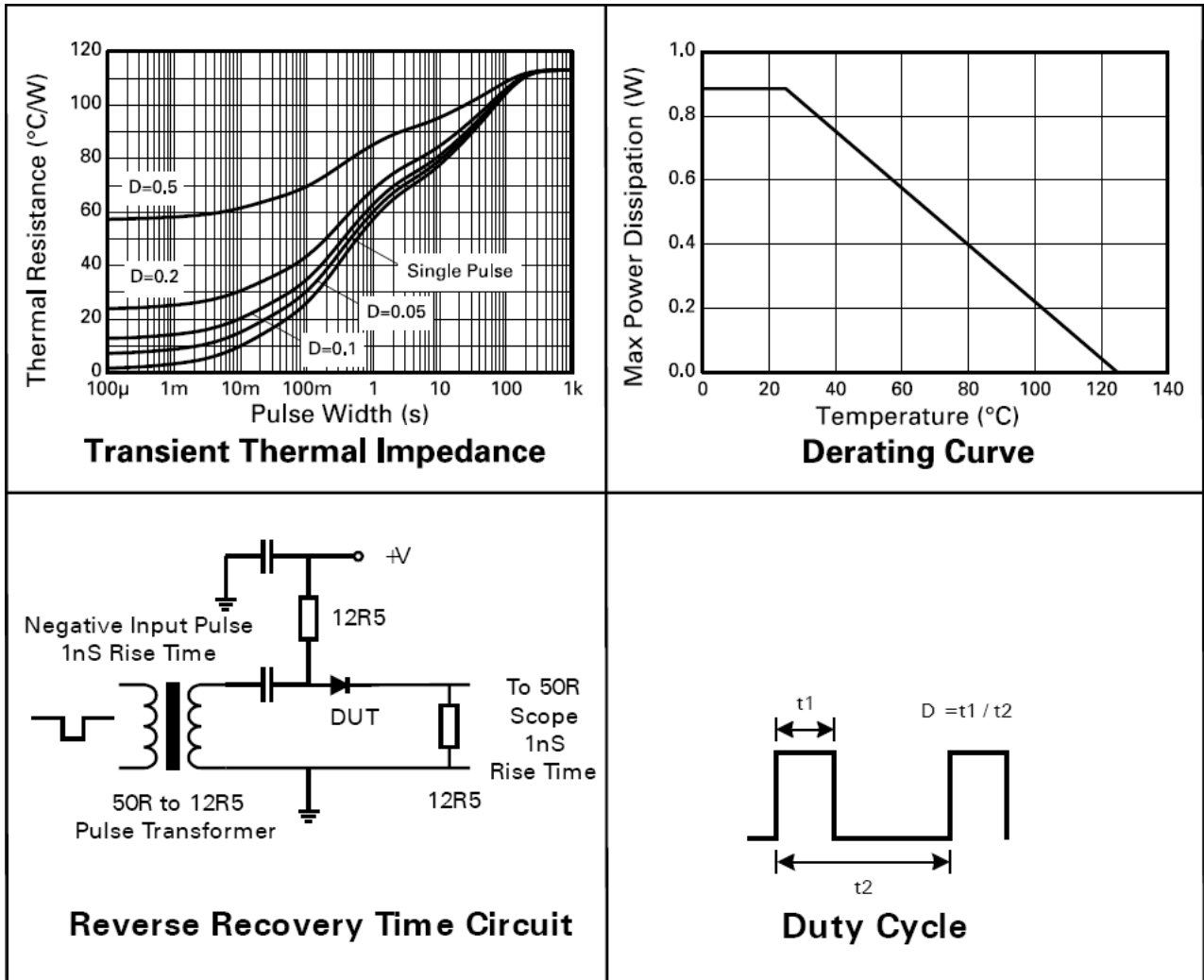
Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Units |
|--|------------------|-----------|-------|
| Continuous Reverse Voltage | V _R | 40 | V |
| Continuous Forward Current | I _F | 2 | A |
| Average Peak Forward Current; D.C. = 50% | I _{FAV} | 4 | A |
| Non Repetitive Forward Current | | t ≤ 100μs | A |
| | | t ≤ 10ms | A |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|--|------------------|-------------|------|
| Power Dissipation, T _A = 25°C | P _D | 1.1 | W |
| Thermal Resistance, Junction to Ambient | R _{θJA} | (Note 2) | 113 |
| | | (Note 3) | 73 |
| Junction Temperature | T _J | 125 | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | °C |

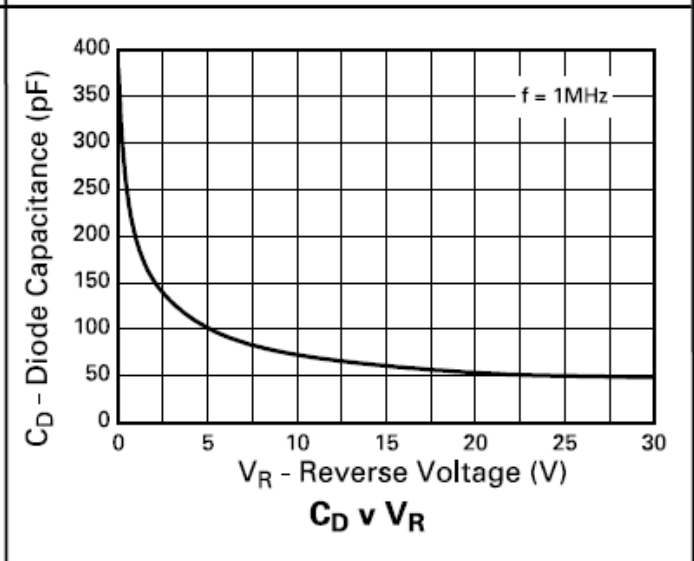
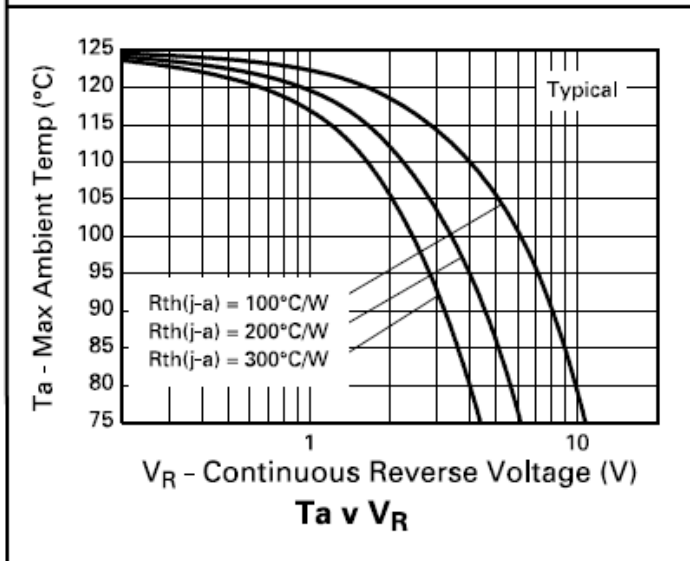
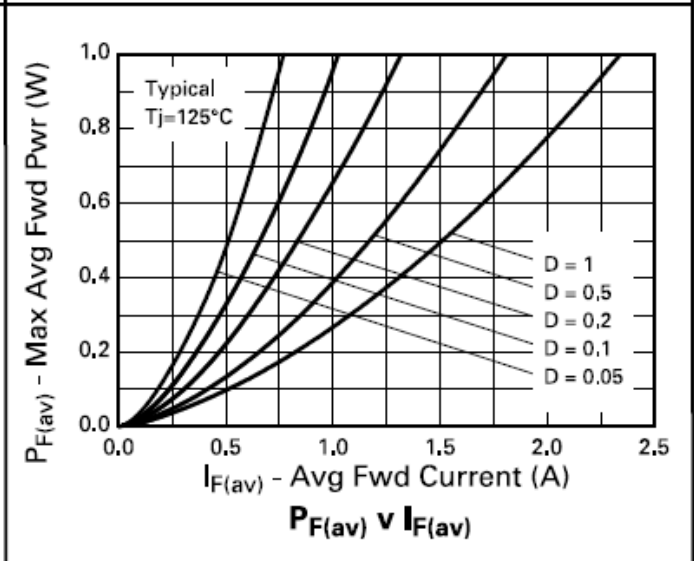
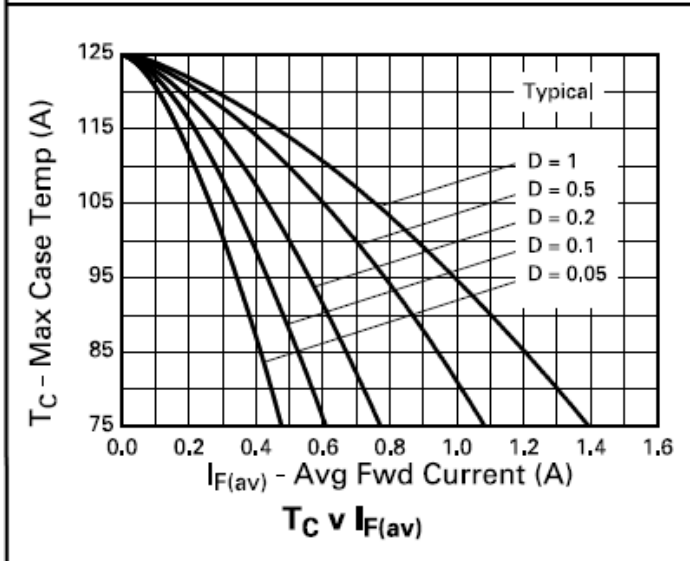
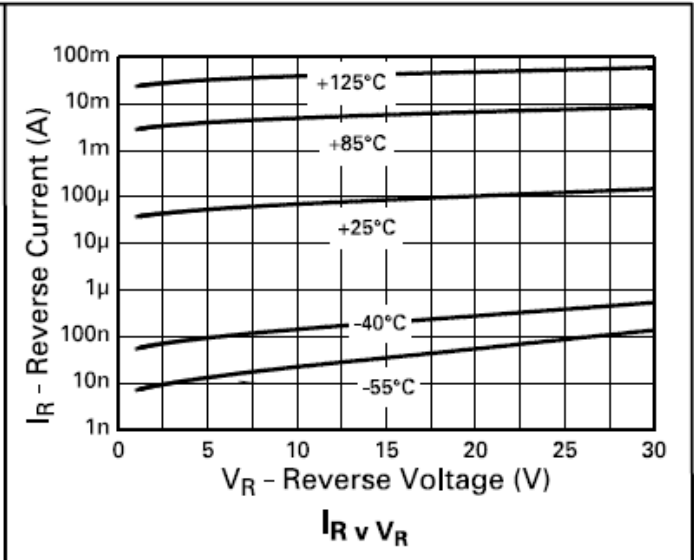
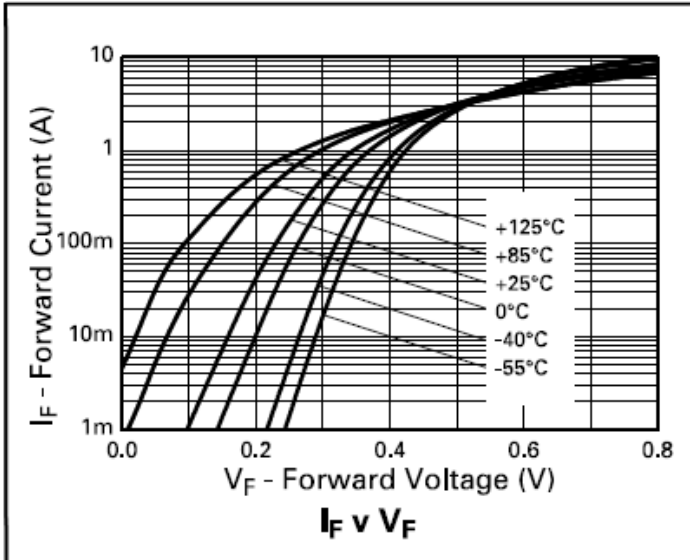
Notes: 2. For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of single sided 1oz copper, in still air conditions.
 3. For a device surface mounted on FR4 PCB measured at t ≤ 5 secs.



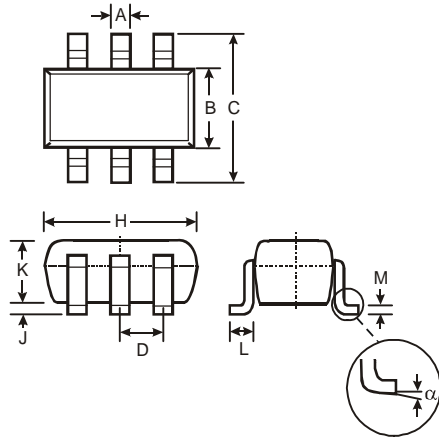
Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|---------------------------|-------------|-----|-----|-----|---------------|--|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | 40 | - | - | V | $I_R = 1\text{mA}$ |
| Forward Voltage (Note 4) | V_F | - | 290 | 325 | mV | $I_F = 500\text{mA}$ |
| | | - | 340 | 385 | | $I_F = 1000\text{mA}$ |
| | | - | 380 | 445 | | $I_F = 1500\text{mA}$ |
| | | - | 420 | 500 | | $I_F = 2000\text{mA}$ |
| | | - | 485 | 615 | | $I_F = 3000\text{mA}$ |
| | | - | 420 | - | | $I_F = 2000\text{mA}, T_A = 100^\circ\text{C}$ |
| Reverse Current | I_R | - | 160 | 300 | μA | $V_R = 30\text{V}$ |
| Diode Capacitance | C_D | - | 50 | - | pF | $f = 1\text{MHz}, V_R = 25\text{V}$ |
| Reverse Recovery Time | t_{rr} | - | 5.5 | - | ns | Switched from $I_F = 500\text{mA}$ to $I_R = 500\text{mA}$ Measured @ $I_R = 50\text{mA}$ |

Notes: 4. Measured under pulsed conditions. Pulse width = $300\mu\text{s}$. Duty cycle $\leq 2\%$.

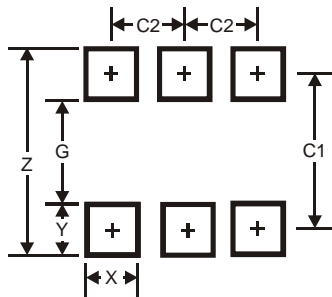


Package Outline Dimensions



| SOT26 | | | |
|----------------------|-------|------|------|
| Dim | Min | Max | Typ |
| A | 0.35 | 0.50 | 0.38 |
| B | 1.50 | 1.70 | 1.60 |
| C | 2.70 | 3.00 | 2.80 |
| D | — | — | 0.95 |
| H | 2.90 | 3.10 | 3.00 |
| J | 0.013 | 0.10 | 0.05 |
| K | 1.00 | 1.30 | 1.10 |
| L | 0.35 | 0.55 | 0.40 |
| M | 0.10 | 0.20 | 0.15 |
| α | 0° | 8° | — |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 3.20 |
| G | 1.60 |
| X | 0.55 |
| Y | 0.80 |
| C1 | 2.40 |
| C2 | 0.95 |

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