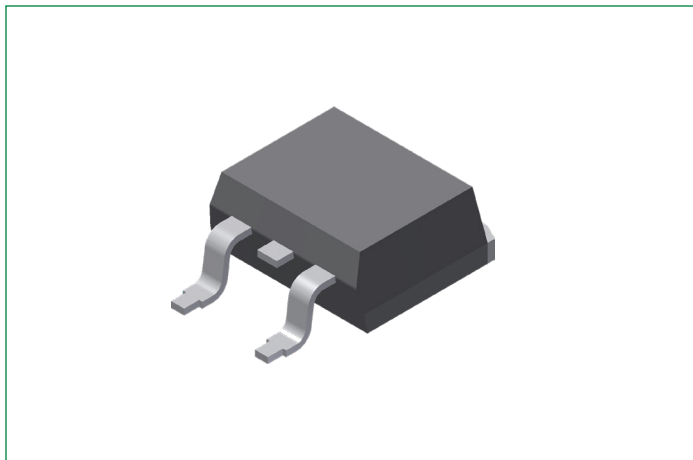


DSA30C200PC

200 V, 30 A Schottky Rectifier Diode

RoHS

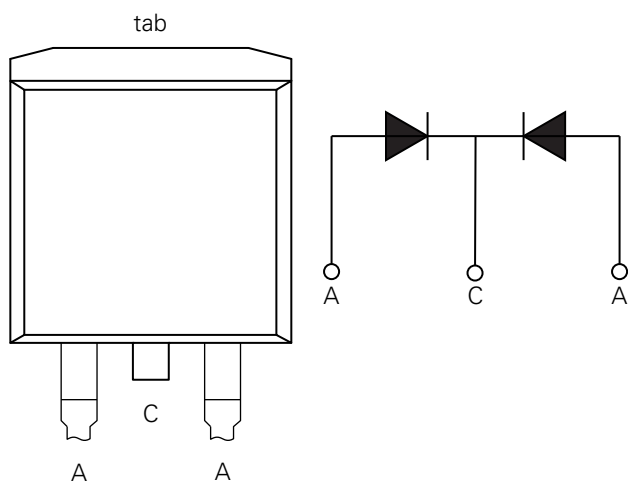
Pb



Features:

- Very low V_F
- Extremely low switching losses
- Low I_{RM} values
- Improved thermal behavior
- High reliability circuit operation
- Low voltage peaks for reduced protection circuits
- Low noise switching
- Terminals finish: 100% pure tin
- This is a Pb-free device
- Epoxy meets UL 94 V-0

Pinout Diagram (TO-263AB)



C: Cathode; **A:** Anode; **tab:** Cathode

Applications:

- Rectifiers in Switch Mode Power Supplies (SMPS)
- Free wheeling diode in low voltage converters

Product Summary

| Characteristic | Value | Unit |
|----------------|--------|------|
| V_{RRM} | 200 | V |
| I_{FAV} | 2 x 15 | A |
| V_F | 0.78 | V |

Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| Symbol | Characteristics | Condition | Max. | Units |
|-----------|---|--|---------------------------------|-------|
| V_{RRM} | Peak Repetitive Reverse Voltage | - | 200 | V |
| V_{RWM} | Working Peak Reverse Voltage | | | |
| V_R | DC Blocking Voltage | | | |
| I_{FAV} | Average Rectified Forward Current | 50% duty cycle @ $T_C = 155^\circ\text{C}$, rectangular wave form | 15 (Per Leg) 30 (Per Device) | A |
| I_{FSM} | Peak One Cycle Non-Repetitive Surge Current (Per Leg) | 10 ms, Half Sine pulse, $T_{VJ} = 25^\circ\text{C}$ | 300 | A |
| P_{tot} | Total power dissipation | $T_C = 25^\circ\text{C}$ | 85 | W |

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

| Symbol | Characteristics | Conditions | Typ. | Max. | Units |
|----------|---|---|------|------|---------------|
| V_{F1} | Forward Voltage Drop (Per Leg) ¹ | @ 15 A, Pulse, $T_{VJ} = 25^\circ\text{C}$ | - | 0.94 | V |
| V_{F2} | | @ 15 A, Pulse, $T_{VJ} = 125^\circ\text{C}$ | - | 0.78 | V |
| I_{R1} | Reverse Current (Per Leg) ¹ | @ $V_R = \text{rated } V_R, T_{VJ} = 25^\circ\text{C}$ | - | 250 | μA |
| I_{R2} | | @ $V_R = \text{rated } V_R, T_{VJ} = 125^\circ\text{C}$ | - | 2.5 | mA |
| C_T | Junction Capacitance (Per Leg) | @ $V_R = 24 \text{ V}, T_C = 25^\circ\text{C}$ $f_{SIG} = 1 \text{ MHz}$ | 100 | - | pF |

Note 1: Pulse width < 300 μs , duty cycle < 2%

Thermal-Mechanical Specifications

| Symbol | Characteristics | Condition | Specification | Units |
|------------|--|--------------|--------------------|------------------|
| T_{VJ} | Junction Temperature | - | -55 to +175 | $^\circ\text{C}$ |
| T_O | Operation temperature | - | -55 to +150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | - | -55 to +150 | $^\circ\text{C}$ |
| M_D | Mounting torque | - | Min 0.4 Max 0.6 | Nm |
| F_C | Mounting force with clip | - | Min 20 Max 60 | N |
| R_{thJC} | Maximum Thermal Resistance Junction to Case | DC operation | 1.75 | K/W |
| R_{thCS} | Typical Thermal Resistance Case to Heat Sink | - | 0.5 | K/W |
| wt | Approximate Weight | - | 2 | g |

Characteristic Curves

Fig. 1. Typical Forward Characteristics

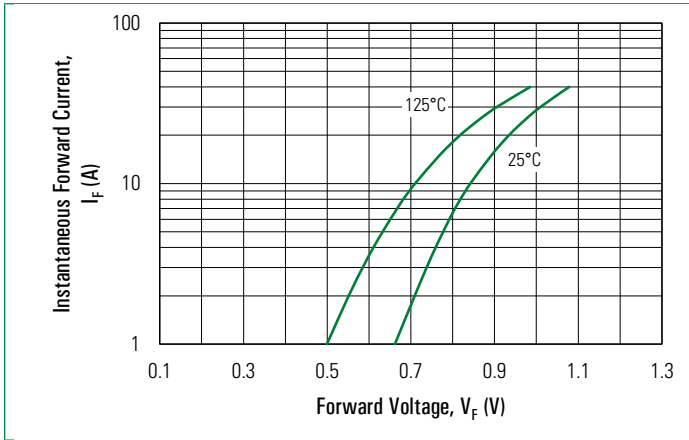


Fig. 2. Typical Reverse Characteristics

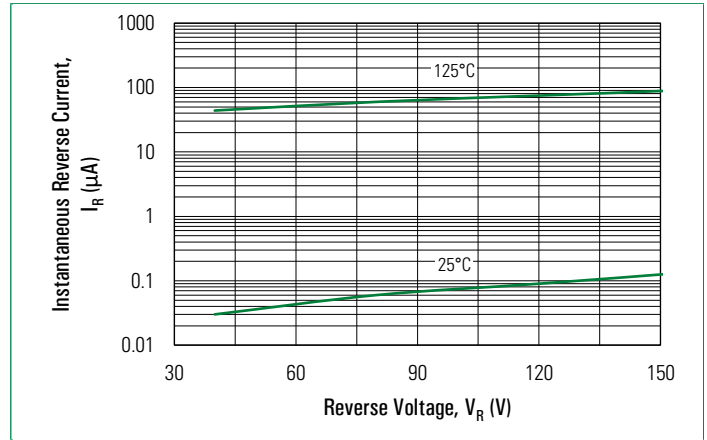
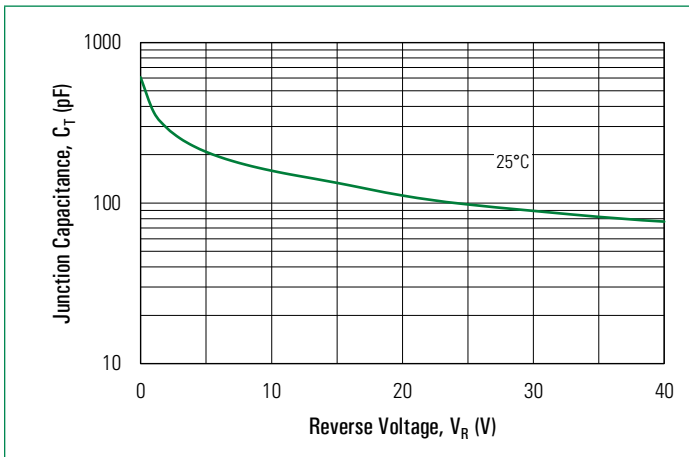
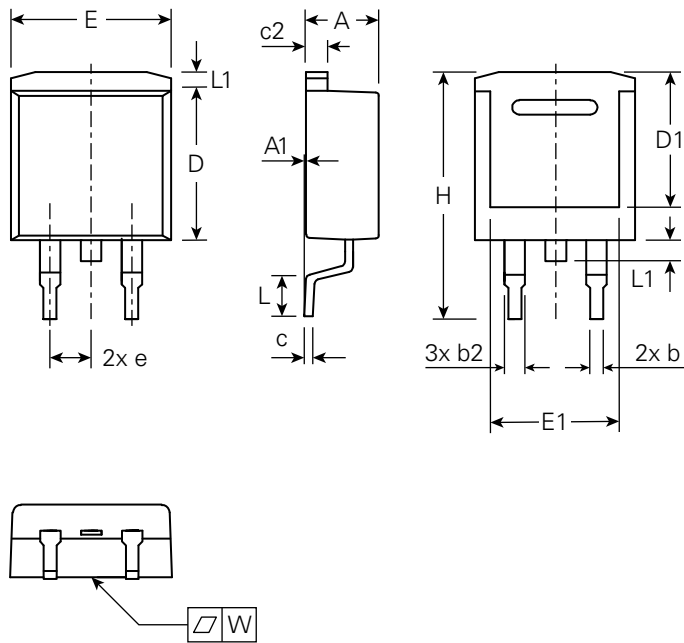


Fig. 3. Typical Junction Capacitance

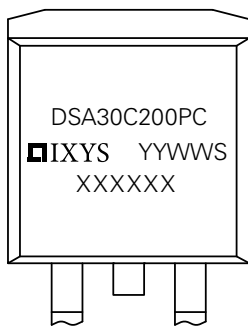


Part Outline Drawing (TO-263AB)



| Symbol | Inches | | | Millimeters | | |
|--------|-----------|---------|-------|-------------|---------|-------|
| | Min. | Typical | Max. | Min. | Typical | Max. |
| A | 0.16 | – | 0.19 | 4.06 | – | 4.83 |
| A1 | 0 | – | 0.010 | 0 | – | 0.26 |
| b | 0.020 | – | 0.039 | 0.51 | – | 0.99 |
| b1 | 0.045 | – | 0.070 | 1.14 | – | 1.78 |
| c | 0.012 | – | 0.029 | 0.31 | – | 0.74 |
| c1 | 0.045 | – | 0.064 | 1.14 | – | 1.65 |
| D | 0.330 | – | 0.379 | 8.38 | – | 9.65 |
| D1 | 0.251 | – | – | 6.40 | – | – |
| E1 | 0.244 | – | – | 6.22 | – | – |
| E2 | 0.379 | – | 0.420 | 9.65 | – | 10.67 |
| e | 0.100 BSC | | | 2.54 BSC | | |
| H | 0.575 | – | 0.625 | 14.61 | – | 15.88 |
| L | 0.070 | – | 0.110 | 1.78 | – | 2.80 |
| L1 | – | – | 0.066 | – | – | 1.68 |
| L2 | – | – | 0.086 | – | – | 2.20 |
| L3 | 0.010 BSC | | | 0.255 BSC | | |

Part Number and Marking

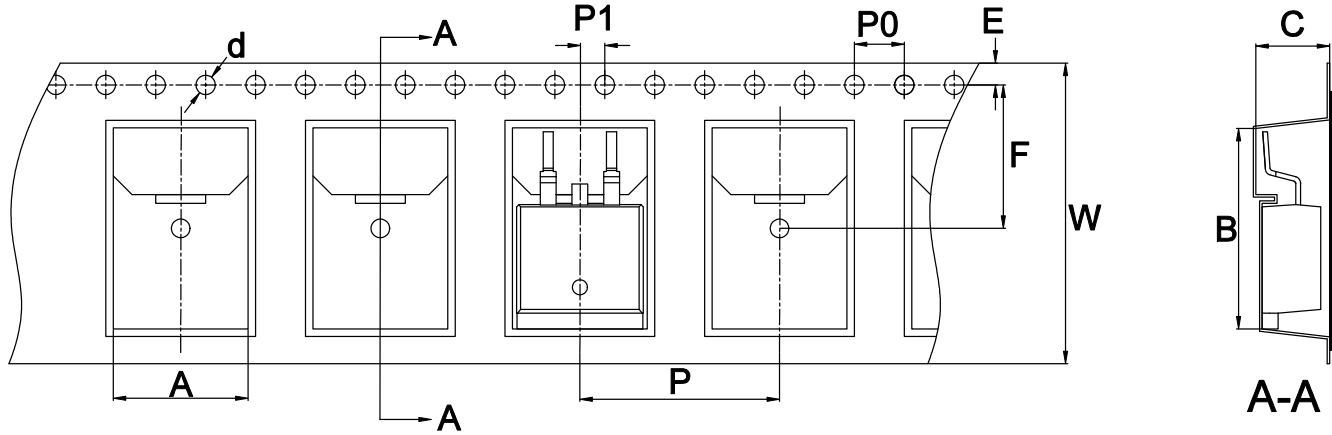


- D = Diode
- S = Schottky Diode
- A Low VF
- 30 = Forward Current (30A)
- C Common Cathode
- 200 = Reverse Voltage (200V)
- PC = Package Code (TO-263AB)
- YY = Year
- WW = Work Week
- S = Plant Location Code
- XXXXXX = Lot Number

Ordering Information

| Part Number | Marking | Packing Mode | Quantity |
|-----------------|-------------|--------------|---------------|
| DSA30C200PC-TRL | DSA30C200PC | Reel | 800 pcs/ tube |

Carrier Tape Specification (TO-263AB)



| Symbol | Inches | | | Millimeters | | |
|--------|--------|---------|-------|-------------|---------|-------|
| | Min. | Typical | Max. | Min. | Typical | Max. |
| A | 0.421 | - | 0.429 | 10.70 | - | 10.90 |
| B | 0.631 | - | 0.639 | 16.03 | - | 16.23 |
| C | 0.201 | - | 0.209 | 5.11 | - | 5.31 |
| d | 0.057 | - | 0.065 | 1.45 | - | 1.65 |
| E | 0.065 | - | 0.07 | 1.65 | - | 1.85 |
| F | 0.449 | - | 0.457 | 11.40 | - | 11.60 |
| P0 | 0.153 | - | 0.161 | 3.90 | - | 4.10 |
| P | 0.626 | - | 0.664 | 15.90 | - | 16.10 |
| P1 | 0.075 | - | 0.082 | 1.90 | - | 2.10 |
| W | 0.941 | - | 0.957 | 23.90 | - | 24.30 |

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Part of:

