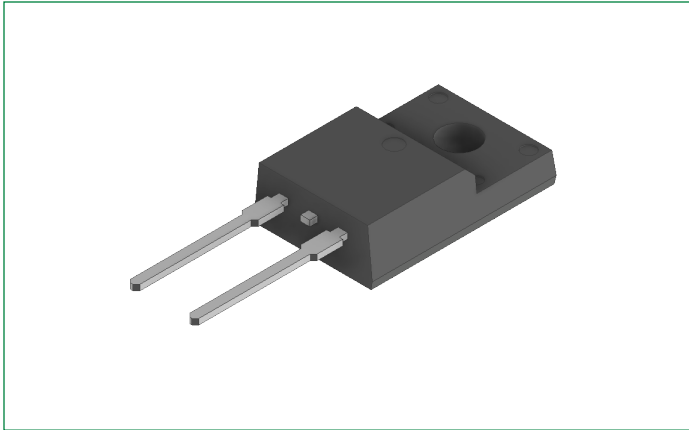


DSA10I100PM

100 V, 10 A Schottky Rectifier Diode

RoHS

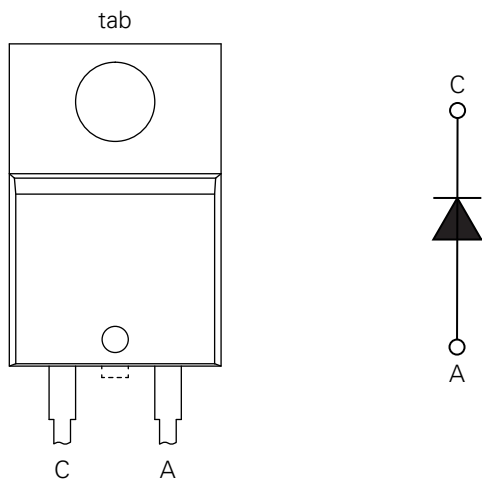
Pb



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-220ACFP)



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} | 100 | V |
| I_{FAV} | 10 | A |
| V_F | 0.71 | V |

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

| Symbol | Characteristics | Condition | Max. | Units |
|-----------|---|--|------|-------|
| V_{RRM} | Peak Repetitive Reverse Voltage | - | 100 | V |
| V_{RWM} | Working Peak Reverse Voltage | | | |
| V_R | DC Blocking Voltage | | | |
| I_{FAV} | Average Rectified Forward Current | 50% duty cycle @ $T_C = 140^\circ\text{C}$, rectangular wave form | 10 | A |
| I_{FSM} | Peak One Cycle Non-Repetitive Surge Current | 10 ms, Half Sine pulse, $T_{VJ} = 25^\circ\text{C}$ | 240 | A |
| P_{tot} | Total power dissipation | $T_C = 25^\circ\text{C}$ | 33 | W |

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

| Symbol | Characteristics | Conditions | Min. | Typ. | Max. | Units |
|-----------|-----------------------------------|--|------|------|------|---------------|
| V_{F1} | Forward Voltage Drop ¹ | @ 10 A, Pulse, $T_{VJ} = 25^\circ\text{C}$ | - | - | 0.89 | V |
| V_{F1} | | @ 10 A, Pulse, $T_{VJ} = 125^\circ\text{C}$ | - | - | 0.71 | V |
| I_{R1} | Reverse Current ¹ | @ $V_R = \text{rated } V_{R'}$, $T_{VJ} = 25^\circ\text{C}$ | - | - | 200 | μA |
| I_{R2} | | @ $V_R = \text{rated } V_{R'}$, $T_{VJ} = 125^\circ\text{C}$ | - | - | 10 | mA |
| C_T | Junction Capacitance | @ $V_R = 12\text{ V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$ | - | 180 | - | pF |
| V_{ISO} | Isolation Voltage | t = 1 second, 50/60 Hz, RMS, $I_{ISOL} \leq 1\text{ mA}$ | 2500 | - | - | V |
| | | t = 1 minute, 50/60 Hz, RMS, $I_{ISOL} \leq 1\text{ mA}$ | 2100 | - | - | |

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 | 4.5 | K/W |
| R_{thCS} | Typical Thermal Resistance Case to Heat Sink | - | 0.5 | K/W |
| wt | Approximate Weight | - | 1.6 | g |

Characteristic Curves

Fig. 1. Typical Forward Characteristics

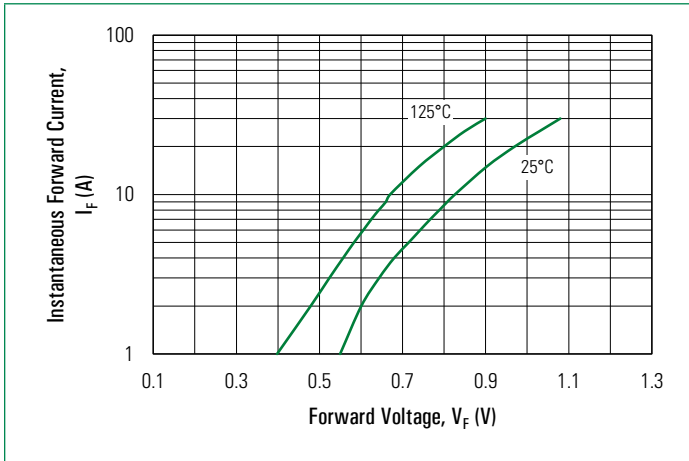


Fig. 2. Typical Reverse Characteristics

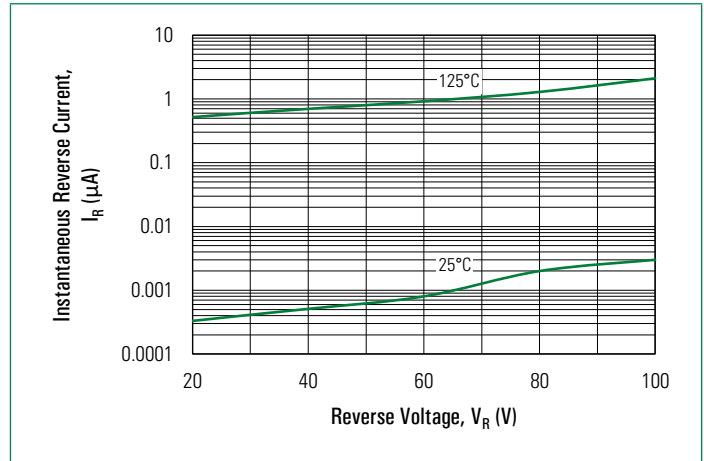
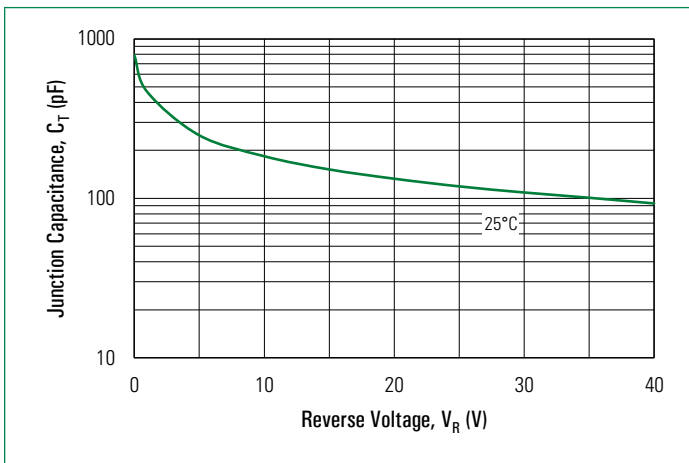
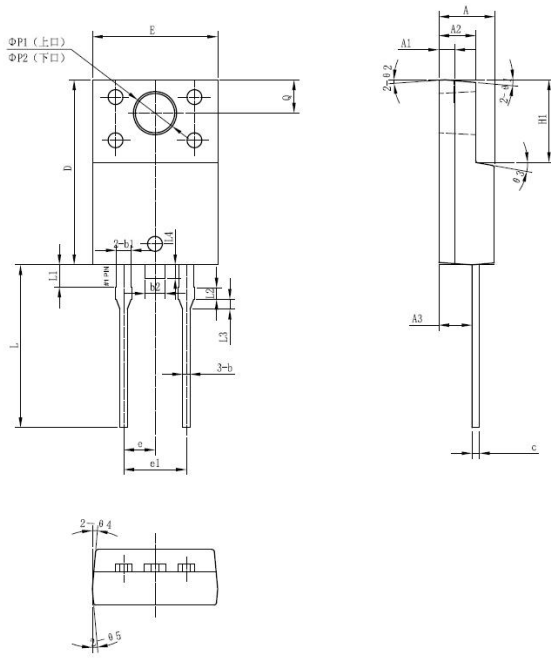


Fig. 3. Typical Junction Capacitance

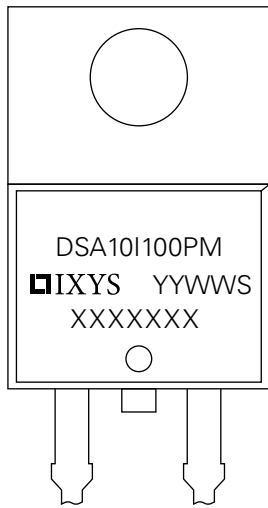


Part Outline Drawing (TO-220ACFP)



| Symbol | Inches | | | Millimeters | | |
|--------|--------|---------|-------|-------------|---------|-------|
| | Min. | Typical | Max. | Min. | Typical | Max. |
| A | 0.169 | 0.177 | 0.185 | 4.30 | 4.50 | 4.70 |
| A1 | 0.043 | 0.051 | 0.059 | 1.10 | 1.30 | 1.50 |
| A2 | 0.110 | 0.118 | 0.126 | 2.80 | 3.00 | 3.20 |
| A3 | 0.098 | 0.106 | 0.114 | 2.50 | 2.70 | 2.90 |
| b | 0.020 | 0.024 | 0.03 | 0.50 | 0.60 | 0.75 |
| b1 | 0.043 | 0.047 | 0.053 | 1.10 | 1.20 | 1.35 |
| b2 | 0.059 | 0.063 | 0.069 | 1.50 | 1.60 | 1.75 |
| c | 0.021 | 0.024 | 0.030 | 0.55 | 0.60 | 0.75 |
| D | 0.583 | 0.591 | 0.598 | 14.80 | 15.00 | 15.20 |
| E | 0.392 | 0.400 | 0.408 | 9.96 | 10.16 | 10.36 |
| e | - | 0.100 | - | - | 2.55 | - |
| e1 | - | 0.201 | - | - | 5.10 | - |
| H1 | 0.256 | 0.264 | 0.272 | 6.50 | 6.70 | 6.90 |
| L | 0.500 | 0.520 | 0.539 | 12.70 | 13.20 | 13.70 |
| L1 | 0.063 | 0.071 | 0.079 | 1.60 | 1.80 | 2.00 |
| L2 | 0.031 | 0.039 | 0.047 | 0.80 | 1.00 | 1.20 |
| L3 | 0.024 | 0.031 | 0.039 | 0.60 | 0.80 | 1.00 |
| L4 | - | 0.043 | 0.059 | - | 1.10 | 1.50 |
| ØP1 | 0.130 | 0.138 | 0.146 | 3.30 | 3.50 | 3.70 |
| ØP2 | 0.118 | 0.126 | 0.133 | 2.99 | 3.19 | 3.39 |
| Q | 0.098 | 0.106 | 0.114 | 2.50 | 2.70 | 2.90 |

Part Number and Marking

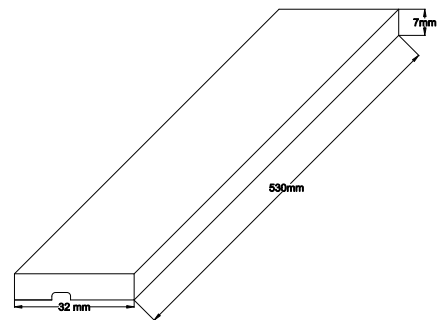


- D = Diode
- S = Schottky Diode
- A = Product Generation
- 10 = Current Rating
- I = Single Diode
- 100 = Voltage Rating
- PM = Package Code
- YY = Year
- WW = Work Week
- S = Plant Location Code
- XXXXXXX = Lot Number

Ordering Information

| Part Number | Marking | Packing Mode | Quantity |
|-------------|-------------|--------------|--------------|
| DSA10I100PM | DSA10I100PM | Tube | 50 pcs/ tube |

Packing Specifications



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Part of:

