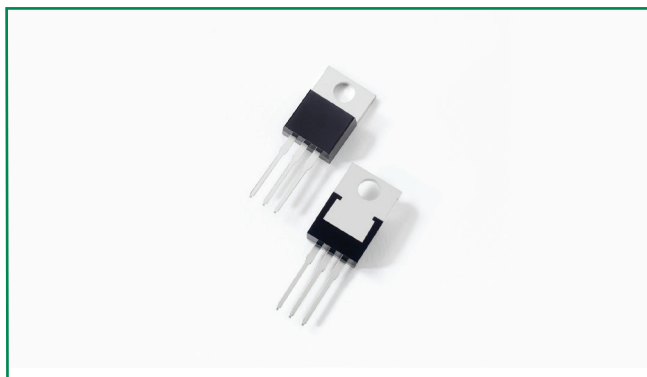
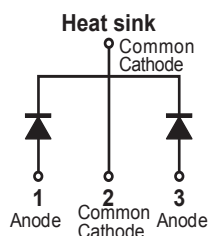


DST2045C



Pin out



Description

Littelfuse DST series Ultra Low V_F Schottky Barrier Rectifier is designed to meet the general requirements of commercial and industry applications by providing high temperature, low leakage and lower V_F products.

It is suitable for high frequency switching mode power supply, free-wheeling diodes and polarity protection diodes.

Features

- Ultra low forward voltage drop
- High frequency operation
- High junction temperature capability
- Guard ring for enhanced ruggedness and long term reliability
- Common cathode configuration in TO-220AB package

Applications

- Switching mode power supply
- DC/DC converters
- Free-Wheeling diodes
- Polarity Protection Diodes

Maximum Ratings

| Parameters | Symbol | Test Conditions | Max | Unit |
|---|-------------|--|-------------------|------|
| Peak Inverse Voltage | V_{RWM} | - | 45 | V |
| Average Forward Current | $I_{F(AV)}$ | 50% duty cycle @ $T_C = 80^\circ\text{C}$ rectangular wave form | 10 (per leg) | A |
| | | | 20 (total device) | |
| Peak One Cycle Non-Repetitive Surge Current (per leg) | I_{FSM} | 8.3 ms, half Sine pulse | 150 | A |

Electrical Characteristics

| Parameters | Symbol | Test Conditions | Max | Unit |
|----------------------------------|----------|---|------|------|
| Forward Voltage Drop (per leg) * | V_{F1} | @10A, Pulse, $T_J = 25^\circ\text{C}$ | 0.58 | V |
| | V_{F2} | @10A, Pulse, $T_J = 125^\circ\text{C}$ | 0.52 | |
| Reverse Current (per leg) * | I_{R1} | @ $V_R = \text{rated } V_R$, $T_J = 25^\circ\text{C}$ | 2 | mA |
| | I_{R2} | @ $V_R = \text{rated } V_R$, $T_J = 125^\circ\text{C}$ | 30 | |

* Pulse Width < 300 μs , Duty Cycle < 2%

Thermal-Mechanical Specifications

| Parameters | Symbol | Test Conditions | Max | Unit |
|---|------------|-----------------|-------------|------|
| Junction Temperature | T_J | | -55 to +150 | °C |
| Storage Temperature | T_{stg} | | -55 to +150 | °C |
| Thermal Resistance Junction to Case (per leg) | R_{thJC} | DC operation | 3.0 | °C/W |
| Approximate Weight | wt | | 1.8 | g |
| Case Style | | TO-220AB | | |

Figure 1: Typical Forward Characteristics

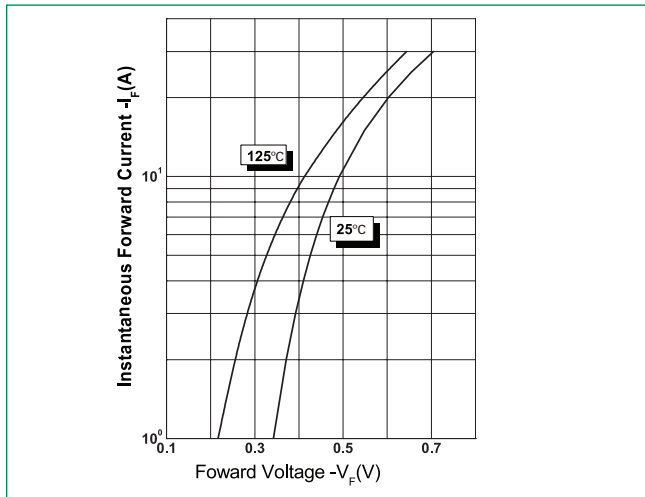


Figure 2: Typical Reverse Characteristics

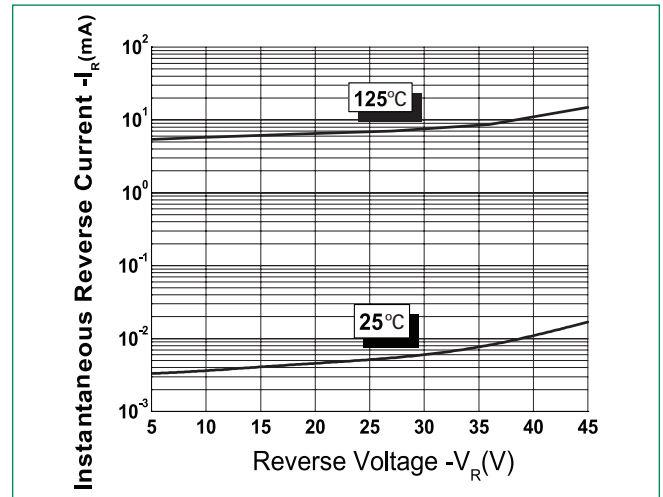
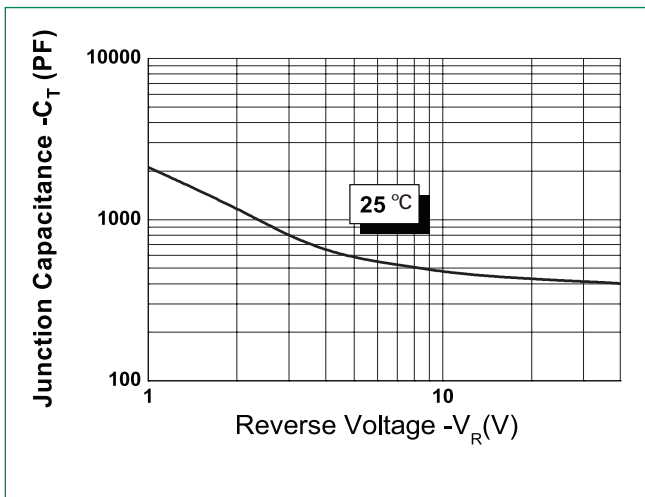
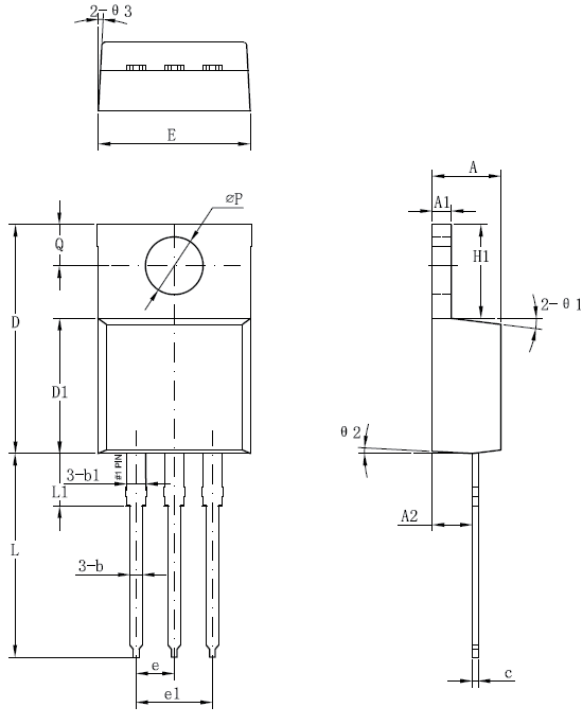


Figure 3: Typical Junction Capacitance



Dimensions- TO-220AB



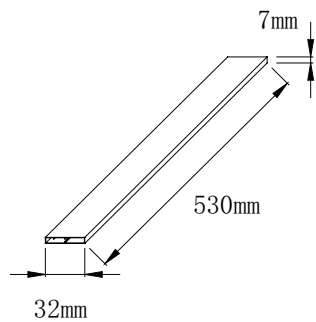
| Symbol | Millimeters | |
|-----------|-------------|-------|
| | Min | Max |
| A | 3.56 | 4.83 |
| A1 | 0.51 | 1.40 |
| A2 | 2.03 | 2.92 |
| b | 0.38 | 1.02 |
| b1 | 1.14 | 1.78 |
| c | 0.31* | 0.61 |
| D | 14.22 | 16.51 |
| D1 | 8.38 | 9.15* |
| E | 9.65 | 10.67 |
| e | 2.54 | - |
| e1 | 4.98* | - |
| H1 | 5.84 | 6.86 |
| L | 12.70 | 14.73 |
| L1 | - | 6.35 |
| øP | 3.53 | 4.09 |
| Q | 2.54 | 3.43 |

Footnote *: The spec. does not comply with JEDEC spec.

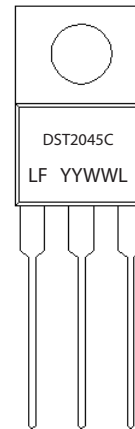
Packing Options

| Part Number | Marking | Packing Mode | M.O.Q |
|-------------|----------|--------------|-------|
| DST2045C | DST2045C | 50pcs / Tube | 1000 |

Tube Specification



Part Numbering and Marking System



DST = Device Type
 20 = Forward Current (20A)
 45 = Reverse Voltage (45V)
 C = Configuration
 LF = Littelfuse
 YY = Year
 WW = Week
 L = Lot Number