



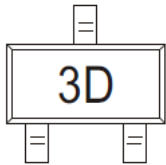
## SOT-523 Plastic-Encapsulate Diodes

### RB715W SCHOTTKY BARRIER DIODE

#### FEATURES:

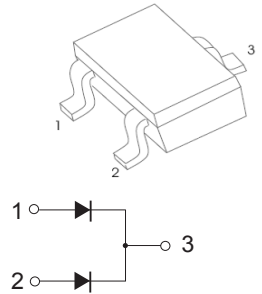
Extra Small Power Mold Type  
Low  $V_F$   
High Reliability

MARKING: 3D



3D=Device code

#### SOT-523



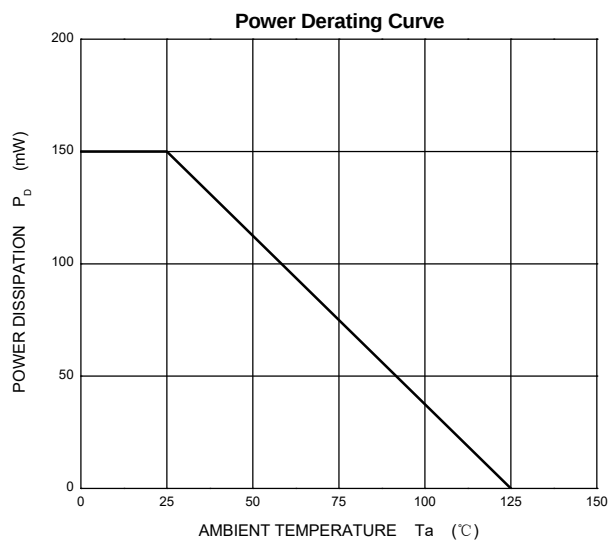
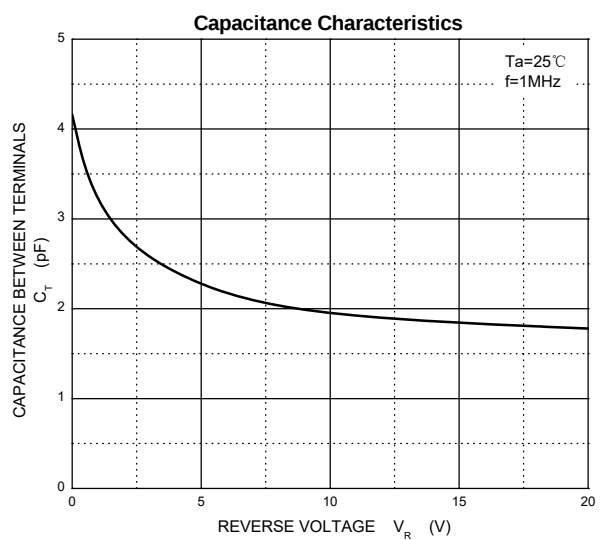
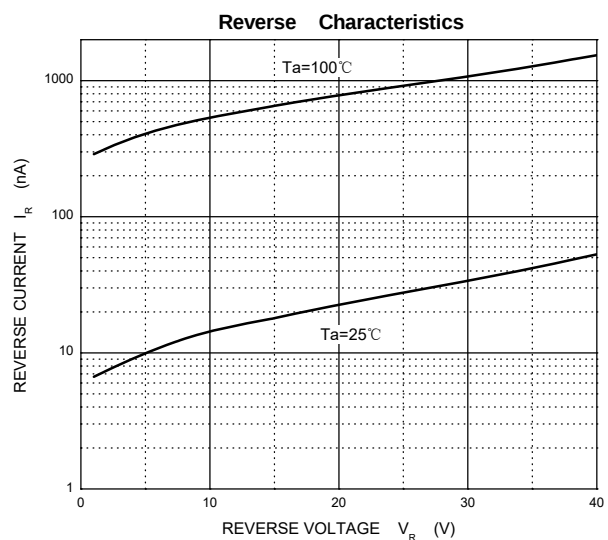
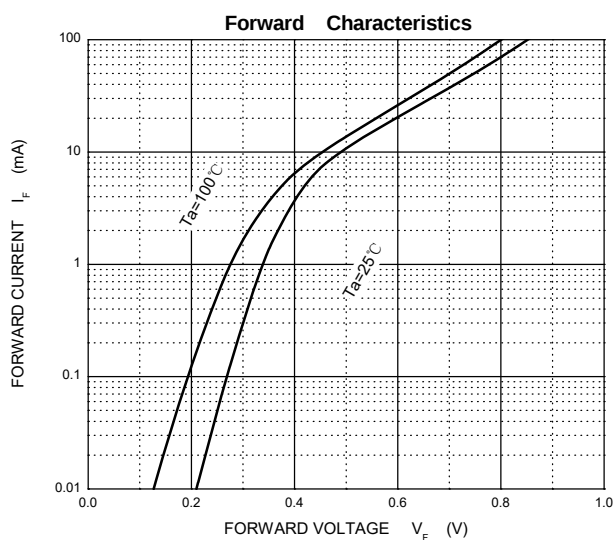
#### Maximum Ratings @Ta=25 °C

| Parameter                                         | Symbol          | Limit    | Unit |
|---------------------------------------------------|-----------------|----------|------|
| Peak reverse voltage                              | $V_{RM}$        | 40       | V    |
| DC reverse voltage                                | $V_R$           | 40       | V    |
| Non-repetitive Peak Forward Surge Current@t=8.3ms | $I_{FSM}$       | 200      | mA   |
| Average forward current                           | $I_O$           | 30       | mA   |
| Power dissipation                                 | $P_D$           | 150      | mW   |
| Thermal Resistance from Junction to Ambient       | $R_{\theta JA}$ | 667      | °C/W |
| Operation Junction and Storage Temperature Range  | $T_j, T_{stg}$  | -55~+150 | °C   |

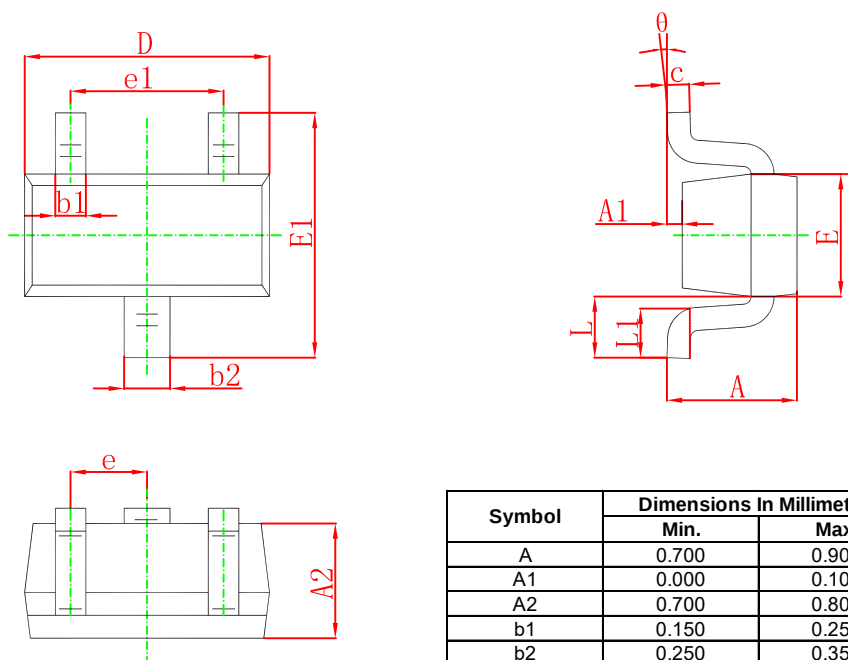
#### ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Parameter                       | Symbol | Test conditions  | Min | Typ | Max  | Unit    |
|---------------------------------|--------|------------------|-----|-----|------|---------|
| Reverse voltage leakage current | $I_R$  | $V_R=10V$        |     |     | 1    | $\mu A$ |
| Forward voltage                 | $V_F$  | $I_F=1mA$        |     |     | 0.37 | V       |
| Capacitance between terminals   | $C_T$  | $V_R=1V, f=1MHz$ |     | 2.0 |      | pF      |

## Typical Characteristics



## SOT-523 Package Outline Dimensions



| Symbol | Dimensions In Millimeters |       | Dimensions In Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      | 0.700                     | 0.900 | 0.028                | 0.035 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.700                     | 0.800 | 0.028                | 0.031 |
| b1     | 0.150                     | 0.250 | 0.006                | 0.010 |
| b2     | 0.250                     | 0.350 | 0.010                | 0.014 |
| c      | 0.100                     | 0.200 | 0.004                | 0.008 |
| D      | 1.500                     | 1.700 | 0.059                | 0.067 |
| E      | 0.700                     | 0.900 | 0.028                | 0.035 |
| E1     | 1.450                     | 1.750 | 0.057                | 0.069 |
| e      | 0.500 TYP.                |       | 0.020 TYP.           |       |
| e1     | 0.900                     | 1.100 | 0.035                | 0.043 |
| L      | 0.400 REF.                |       | 0.016 REF.           |       |
| L1     | 0.260                     | 0.460 | 0.010                | 0.018 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |

## SOT-523 Suggested Pad Layout

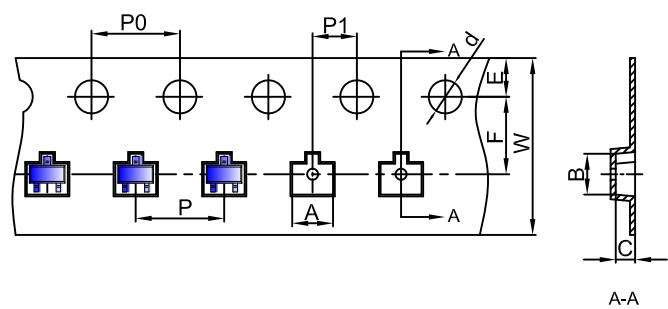


- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05$  mm.
  3. The pad layout is for reference purposes only.

### NOTICE

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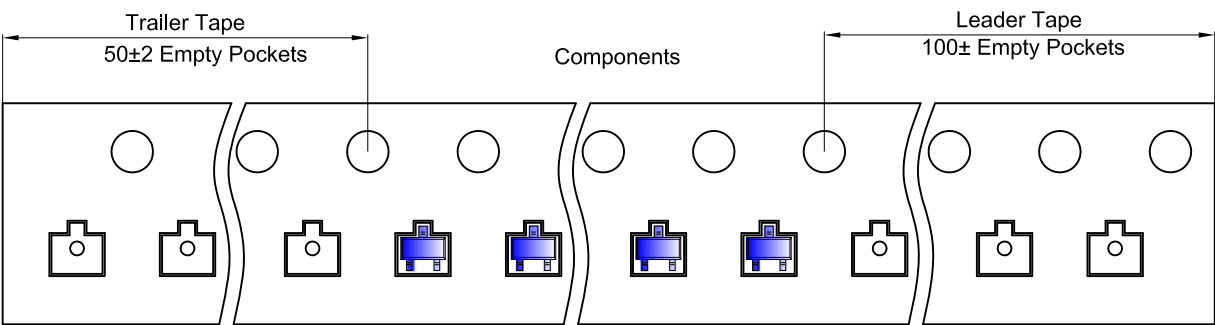
SOT-523 Embossed Carrier Tape



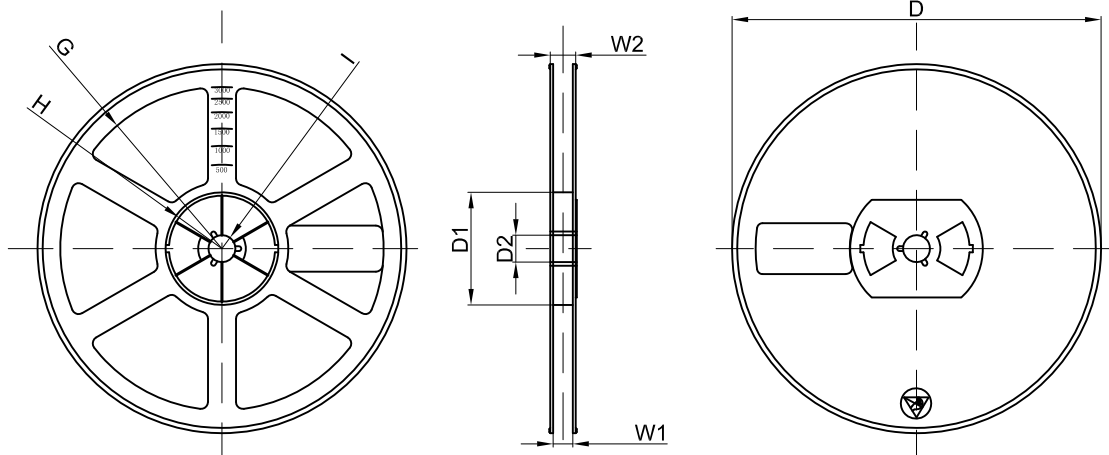
**Packaging Description:**  
SOT-523 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

| Dimensions are in millimeter |      |      |       |       |      |      |      |      |      |      |
|------------------------------|------|------|-------|-------|------|------|------|------|------|------|
| Pkg type                     | A    | B    | C     | d     | E    | F    | P0   | P    | P1   | W    |
| SOT-523                      | 1.85 | 1.85 | 0.875 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-523 Tape Leader and Trailer



SOT-523 Reel



| Dimensions are in millimeter |         |       |       |        |        |       |      |       |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option                  | D       | D1    | D2    | G      | H      | I     | W1   | W2    |
| 7"Dia                        | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |

| REEL     | Reel Size | Box        | Box Size(mm) | Carton      | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch    | 45,000 pcs | 203×203×195  | 180,000 pcs | 438×438×220     |          |