

SOT-23 Plastic-Encapsulate Diodes

1SS193

Switching Diode

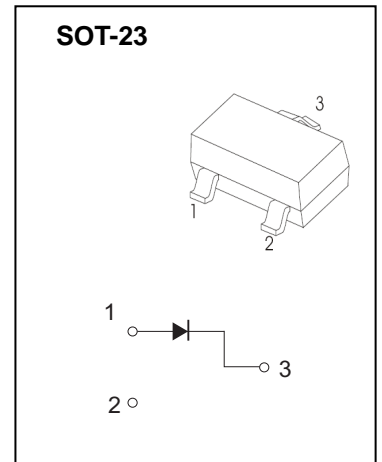
FEATURES

- Low forward voltage
- Fast reverse recovery time

MARKING: F3



Solid dot = Green molding compound device, if none, the normal device.



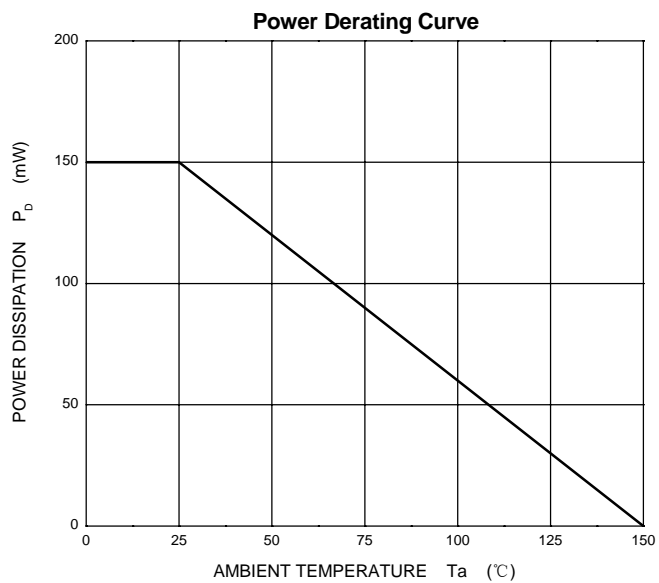
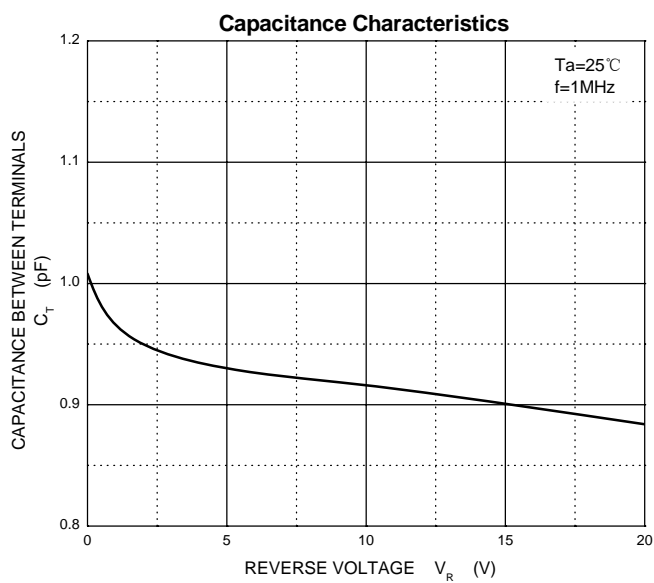
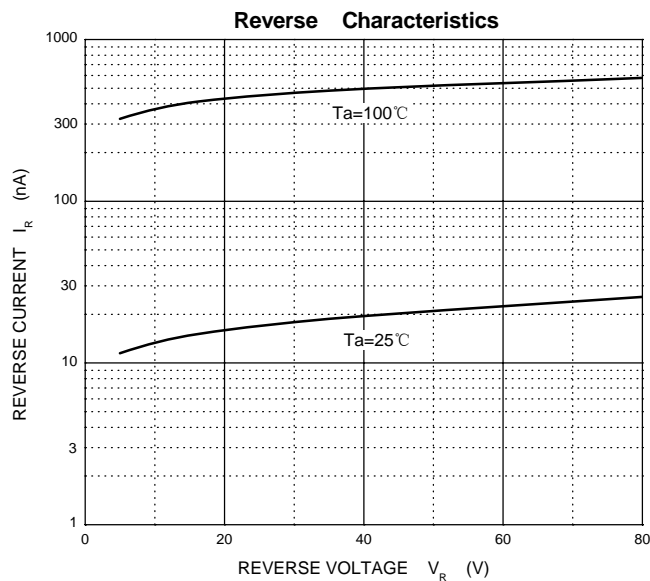
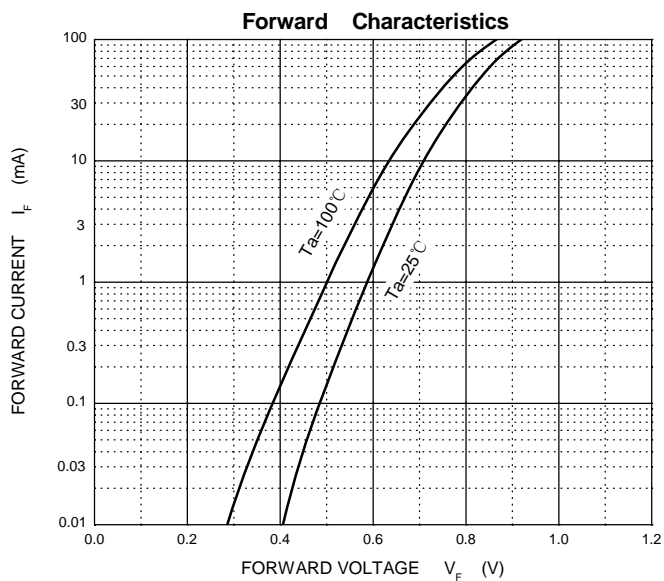
Maximum Ratings @Ta=25°C

| Parameter | Symbol | Limit | Unit |
|--|-----------------|----------|------|
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 85 | V |
| DC Blocking Voltage | V_R | 80 | V |
| Forward Continuous Current | I_{FM} | 300 | mA |
| Average Rectified Output Current | I_O | 100 | mA |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I_{FSM} | 2.0 | A |
| Power Dissipation | P_D | 150 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 833 | °C/W |
| Junction Temperature | T_J | 150 | °C |
| Storage Temperature Range | T_{STG} | -55~+150 | °C |

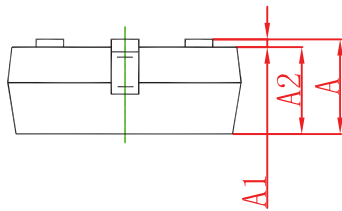
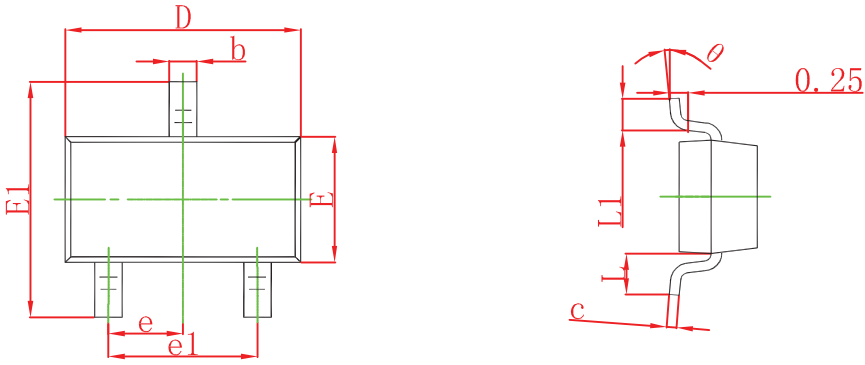
Electrical Characteristics @Ta=25°C

| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|-------------------------------|------------|-----|------|-----|---------|---------------------------------------|
| Reverse breakdown voltage | $V_{(BR)}$ | 80 | | | V | $I_R=100\mu A$ |
| Forward voltage | V_{F1} | | 0.60 | | V | $I_F=1mA$ |
| | V_{F2} | | 0.72 | | V | $I_F=10mA$ |
| | V_{F3} | | 0.90 | 1.2 | V | $I_F=100mA$ |
| Reverse current | I_{R1} | | | 0.1 | μA | $V_R=30V$ |
| | I_{R2} | | | 0.5 | μA | $V_R=80V$ |
| Capacitance between terminals | C_T | | 0.9 | 3.0 | pF | $V_R=0, f=1MHz$ |
| Reverse recovery time | t_{rr} | | 1.6 | 4.0 | ns | $I_F=I_R=10mA, I_{rr}=0.1 \times I_R$ |

Typical Characteristics

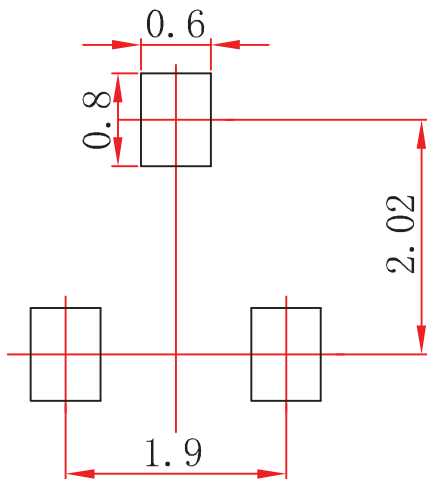


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 6° |

SOT-23 Suggested Pad Layout



Note:

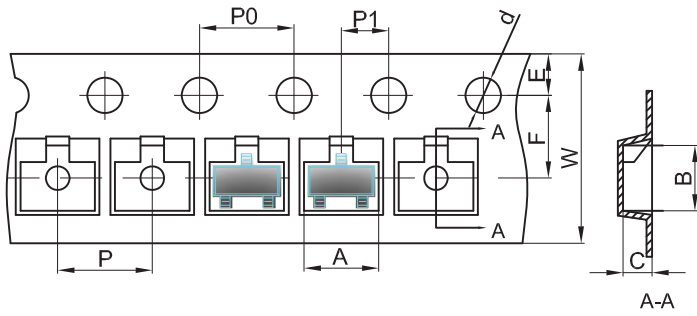
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

SOT-23 Tape and Reel

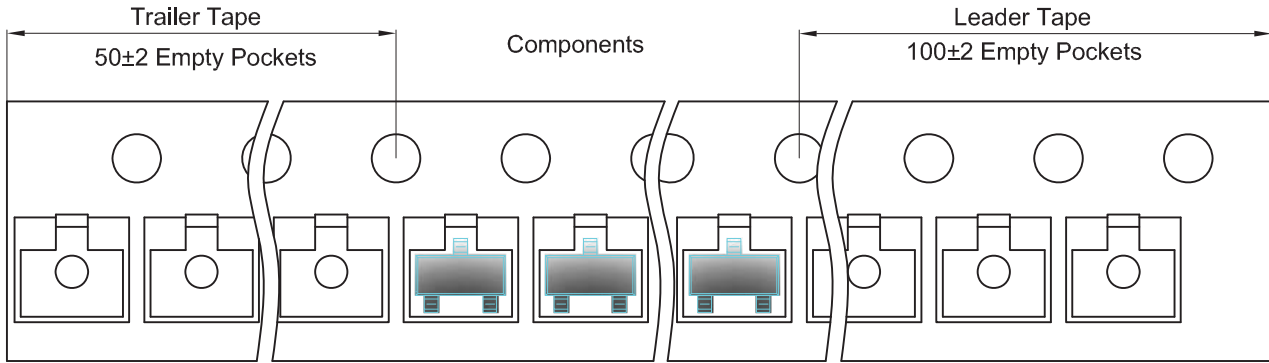
SOT-23 Embossed Carrier Tape



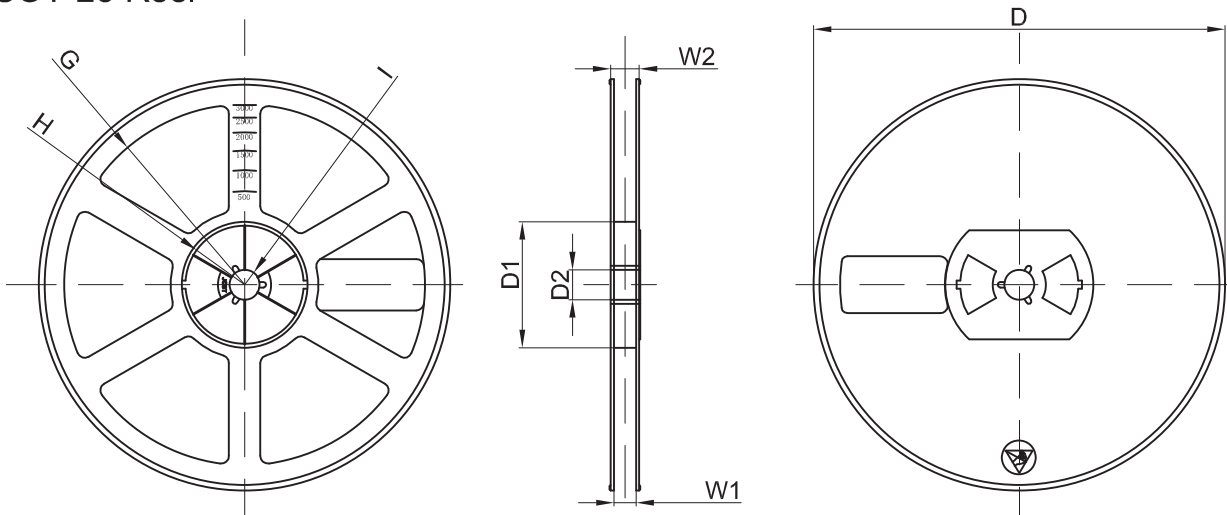
Packaging Description:
 SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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-23 | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |
| (Tolerance) | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +0.3/-0.1 |

SOT-23 Tape Leader and Trailer



SOT-23 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 |
| Tolerance | +/-2 | +/-1 | +/-1 | +/-1 | +/-1 | +/-1 | +/-1 | +/-1 |

| 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 | |