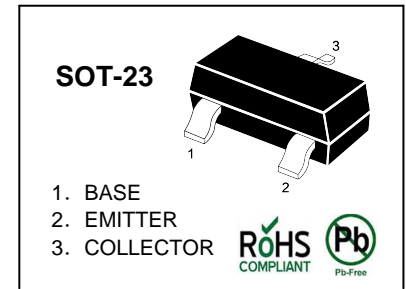


NPN Silicon Epitaxial Planar Transistor



Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

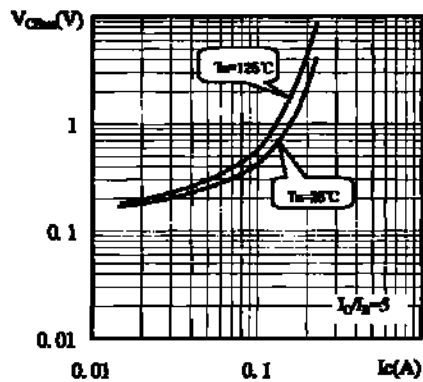
| Parameter | Symbol | Value | Unit |
|---------------------------|-----------|---------------|------------------|
| Collector Base Voltage | V_{CBO} | 700 | V |
| Collector Emitter Voltage | V_{CEO} | 420 | V |
| Emitter Base Voltage | V_{EBO} | 10 | V |
| Collector Current | I_C | 150 | mA |
| Power Dissipation | P_{tot} | 300 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | - 55 to + 150 | $^\circ\text{C}$ |

Characteristics at $T_a = 25^\circ\text{C}$

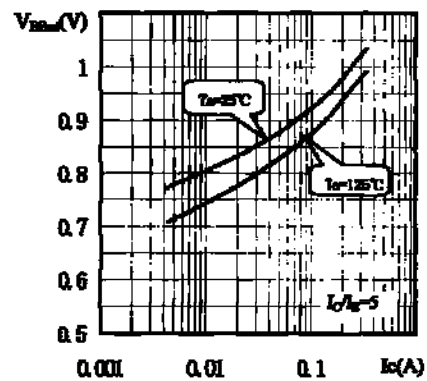
| Parameter | Symbol | Min. | Max. | Unit |
|---|---------------|------|------|---------------|
| DC Current Gain at $V_{CE} = 20\text{ V}$, $I_C = 10\text{ mA}$ | h_{FE} | 15 | 25 | - |
| Collector Base Cutoff Current at $V_{CB} = 700\text{ V}$ | I_{CBO} | - | 100 | μA |
| Collector Emitter Cutoff Current at $V_{CE} = 420\text{ V}$ | I_{CEO} | - | 100 | μA |
| Emitter Base Cutoff Current at $V_{EB} = 10\text{ V}$ | I_{EBO} | - | 100 | μA |
| Collector Base Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$ | $V_{(BR)CBO}$ | 700 | - | V |
| Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$ | $V_{(BR)CEO}$ | 420 | - | V |
| Emitter Base Breakdown Voltage at $I_E = 100\text{ }\mu\text{A}$ | $V_{(BR)EBO}$ | 10 | - | V |
| Collector Emitter Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 10\text{ mA}$ | $V_{CE(sat)}$ | - | 1.05 | V |
| Base Emitter Saturation Voltage at $I_C = 50\text{ mA}$, $I_B = 10\text{ mA}$ | $V_{BE(sat)}$ | - | 1.55 | V |
| Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 50\text{ mA}$, $f = 1\text{ MHz}$ | f_T | 5 | - | MHz |
| Storage Time at UI9600, $I_C = 100\text{ mA}$ | t_s | - | 3 | μs |
| Rise Time at UI9600, $I_C = 100\text{ mA}$ | t_r | - | 1 | μs |
| Fall Time at UI9600, $I_C = 100\text{ mA}$ | t_f | - | 1 | μs |

Typical Characteristics

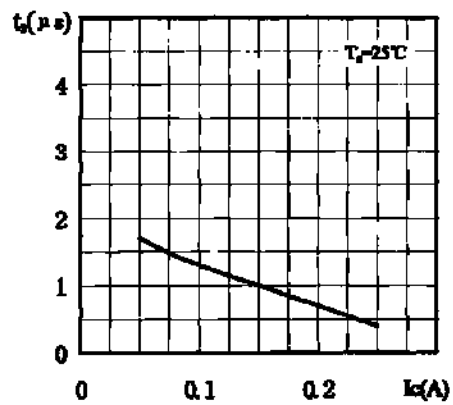
$V_{CE(sat)}-I_C$ Characteristics(Typical)



$V_{BE(sat)}-I_C$ Characteristics(Typical)

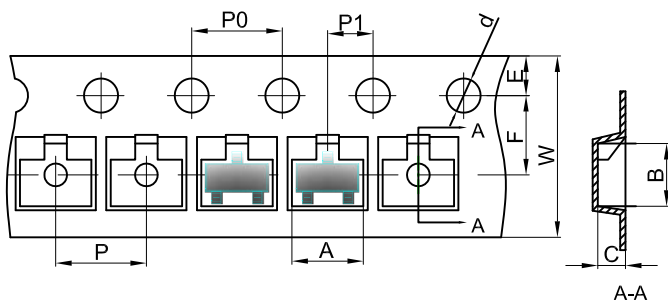


t_r-I_C Characteristics(Typical)



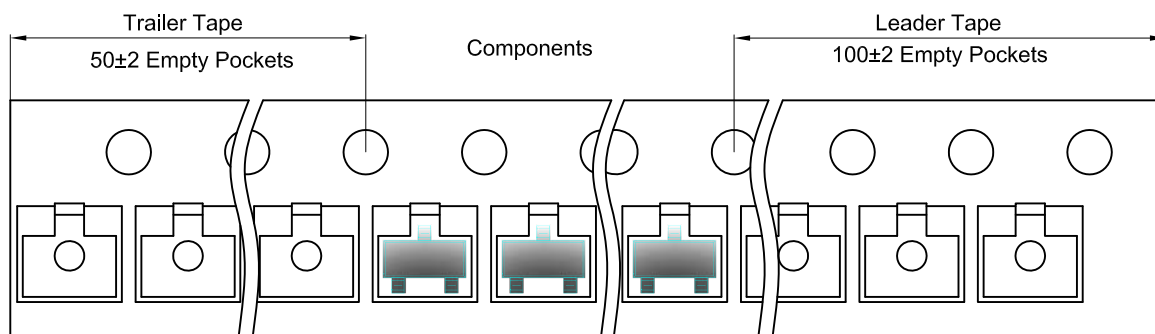
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

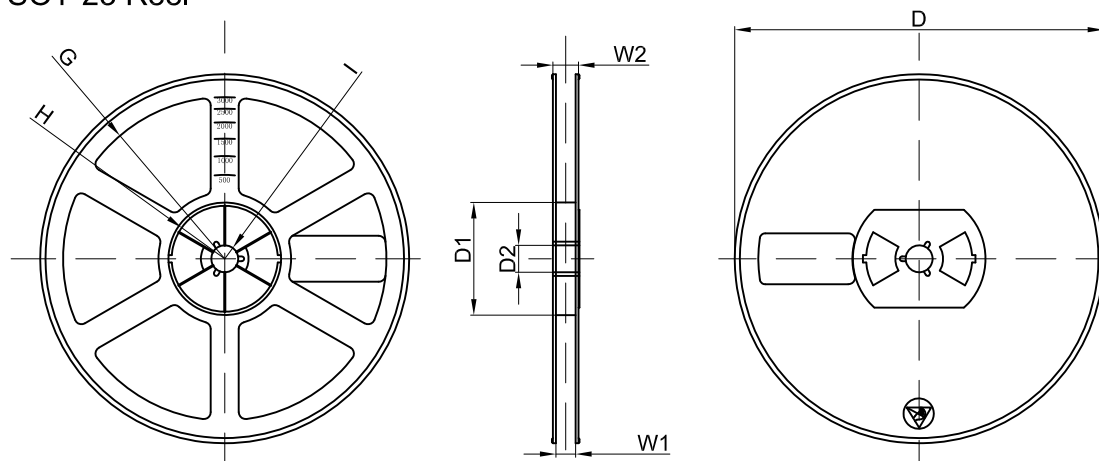


| Dimensions are in millimeter | | | | | | | | | | |
|------------------------------|------|------|------|-------|------|------|------|------|------|------|
| Pkg type | A | B | C | d | E | F | P0 | P | P1 | W |
| SOT-23 | 3.15 | 2.77 | 1.22 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-23 Tape Leader and Trailer

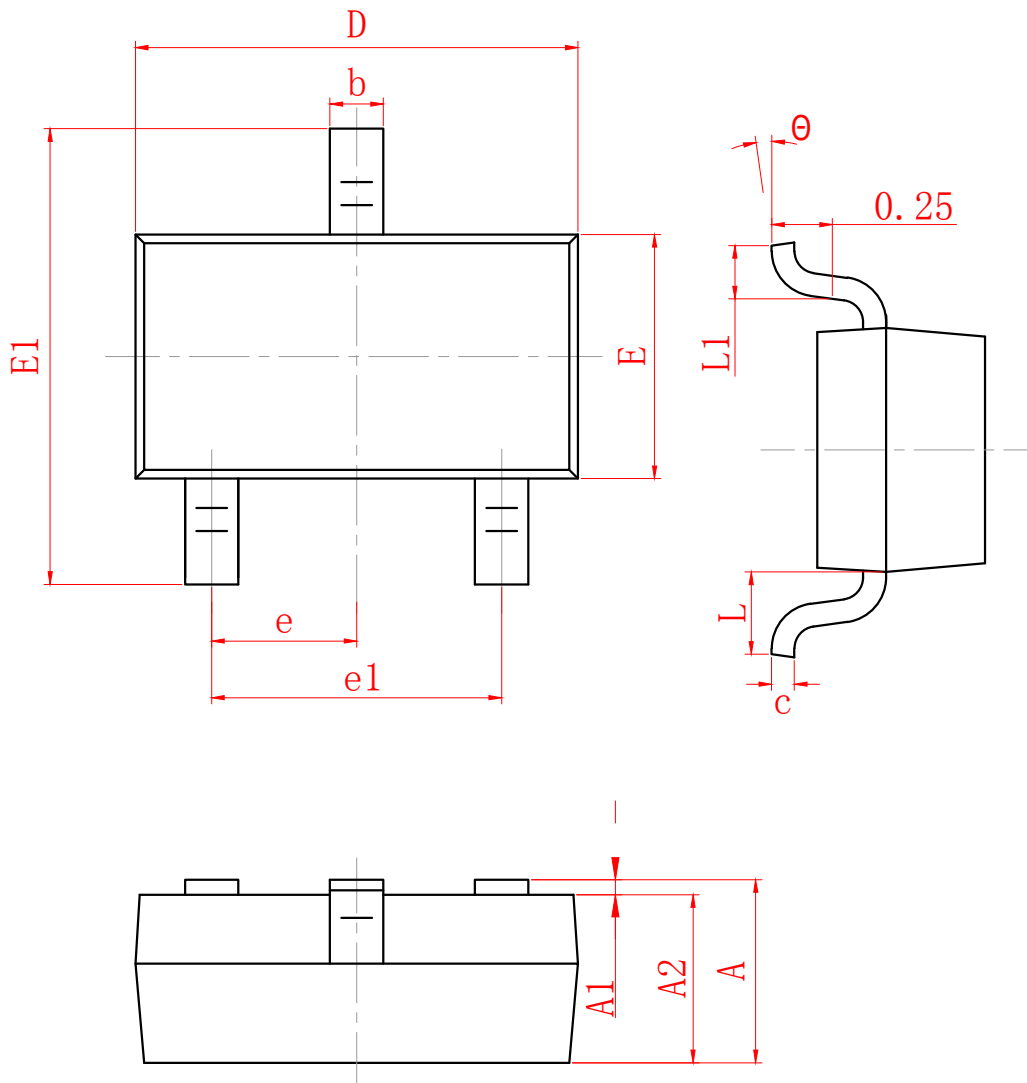


SOT-23 Reel



| 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 |

| 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 | |



| SYMBOL | MILLIMETER | |
|----------|------------|-------|
| | MIN | MAX |
| A | 0.900 | 1.150 |
| A1 | 0.000 | 0.100 |
| A2 | 0.900 | 1.050 |
| b | 0.300 | 0.500 |
| c | 0.080 | 0.150 |
| D | 2.800 | 3.000 |
| E | 1.200 | 1.400 |
| E1 | 2.250 | 2.550 |
| e | 0.950 TYP | |
| e1 | 1.800 | 2.000 |
| L | 0.550 REF | |
| L1 | 0.300 | 0.500 |
| θ | 0° | 8° |

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