

SEMICONDUCTOR

2SA733LT1

Shandong Yiguang Electronic Joint stock Co., Ltd

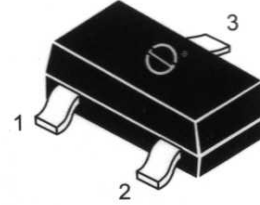
TECHNICAL DATA

PNP EPITAXIAL SILICON TRANSISTOR

* Collector Current : $I_c=150\text{mA}$ **ABSOLUTE MAXIMUM RATINGS at $T_a=25^\circ\text{C}$**

| Characteristic | Symbol | Rating | Unit |
|--|-----------|---------|------------------|
| Collector-Base Voltage | V_{cbo} | -60 | V |
| Collector-Emitter Voltage | V_{ceo} | -50 | V |
| Emitter-Base Voltage | V_{ebo} | -5 | V |
| Collector Current | I_c | -150 | mA |
| Collector Dissipation $T_a=25^\circ\text{C}$ * | P_D | 225 | mW |
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55-150 | $^\circ\text{C}$ |

Package:SOT-23



| | | | |
|-------|---|---|---|
| PIN: | 1 | 2 | 3 |
| STYLE | | | |
| NO.1 | B | E | C |

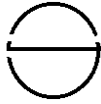
ELECTRICAL CHARACTERISTICS at $T_a=25^\circ\text{C}$

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Conditions |
|--------------------------------------|---------------|------|-----|-------|------|--|
| Collector-Base Breakdown Voltage | BV_{cbo} | -60 | | | V | $I_c = -100\mu\text{A}$ $I_e = 0$ |
| Collector-Emitter Breakdown Voltage# | BV_{ceo} | -50 | | | V | $I_c = -1\text{mA}$ $I_b = 0$ |
| Emitter-Base Breakdown Voltage | BV_{ebo} | -5.0 | | | V | $I_e = -100\mu\text{A}$ $I_c = 0$ |
| Collector-Base Cutoff Current | I_{cbo} | | | -100 | nA | $V_{cb} = -50\text{V}$ $I_e = 0$ |
| Emitter-Base Cutoff Current | I_{ebo} | | | -100 | nA | $V_{eb} = -3\text{V}$ $I_c = 0$ |
| DC Current Gain | H_{fe} | 200 | | 400 | | $V_{ce} = -6\text{V}$ $I_c = -2\text{mA}$ |
| Collector-Emitter Saturation Voltage | $V_{ce(sat)}$ | | | -0.30 | V | $I_c = -100\text{mA}$ $I_b = -10\text{mA}$ |

* Total Device Dissipation : $FR=1 \times 0.75 \times 0.062\text{in Board}$, Derate 25°C .# Pulse Test : Pulse Width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

DEVICE MARKING:

2SA733LT1=M6



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TECHNICAL DATA

PNP EPITAXIAL SILICON TRANSISTOR

2SA733LT1

Fig. 1 P_C-T_a

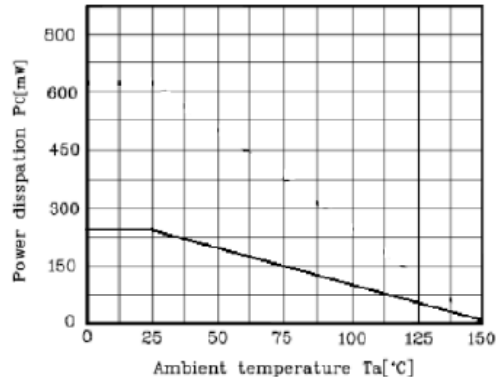


Fig. 2 I_C-V_{BE}

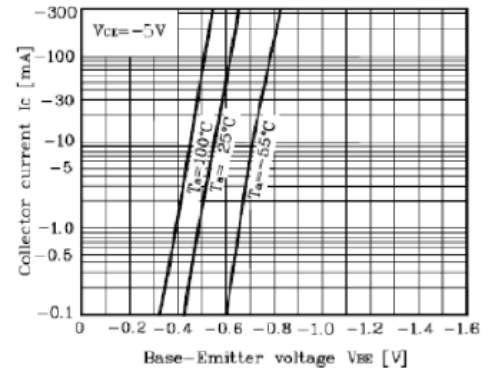


Fig. 4 $h_{FE}-I_C$

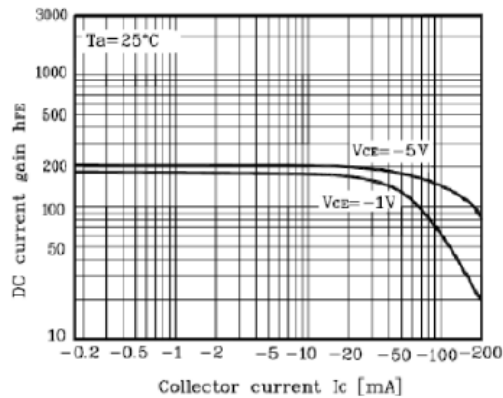


Fig. 5 $V_{CE(sat)}-I_C$

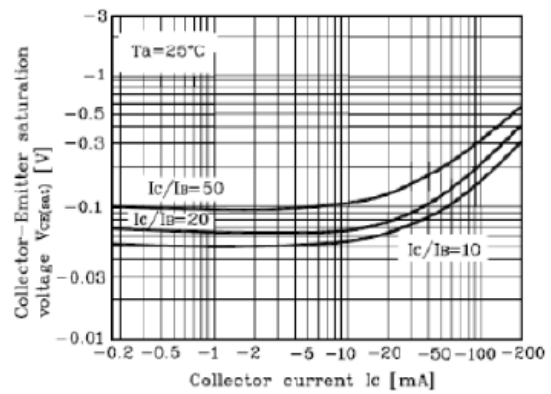
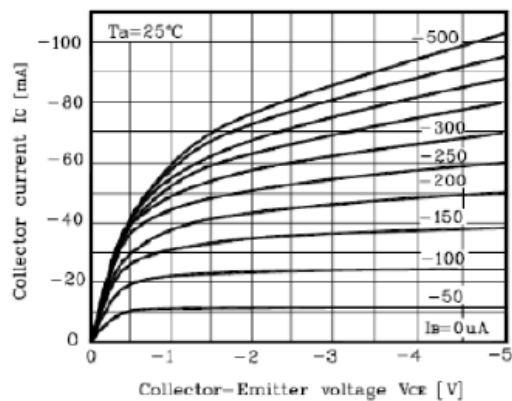
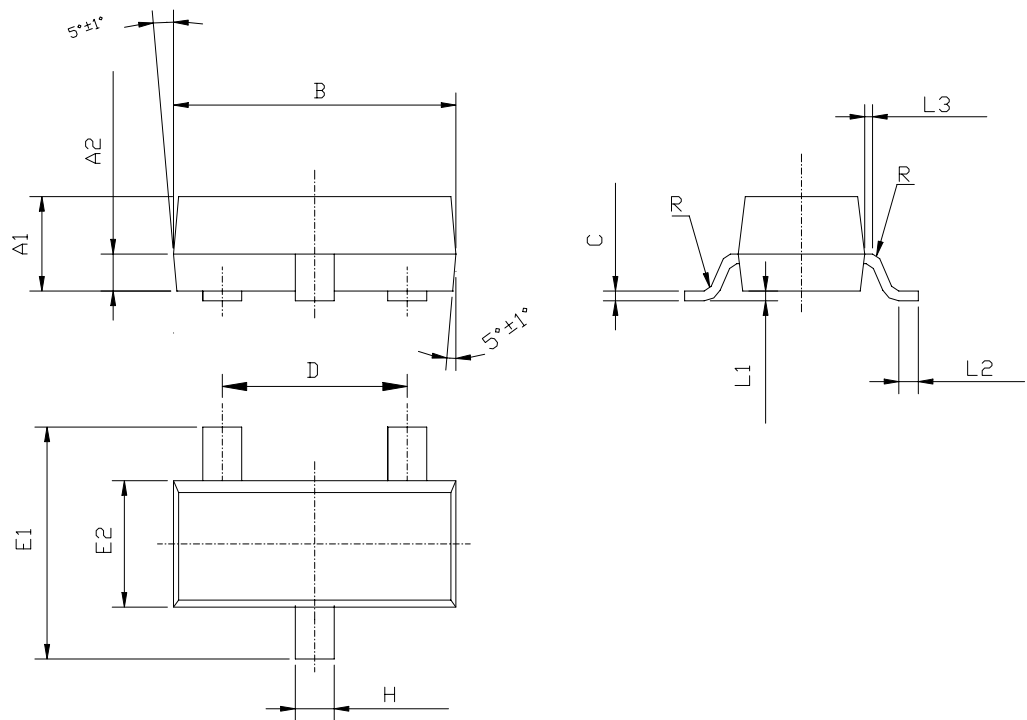


Fig. 3 I_C-V_{CE}

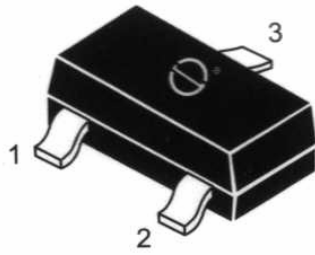


外型尺寸及内部结构图

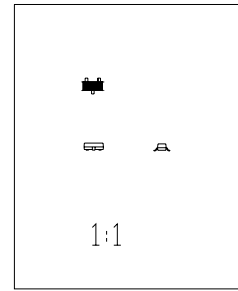
OUTSIDE DEMENSION AND INTERNAL CONFIGURATION (SOT-23)



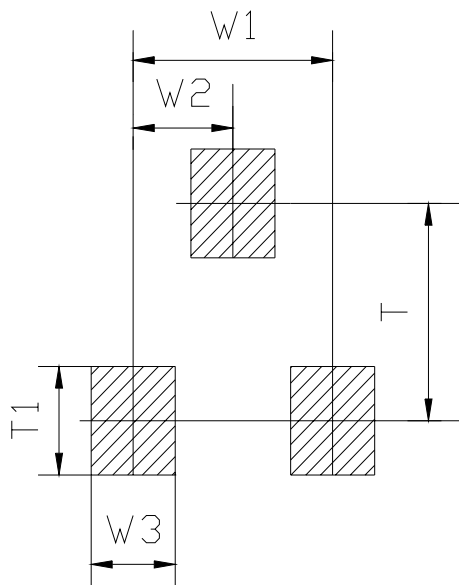
| Symbol | Dimensions in Millimeters | | | 内部结构 STYLS | 管脚 PIN | | |
|--------|---------------------------|---------|-------|---------------|-----------------------|-----------------------|------------------------|
| | Min | Nominal | Max | | 1 脚 | 2 脚 | 3 脚 |
| A1 | 0.900 | 0.970 | 1.000 | 6 | 基极 BASE | 发射极 EMITTER | 集电极 COLLCTOR |
| A2 | 0.350 | 0.380 | 0.410 | | | | |
| B | 2.800 | 2.900 | 3.000 | 8 | 阳极 ANODE | 不连接 NO- CONNECTION | 阴极 CATHODE |
| C | 0.085 | 0.100 | 0.150 | | | | |
| D | 1.800 | 1.900 | 2.000 | 9 | 阳极 ANODE | 阳极 ANODE | 阴极 CATHODE |
| E1 | 2.200 | 2.400 | 2.600 | | | | |
| E2 | 1.200 | 1.300 | 1.400 | 11 | 阳极 ANODE | 阴极 CATHODE | 阳极-阴极 ANODE-CATHODE |
| H | 0.300 | 0.400 | 0.500 | | | | |
| L1 | 0.000 | | 0.100 | 12 | 阴极 CATHODE | 阴极 CATHODE | 阳极 ANODE |
| L2 | 0.200 | | | | | | |
| L3 | 0.030 | 0.080 | 0.130 | 18 | 不连接 NO- CONNECTION | 阴极 CATHODE | 阳极 ANODE |
| R | 0.080TYP | | | | | | |
| | | | | 19 | 阴极 CATHODE | 阳极 ANODE | 阴极-阳极 CATHODE-ANODE |



OUTSIDE



Scale 1:1 on letter size paper

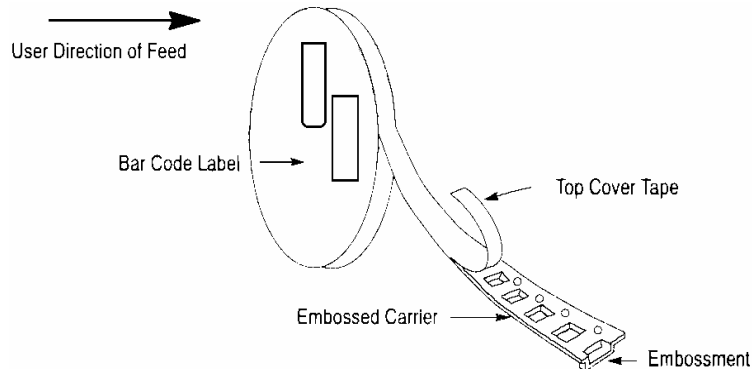


FOOTPRINTS FOR SOLDERING

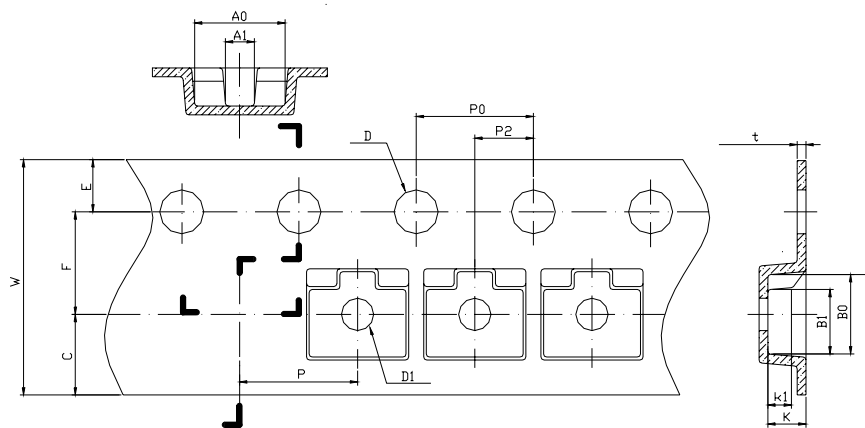
| Symbol | Dimensions in Millimeters | Dimensions in Inches |
|--------|---------------------------|----------------------|
| | Nominal | Nominal |
| W1 | 1.900 | 0.0748 |
| W2 | 0.950 | 0.0374 |
| W3 | 0.800 | 0.0315 |
| T | 2.000 | 0.0787 |
| T1 | 1.000 | 0.0394 |

SOT-23 TAPE AND REEL DATA

SOT-23 PACKAGING:

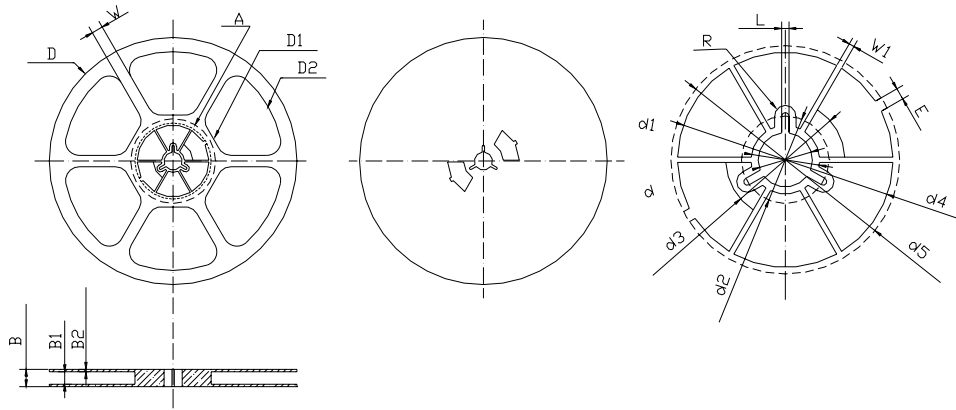


SOT-23 EMBOSSED CARRIER TAPE:



| Symbol | Dimensions in Millimeters | | | Dimensions in Inches | | |
|--------|---------------------------|---------|---------|----------------------|---------|---------|
| | Minimum | Nominal | Maximum | Minimum | Nominal | Maximum |
| A0 | 3.050 | 3.150 | 3.250 | 0.1201 | 0.1240 | 0.1280 |
| A1 | 0.900 | 1.000 | 1.100 | 0.0354 | 0.0394 | 0.0433 |
| B0 | 2.669 | 2.769 | 2.869 | 0.1051 | 0.1090 | 0.1130 |
| B1 | 2.100 | 2.200 | 2.300 | 0.0827 | 0.0866 | 0.0906 |
| C | 2.750TYP | | | 0.1083TYP | | |
| D | 1.500 | 1.500 | 1.600 | 0.0591 | 0.0591 | 0.0630 |
| D1 | 0.900 | 1.000 | 1.100 | 0.0354 | 0.0394 | 0.0433 |
| E | 1.650 | 1.750 | 1.850 | 0.0650 | 0.0689 | 0.0728 |
| F | 3.450 | 3.500 | 3.550 | 0.1358 | 0.1378 | 0.1398 |
| K | 1.119 | 1.219 | 1.319 | 0.0441 | 0.0480 | 0.0519 |
| K1 | 0.850TYP | | | 0.03346TYP | | |
| P | 3.900 | 4.000 | 4.100 | 0.1535 | 0.1575 | 0.1614 |
| P0 | 3.900 | 4.000 | 4.100 | 0.1535 | 0.1575 | 0.1614 |
| P010 | 39.800 | 40.000 | 40.200 | 1.5669 | 1.5748 | 1.5827 |
| P2 | 1.950 | 2.000 | 2.050 | 0.0768 | 0.0787 | 0.0807 |
| t | 0.216 | 0.229 | 0.242 | 0.0085 | 0.0090 | 0.0095 |
| W | 7.900 | 8.000 | 8.300 | 0.3110 | 0.3150 | 0.3268 |

SOT-23 REEL DATA:



| Symbol | Dimensions in Millimeters | | | Dimensions in Inches | | |
|--------|---------------------------|----------|----------|----------------------|---------|---------|
| | Minimum | Nominal | Maximum | Minimum | Nominal | Maximum |
| B | - | - | 12.500 | - | - | 0.4921 |
| B1 | 8.900 | 9.000 | 9.100 | 0.3504 | 0.3543 | 0.3583 |
| B2 | 1.700 | 1.750 | 1.800 | 0.0669 | 0.0689 | 0.0709 |
| D | φ177.000 | φ178.000 | φ179.000 | Φ6.9685 | Φ7.0079 | Φ7.0472 |
| D1 | Φ67.600TYP | | | Φ2.6614TYP | | |
| D2 | Φ157.600TYP | | | Φ6.2047 TYP | | |
| d | Φ12.800 | Φ13.000 | Φ13.200 | Φ0.5039 | Φ0.5118 | Φ0.5197 |
| d1 | Φ16.40 TYP | | | Φ0.6457 TYP | | |
| d2 | Φ21.000 TYP | | | Φ0.8268 TYP | | |
| d3 | Φ25.200 TYP | | | Φ0.99221TYP | | |
| d4 | Φ50.600 | Φ51.600 | Φ52.600 | Φ1.9921 | Φ2.0315 | Φ2.0709 |
| d5 | Φ53.800 | Φ54.800 | Φ55.800 | Φ2.1181 | Φ2.1575 | Φ2.1969 |
| E | 2.800 TYP | | | 0.1102TYP | | |
| L | 1.750 TYP | | | 0.0689 TYP | | |
| R | 2.575 TYP | | | 0.1014 TYP | | |
| W | 15.000 TYP | | | 0.5906 TYP | | |
| W1 | 1.300 TYP | | | 0.0512 TYP | | |