

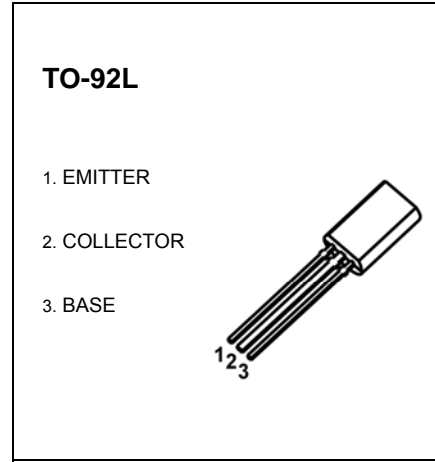


TO-92L Plastic-Encapsulate Transistors

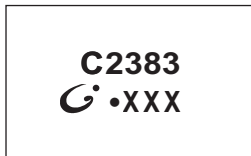
2SC2383 TRANSISTOR (NPN)

FEATURE

- High Voltage: $V_{CE0}=160V$
- Large Continuous Collector Current Capability
- Complementary to 2SA1013

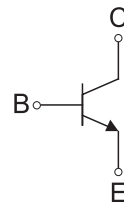


MARKING



B C2383=Device code
 C Solid dot = Green molding compound device,
 E if none, the normal device
 XXX=Code

Equivalent Circuit



ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| 2SC2383 | TO-92L | Bulk | 500pcs/Bag |
| 2SC2383-TA | TO-92L | Tape | 2000pcs/Box |

MAXIMUM RATINGS ($T_a=25\text{ }^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|-------------|------------------|
| V_{CBO} | Collector-Base Voltage | 160 | V |
| V_{CEO} | Collector-Emitter Voltage | 160 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current -Continuous | 1 | A |
| P_C | Collector Power Dissipation | 0.75 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS

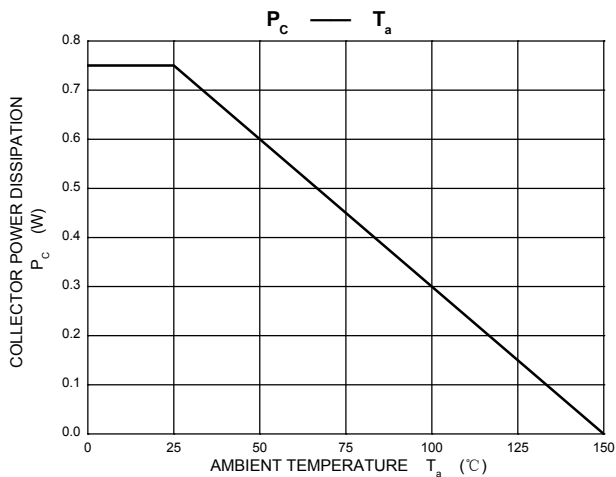
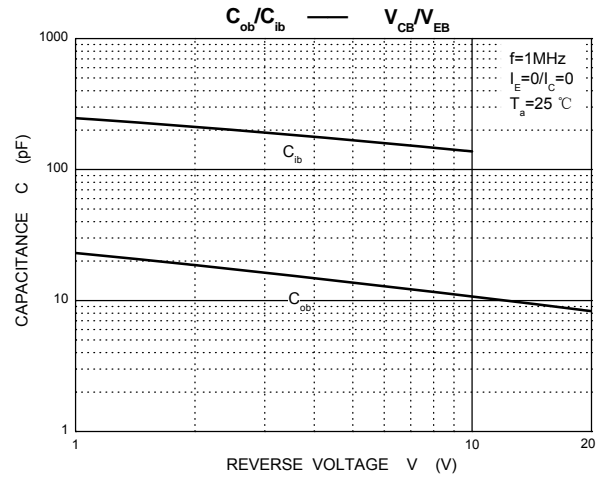
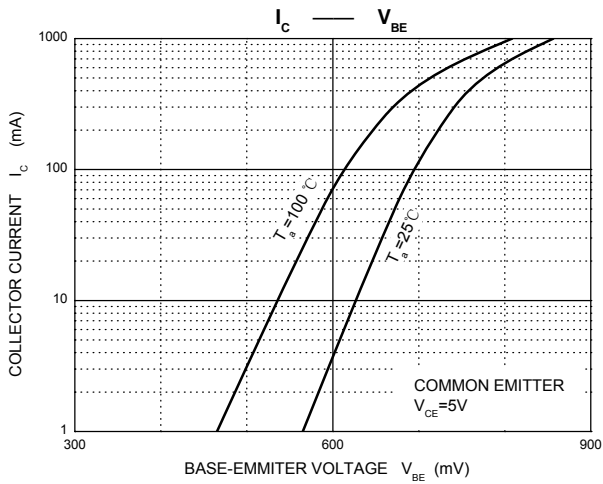
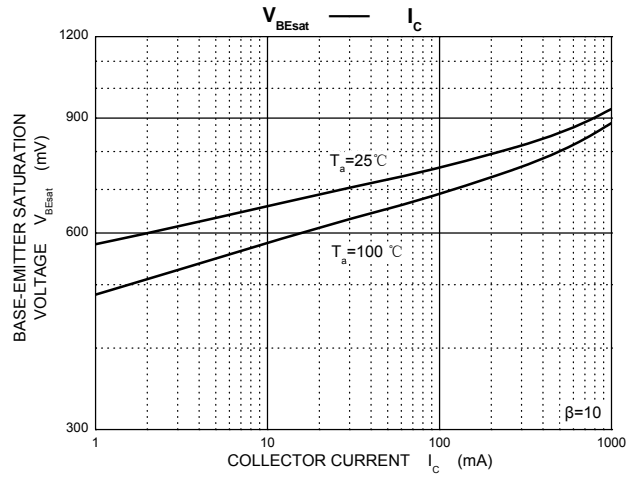
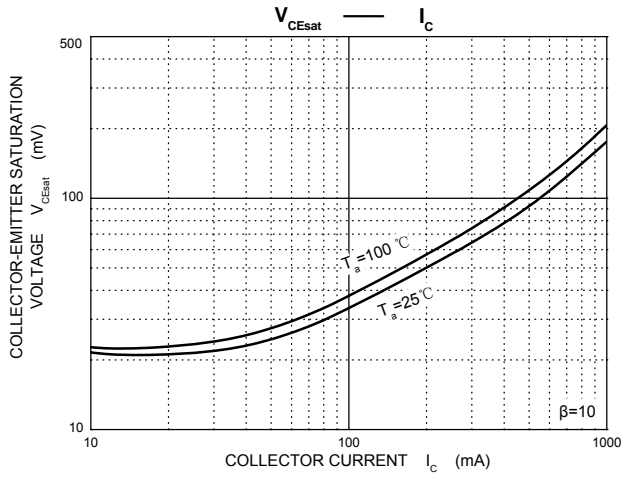
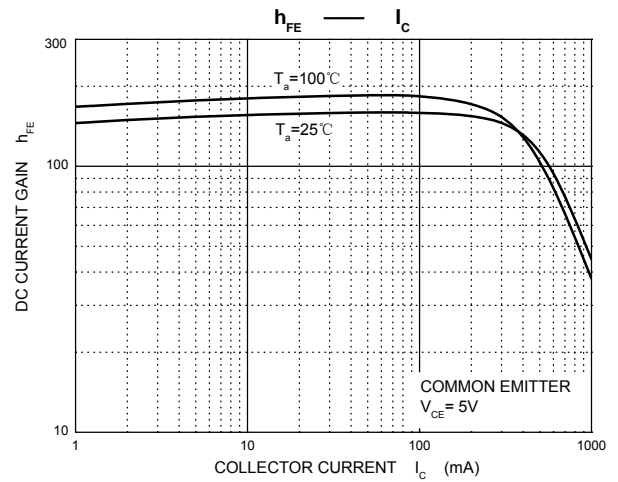
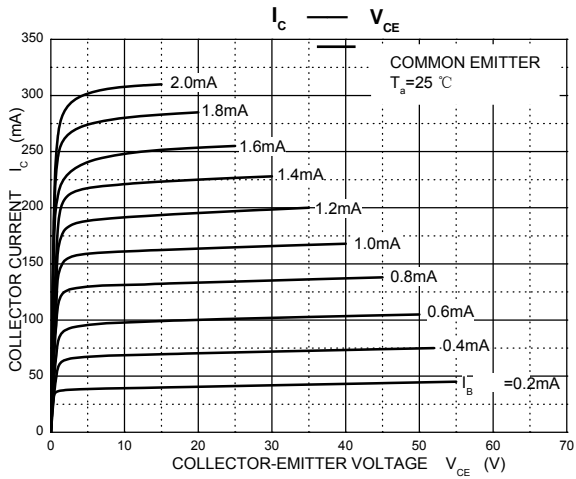
$T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter | Symbol | Test conditions | Min | Max | Unit |
|--------------------------------------|-----------------------------|---|-----|------|---------------|
| Collector-base breakdown voltage | $V(\text{BR})_{\text{CBO}}$ | $I_C=100\mu\text{A}, I_E=0$ | 160 | | V |
| Collector-emitter breakdown voltage | $V(\text{BR})_{\text{CEO}}$ | $I_C=10\text{mA}, I_B=0$ | 160 | | V |
| Emitter-base breakdown voltage | $V(\text{BR})_{\text{EBO}}$ | $I_E=10\mu\text{A}, I_C=0$ | 6 | | V |
| Collector cut-off current | I_{CBO} | $V_{\text{CB}}=150\text{V}, I_E=0$ | | 1 | μA |
| Collector cut-off current | I_{CER} | $V_{\text{CB}}=150\text{V}, R_{\text{EB}}=10\text{M}\Omega$ | | 10 | μA |
| Emitter cut-off current | I_{EBO} | $V_{\text{EB}}=6\text{V}, I_C=0$ | | 1 | μA |
| DC current gain | h_{FE1} | $V_{\text{CE}}=5\text{V}, I_C=200\text{mA}$ | 60 | 320 | |
| | h_{FE2} | $V_{\text{CE}}=5\text{V}, I_C=10\text{mA}$ | 40 | | |
| Collector-emitter saturation voltage | $V_{\text{CE(sat)}}$ | $I_C=500\text{mA}, I_B=50\text{mA}$ | | 1 | V |
| Base-emitter voltage | V_{BE} | $I_C=5\text{mA}, V_{\text{CE}}=5\text{V}$ | | 0.75 | V |
| Transition frequency | f_{T} | $V_{\text{CE}}=5\text{V}, I_C=200\text{mA}$ | 20 | | MHz |

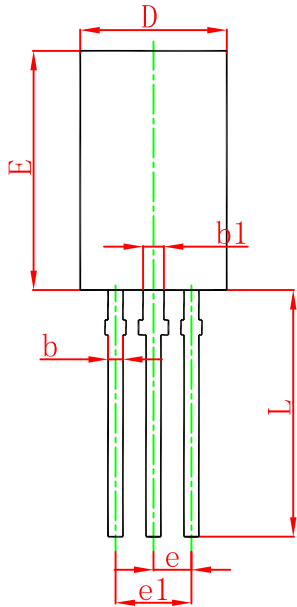
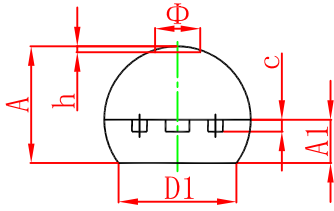
CLASSIFICATION OF h_{FE1}

| Rank | R | O | Y |
|-------|--------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 |

Typical Characteristics

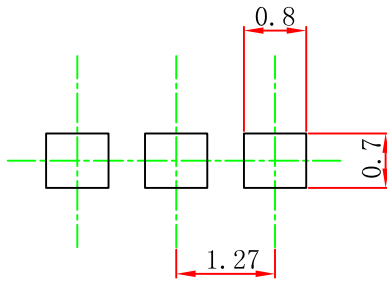


TO-92L Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 3.750 | 4.050 | 0.148 | 0.159 |
| A1 | 1.280 | 1.580 | 0.050 | 0.062 |
| b | 0.380 | 0.550 | 0.015 | 0.022 |
| b1 | 0.620 | 0.780 | 0.024 | 0.031 |
| c | 0.350 | 0.450 | 0.014 | 0.018 |
| D | 4.750 | 5.050 | 0.187 | 0.199 |
| D1 | 4.000 | | 0.157 | |
| E | 7.850 | 8.150 | 0.309 | 0.321 |
| e | 1.270 TYP. | | 0.050 TYP. | |
| e1 | 2.440 | 2.640 | 0.096 | 0.104 |
| L | 13.800 | 14.200 | 0.543 | 0.559 |
| Φ | | 1.600 | | 0.063 |
| h | 0.000 | 0.300 | 0.000 | 0.012 |

TO-92L Suggested Pad Layout



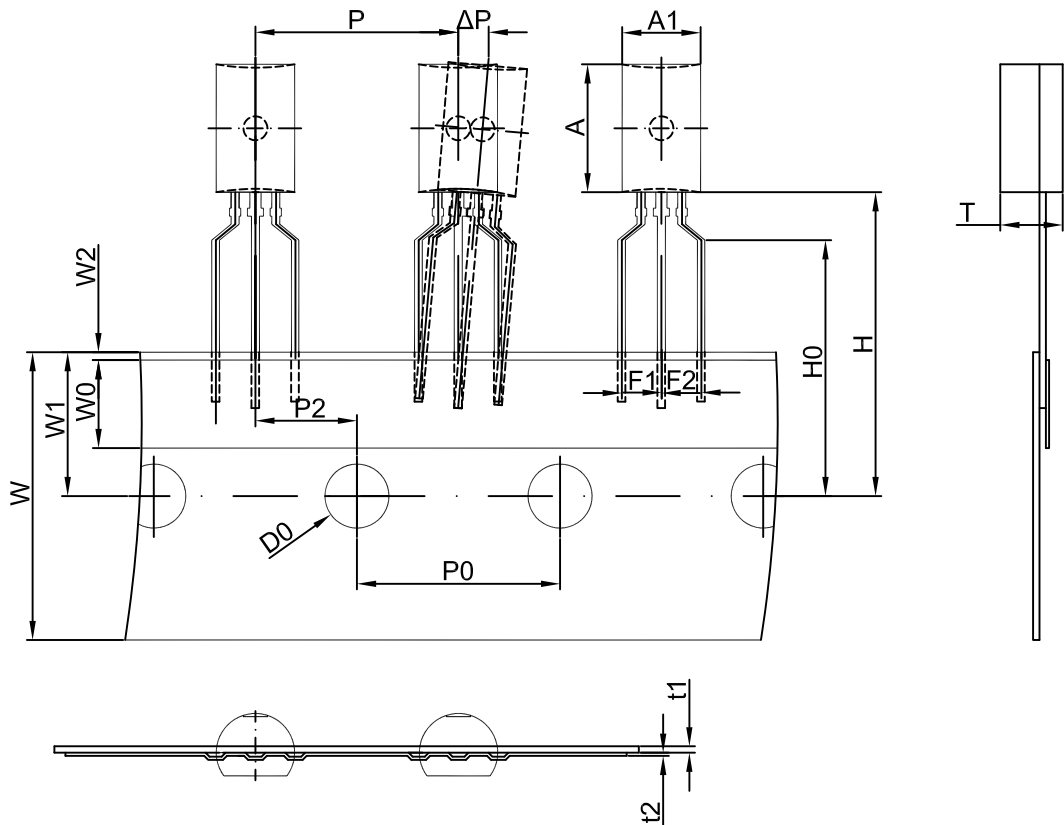
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

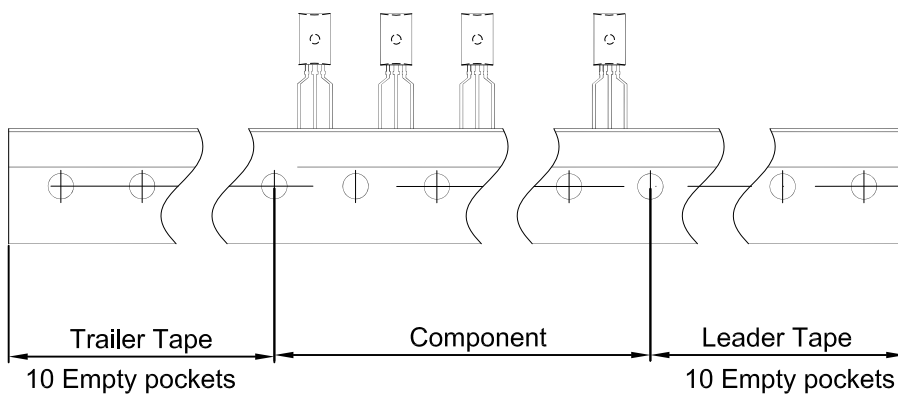
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TO-92L PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

| A1 | A | T | P | P0 | P2 | F1 | F2 | W |
|-----|-----|-----|------|------|------|-----|-----|------|
| 4.9 | 8.0 | 3.9 | 12.7 | 12.7 | 6.35 | 2.5 | 2.5 | 18.0 |
| W0 | W1 | W2 | H | H0 | D0 | t1 | t2 | ΔP |
| 6.0 | 9.0 | 1.0 | 19.0 | 16.0 | 4.0 | 0.4 | 0.2 | 0 |



| Package | Box | Box Size(mm) | Carton | Carton Size(mm) |
|---------|----------|--------------|------------|-----------------|
| TO-92L | 2000 pcs | 333×203×42 | 20,000 pcs | 493×400×264 |