

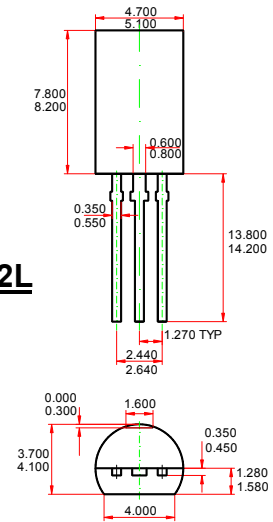


1. EMITTER
2. COLLECTOR
3. BASE

Features

- ✧ Power supplies, relay drivers, lamp drivers, and automotive wiring
- ✧ Low saturation voltage.
- ✧ Large current capacity and wide ASO.

TO-92L



Dimensions in inches and (millimeters)

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

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|---------|------------------|
| V_{CB0} | Collector-Base Voltage | -60 | V |
| V_{CE0} | Collector-Emitter Voltage | -50 | V |
| V_{EB0} | Emitter-Base Voltage | -6 | V |
| I_C | Collector Current -Continuous | -2 | A |
| P_C | Collector Dissipation | 0.75 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{stg} | Storage Temperature | -55-150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

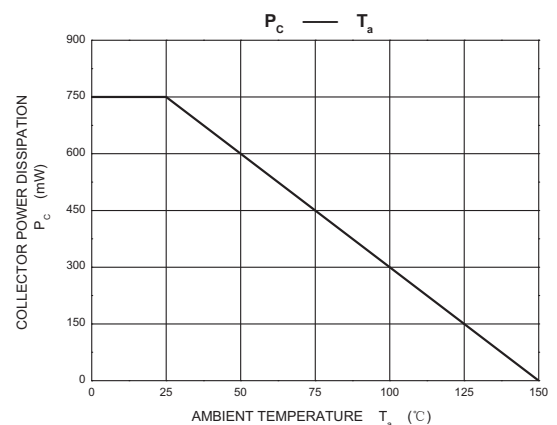
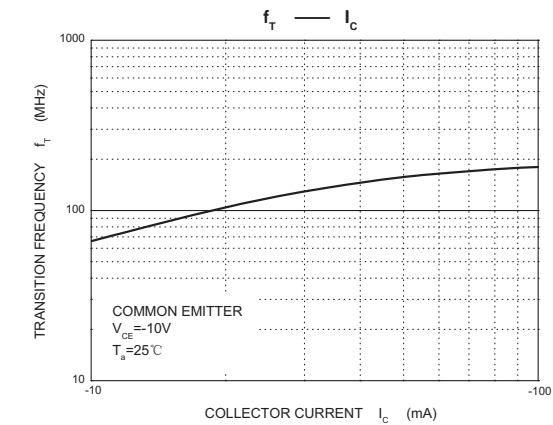
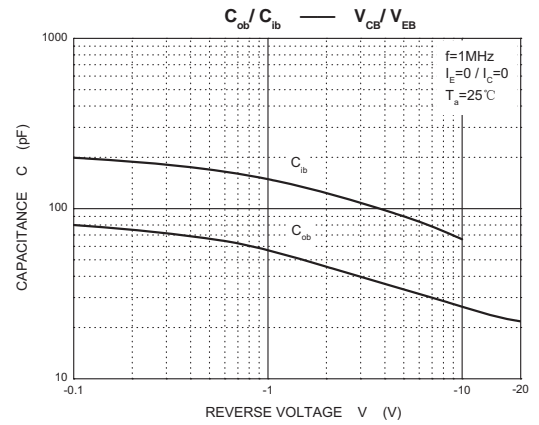
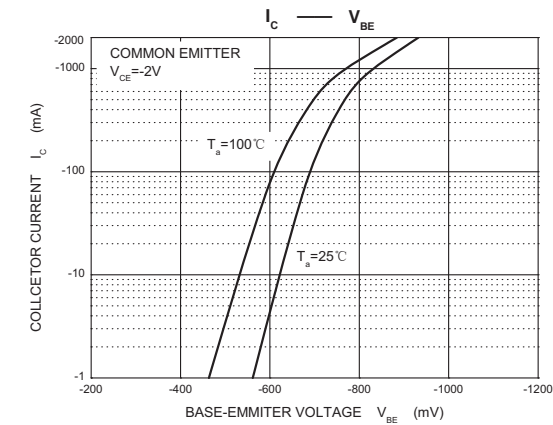
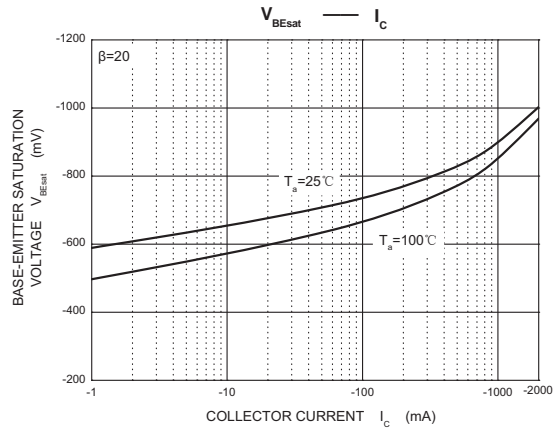
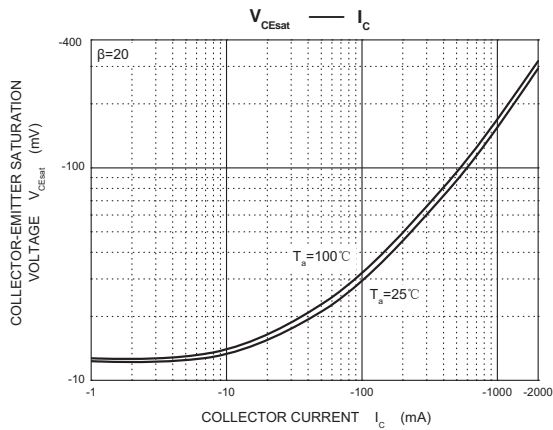
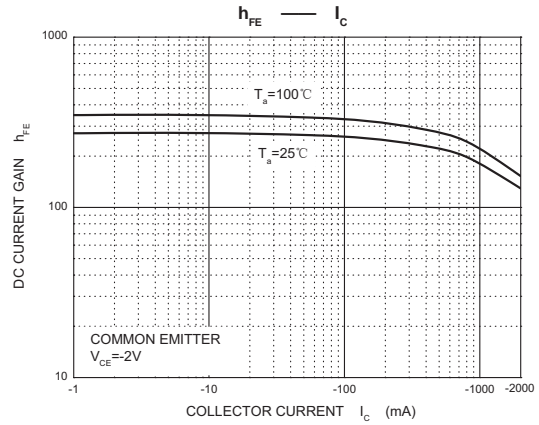
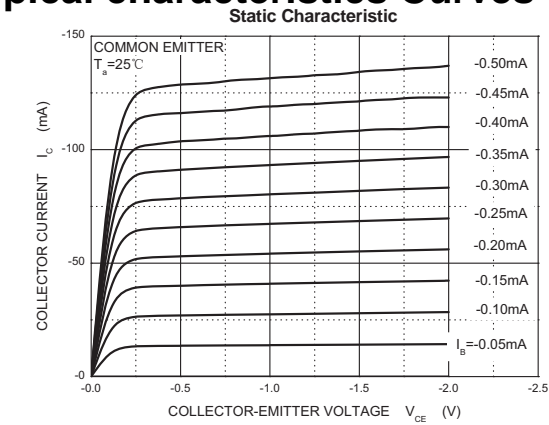
| Parameter | Symbol | Test conditions | MIN | MAX | UNIT |
|--------------------------------------|---------------|---|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CB0}$ | $I_C = -100\mu\text{A}$, $I_E = 0$ | -60 | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CE0}$ | $I_C = -1\text{mA}$, $I_B = 0$ | -50 | | V |
| Emitter-base breakdown voltage | $V_{(BR)EB0}$ | $I_E = -100\mu\text{A}$, $I_C = 0$ | -6 | | V |
| Collector cut-off current | I_{CB0} | $V_{CB} = -50\text{V}$, $I_E = 0$ | | -0.1 | μA |
| Emitter cut-off current | I_{EB0} | $V_{EB} = -4\text{V}$, $I_C = 0$ | | -0.1 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE} = -2\text{V}$, $I_C = -100\text{mA}$ | 100 | 560 | |
| | $h_{FE(2)}$ | $V_{CE} = -2\text{V}$, $I_C = -1.5\text{A}$ | 40 | | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -1\text{A}$, $I_B = -50\text{mA}$ | | -0.4 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -1\text{A}$, $I_B = -50\text{mA}$ | | -1.2 | V |
| Transition frequency | f_T | $V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$ | 150 | | MHz |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | R | S | T | U |
|-------|---------|---------|---------|---------|
| Range | 100-200 | 140-280 | 200-400 | 280-560 |



Typical characteristics Curves



| Package | Packing | Quantity | Box | Box Size(mm) | Carton | Carton Size(mm) |
|---------|---------|-------------|---------|--------------|-----------|-----------------|
| TO-92L | Bulk | 500pcs/Bag | 5000pcs | 245×170×100 | 50,000pcs | 525×375×270 |
| TO-92L | Tape | 2000pcs/Tap | 2000pcs | 333×203×42 | 20,000pcs | 493×400×264 |