



TO-220-3L Plastic-Encapsulate Transistors

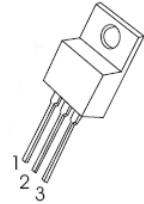
2SC4544 TRANSISTOR (NPN)

FEATURES

- High voltage: $V_{(BR)CEO} = 300\text{ V}$
- Small collector output capacitance: $C_{ob} = 3.0\text{ pF (typ.)}$
- Collector metal (fin) is fully covered with mold resin.

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



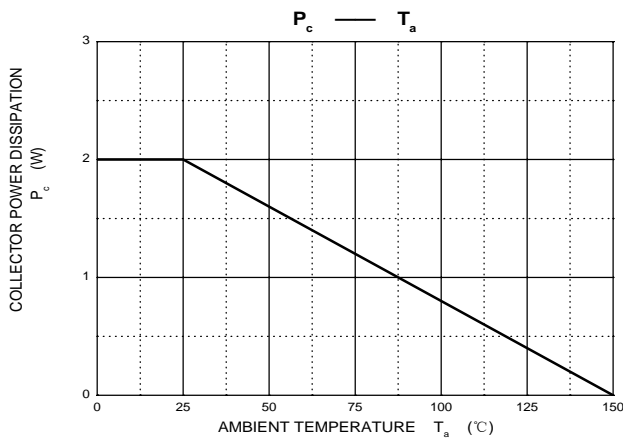
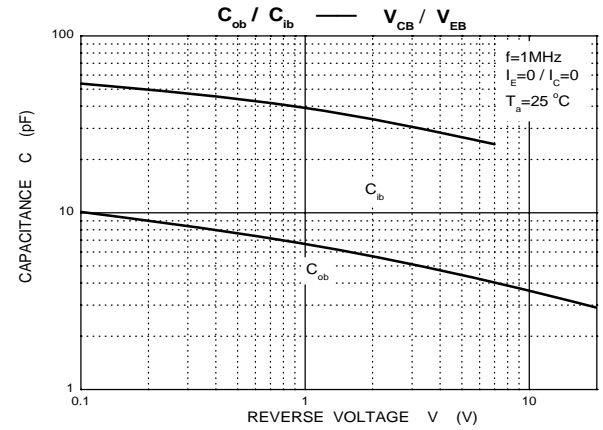
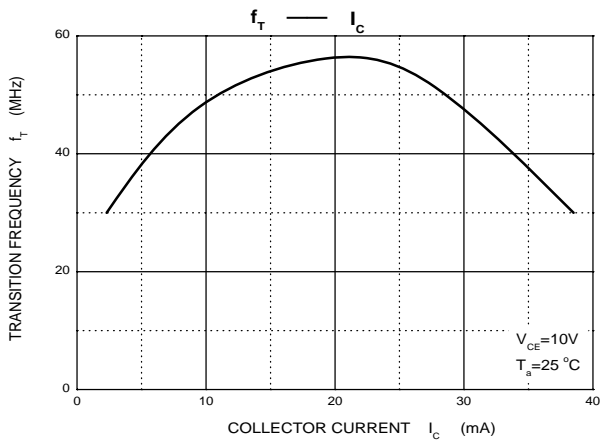
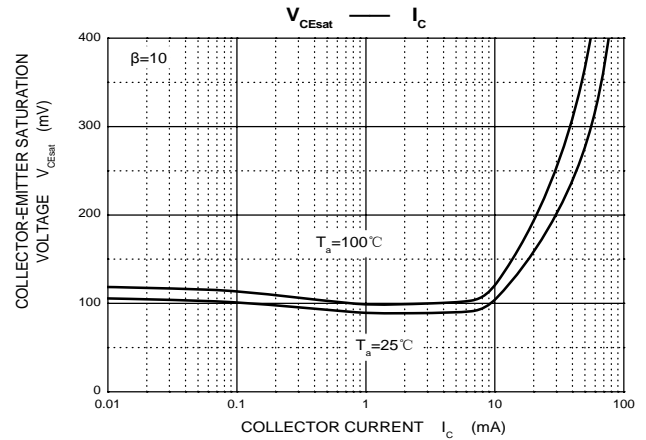
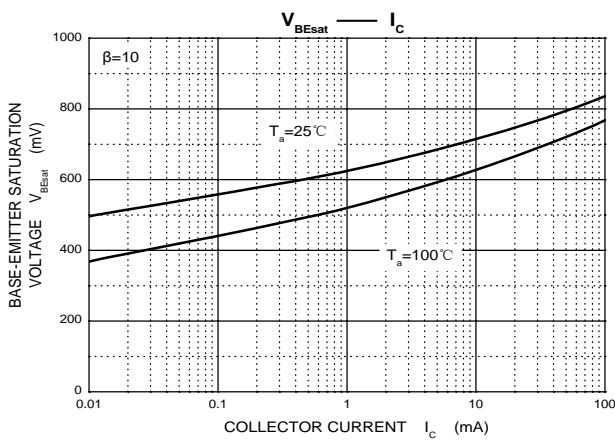
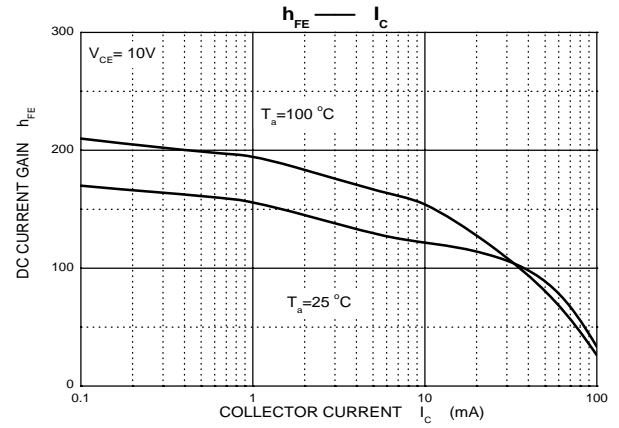
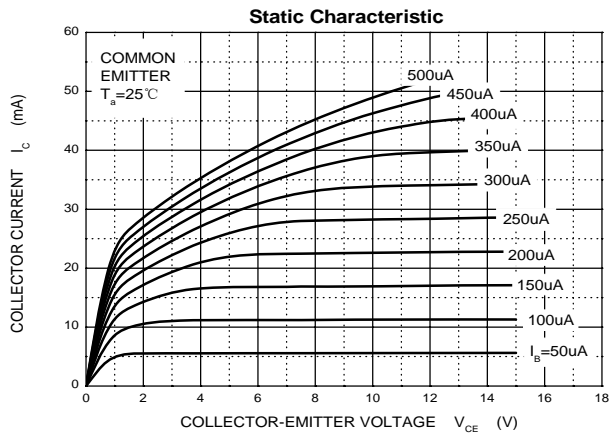
MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|----------------|--|---------|------------------|
| V_{CBO} | Collector-Base Voltage | 300 | V |
| V_{CEO} | Collector-Emitter Voltage | 300 | V |
| V_{EBO} | Emitter-Base Voltage | 7 | V |
| I_C | Collector Current -Continuous | 0.1 | A |
| P_C | Collector Power Dissipation | 2 | W |
| T_J, T_{stg} | Operation Junction and Storage Temperature Range | -55-150 | $^\circ\text{C}$ |

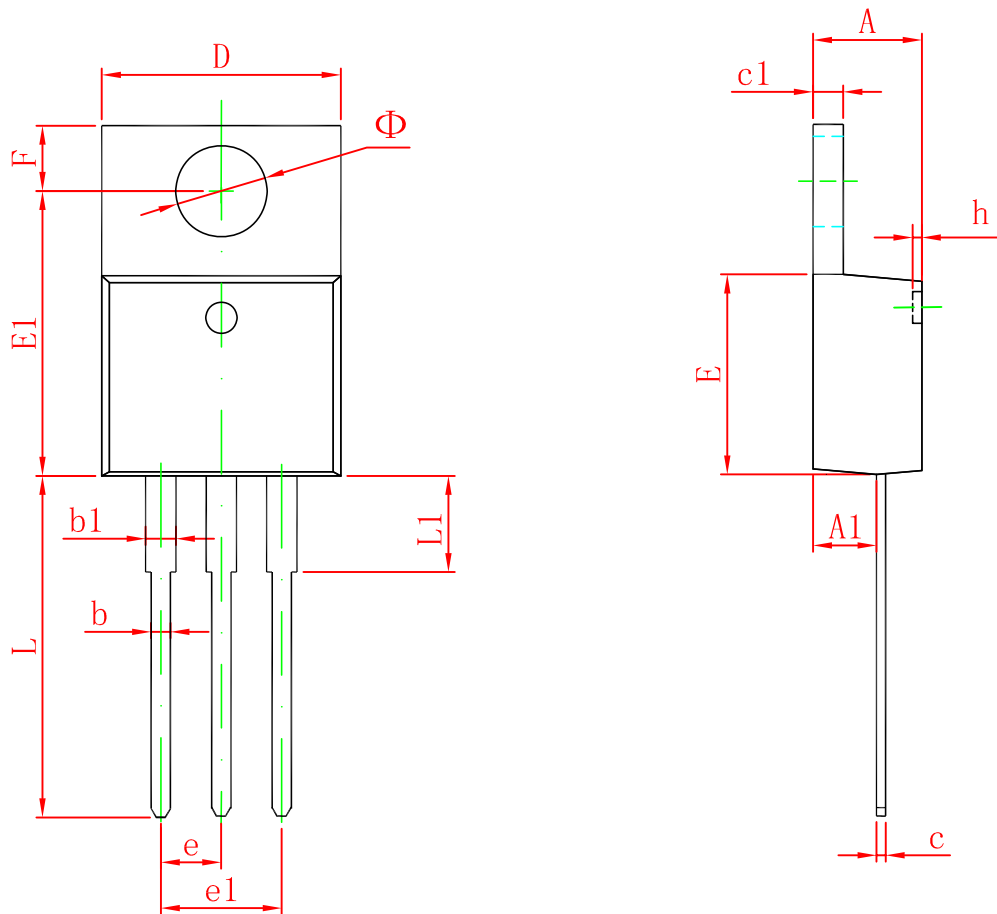
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$ | 300 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=10\text{mA}, I_B=0$ | 300 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$ | 7 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=240\text{V}, I_E=0$ | | | 1.0 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=7\text{V}, I_C=0$ | | | 1.0 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=10\text{V}, I_C=4\text{mA}$ | 20 | | | |
| | $h_{FE(2)}$ | $V_{CE}=10\text{V}, I_C=20\text{mA}$ | 30 | | 200 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10\text{mA}, I_B=1\text{mA}$ | | | 1.0 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=10\text{mA}, I_B=1\text{mA}$ | | | 1.0 | V |
| Transition frequency | f_T | $V_{CE}=10\text{V}, I_C=20\text{mA}$ | 50 | 70 | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=20\text{V}, I_E=0, f=1\text{MHz}$ | | 3.0 | | pF |

Typical Characteristics



TO-220-3L Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 4.470 | 4.670 | 0.176 | 0.184 |
| A1 | 2.520 | 2.820 | 0.099 | 0.111 |
| b | 0.710 | 0.910 | 0.028 | 0.036 |
| b1 | 1.170 | 1.370 | 0.046 | 0.054 |
| c | 0.310 | 0.530 | 0.012 | 0.021 |
| c1 | 1.170 | 1.370 | 0.046 | 0.054 |
| D | 10.010 | 10.310 | 0.394 | 0.406 |
| E | 8.500 | 8.900 | 0.335 | 0.350 |
| E1 | 12.060 | 12.460 | 0.475 | 0.491 |
| e | 2.540 TYP | | 0.100 TYP | |
| e1 | 4.980 | 5.180 | 0.196 | 0.204 |
| F | 2.590 | 2.890 | 0.102 | 0.114 |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| L | 13.400 | 13.800 | 0.528 | 0.543 |
| L1 | 3.560 | 3.960 | 0.140 | 0.156 |
| Φ | 3.735 | 3.935 | 0.147 | 0.155 |