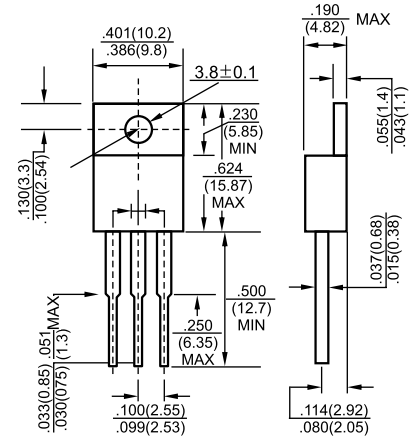


1. BASE
2. COLLECTOR
3. EMITTER

TO-220



Dimensions in inches and (millimeters)

Features

- ◇ Low Collector -emitter saturation voltage
 $V_{CE(sat)}=1.0v(\text{Max})@ I_C=-3A, I_B=-0.3A$
- ◇ DC current Gain
 $h_{FE} =60-200@ I_C=0.5A$
- ◇ Complementary to NPN 2SD880

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

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|---------|------------------|
| V_{CBO} | Collector- Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -60 | V |
| V_{EBO} | Emitter-Base Voltage | -7 | V |
| I_C | Collector Current -Continuous | -3 | A |
| P_C | Collector Power Dissipation | 1.5 | 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 | TYP | MAX | UNIT |
|--------------------------------------|----------------|--|-----|-----|------|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=-1mA, I_E=0$ | -60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C =-50mA, I_B=0$ | -60 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=-1mA, I_C=0$ | -7 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=-60V, I_E=0$ | | | -100 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=-7V, I_C=0$ | | | -100 | μA |
| DC current gain | $h_{FE(1)*}$ | $V_{CE}=-5V, I_C=-500mA$ | 60 | | 200 | |
| | $h_{FE(2)*}$ | $V_{CE}=-5V, I_C=-3A$ | 20 | | | |
| Collector-emitter saturation voltage | $V_{CE(sat)*}$ | $I_C=-3A, I_B=-0.3A$ | | | -1 | V |
| Base-emitter voltage | V_{BE*} | $V_{CE}=-5V, I_C=-500mA$ | | | -1 | V |
| Transition frequency | f_T | $V_{CE}=-5V, I_C=-500mA, f=1\text{MHz}$ | | 9 | | MHz |
| Turn-on Time | t_{on} | $V_{CC}=-30V, I_C=-2A, I_B=I_{B2}=-0.2A$ | | 0.4 | | μs |
| Storage Time | t_{stg} | | | 1.7 | | μs |
| Turn-off Time | t_{off} | | | 0.5 | | μs |

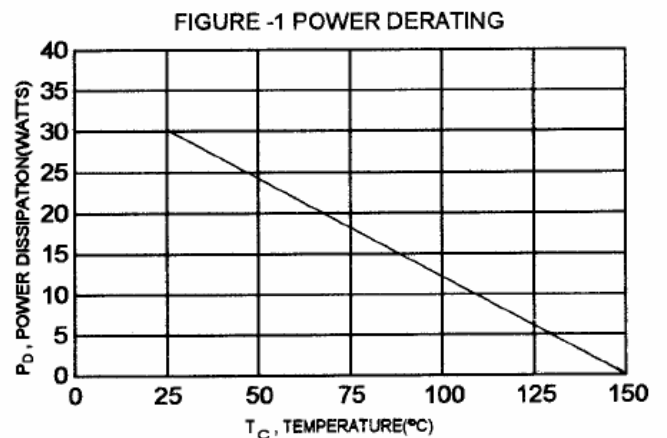
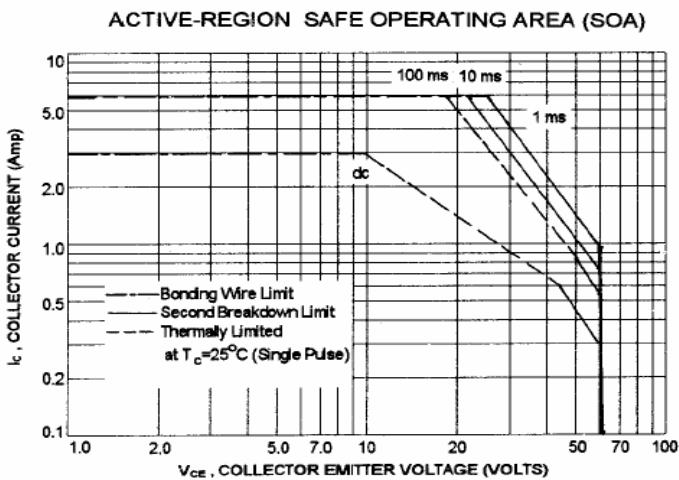
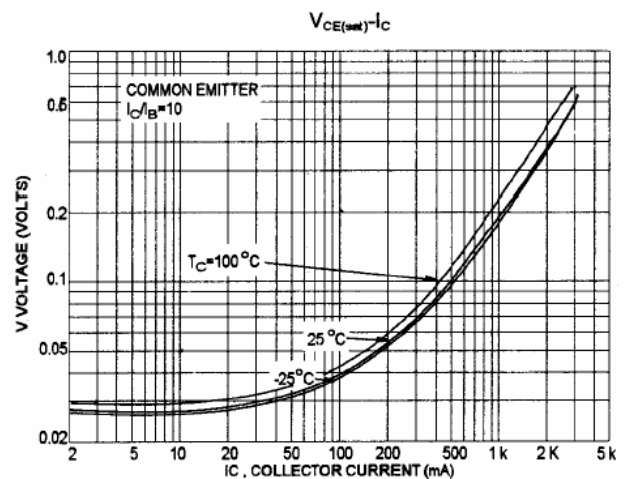
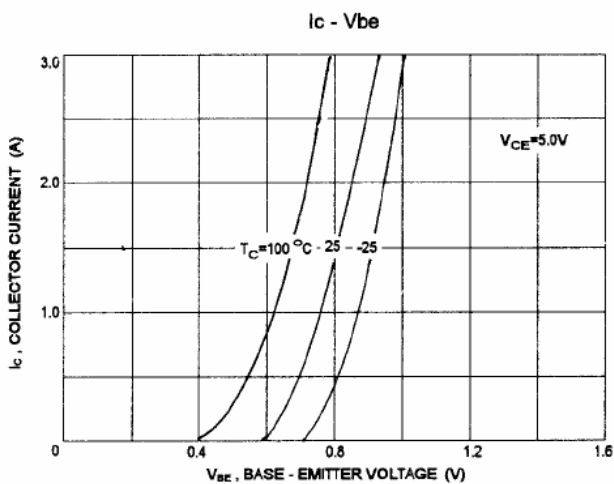
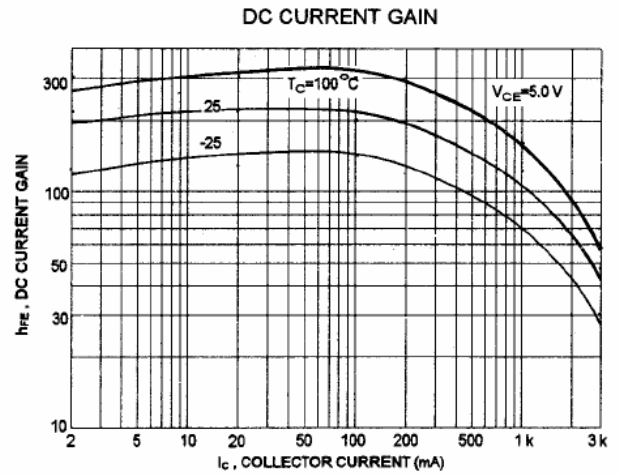
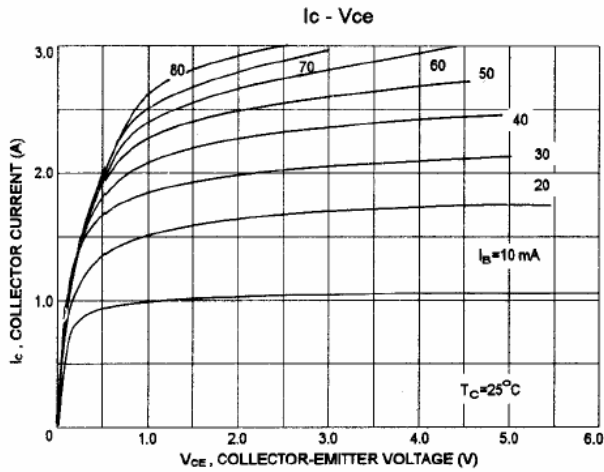
*Pulse test.

CLASSIFICATION OF $h_{FE(1)}$

| Rank | O | Y |
|-------|--------|---------|
| Range | 60-120 | 100-200 |



Typical Characteristics



| Package | Packing | Box Size L×W×H(mm) | Quantity(pcs/box) | Carton Size L×W×H(mm) | Quantity(pcs/carton) |
|---------|------------|-----------------------|-------------------|--------------------------|----------------------|
| TO-220 | 50pcs/Tube | 560×150×50 | 1000 | 570×290×180 | 5000 |