

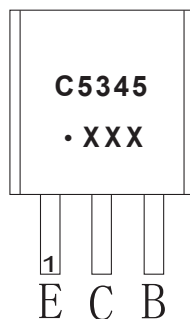
TRANSISTOR (NPN)

FEATURES

- High Current Transition Frequency
- Low Output Capacitance
- Low Base Time Constant and High Gain
- Excellent Noise Response

APPLICATIONS

- RF Amplifier

MARKING


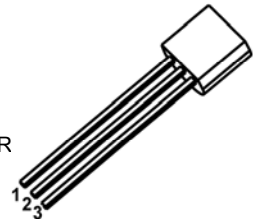
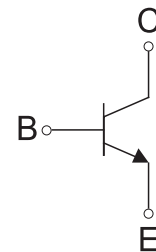
C5345=Device code

Solid dot=Green molding compound device,
if none,the normal device

XXX=Code

TO – 92

1. EMITTER
2. COLLECTOR
3. BASE


Equivalent Circuit

ORDERING INFORMATION

| Part Number | Package | Packing Method | Pack Quantity |
|-------------|---------|----------------|---------------|
| 2SC5345 | TO-92 | Bulk | 1000pcs/Bag |
| 2SC5345-TA | TO-92 | Tape | 2000pcs/Box |

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|------------------|---|----------|-------|
| V _{CBO} | Collector-Base Voltage | 30 | V |
| V _{CEO} | Collector-Emitter Voltage | 20 | V |
| V _{EB0} | Emitter-Base Voltage | 4 | V |
| I _C | Collector Current | 20 | mA |
| P _C | Collector Power Dissipation | 625 | mW |
| R _{θJA} | Thermal Resistance From Junction To Ambient | 200 | °C /W |
| T _j | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55~+150 | °C |



ELECTRICAL CHARACTERISTICS

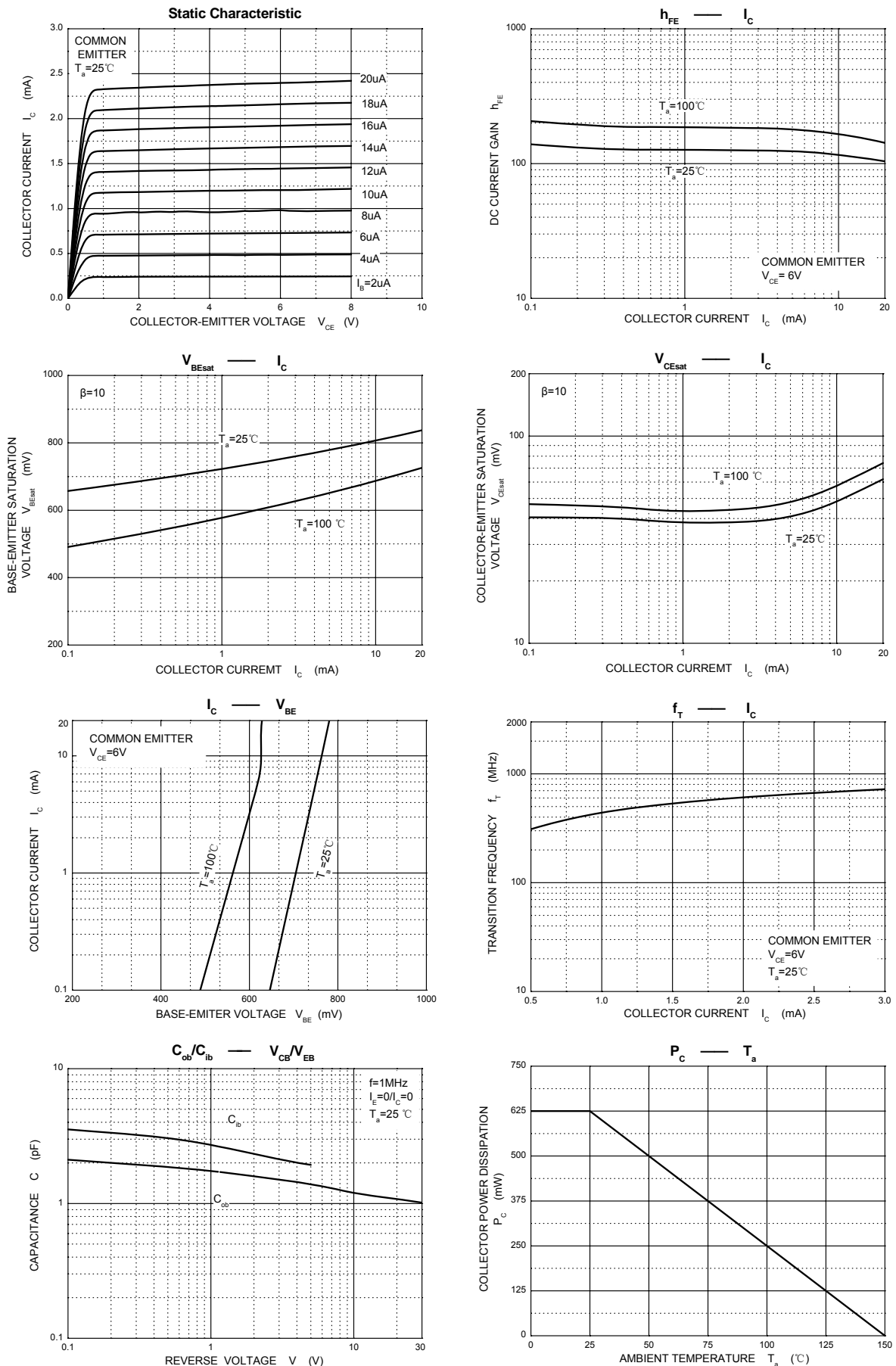
 $T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|-----|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=0.01\text{mA}, I_E=0$ | 30 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=5\text{mA}, I_B=0$ | 20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=0.01\text{mA}, I_C=0$ | 4 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=30\text{V}, I_E=0$ | | | 0.5 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=4\text{V}, I_C=0$ | | | 0.5 | μA |
| DC current gain | $h_{FE(1)}$ | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 40 | | 240 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=10\text{mA}, I_B=1\text{mA}$ | | | 0.3 | V |
| Collector output capacitance | C_{ob} | $V_{CB}=6\text{V}, I_E=0, f=1\text{MHz}$ | | 1.4 | | pF |
| Transition frequency | f_T | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | | 550 | | MHz |

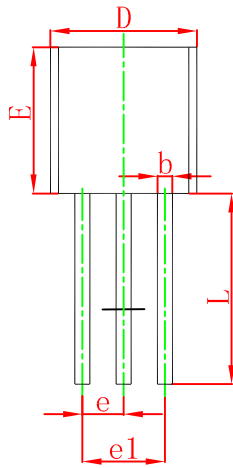
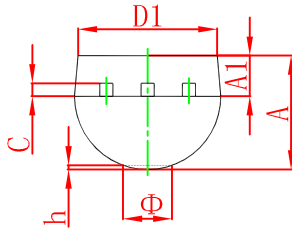
CLASSIFICATION OF h_{FE}

| RANK | R | O | Y |
|-------|-------|--------|---------|
| RANGE | 40-80 | 70-140 | 120-240 |

Typical Characteristics

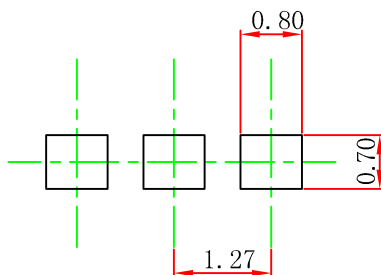


TO-92 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 3.300 | 3.700 | 0.130 | 0.146 |
| A1 | 1.100 | 1.400 | 0.043 | 0.055 |
| b | 0.380 | 0.550 | 0.015 | 0.022 |
| c | 0.360 | 0.510 | 0.014 | 0.020 |
| D | 4.300 | 4.700 | 0.169 | 0.185 |
| D1 | 3.430 | | 0.135 | |
| E | 4.300 | 4.700 | 0.169 | 0.185 |
| e | 1.270 TYP | | 0.050 TYP | |
| e1 | 2.440 | 2.640 | 0.096 | 0.104 |
| L | 14.100 | 14.500 | 0.555 | 0.571 |
| Φ | | 1.600 | | 0.063 |
| h | 0.000 | 0.380 | 0.000 | 0.015 |

TO-92 Suggested Pad Layout



Note:

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