

**DESCRIPTION** The 2SC1941 is designed for use in driver stages of audio frequency amplifiers.

- FEATURES**
- High total power dissipation and high breakdown voltage:  
1.0 W at 25 °C ambient temperature/ $V_{CE0}=160$  V
  - Complementary to the NEC 2SA916 PNP transistor.

**ABSOLUTE MAXIMUM RATINGS**

Maximum Temperatures

Storage Temperature ..... -55 to +150 °C

Junction Temperature ..... +150 °C Maximum

Maximum Power Dissipation ( $T_a = 25$  °C)

Total Power Dissipation ..... 1.0 W

Thermal Resistance(junction to Ambient) ...125 °C/W

Maximum Voltages and Currents ( $T_a = 25$  °C)

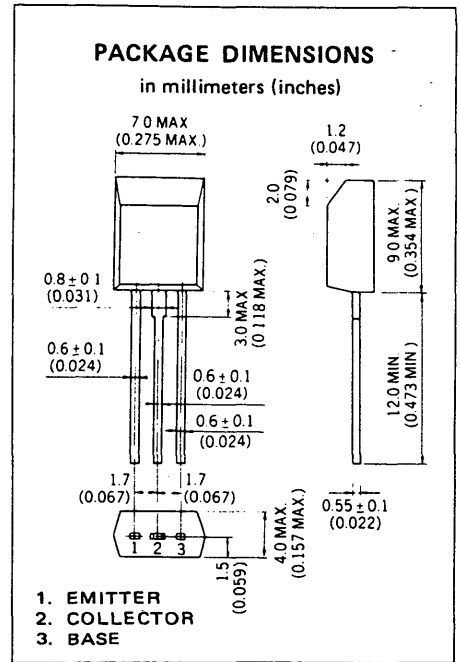
$V_{CBO}$  Collector to Base Voltage ..... 160 V

$V_{CEO}$  Collector to Emitter Voltage ..... 160 V

$V_{EBO}$  Emitter to Base Voltage ..... 5.0 V

$I_C$  Collector Current ..... 50 mA

$I_B$  Base Current ..... 10 mA



**ELECTRICAL CHARACTERISTICS ( $T_a = 25$  °C)**

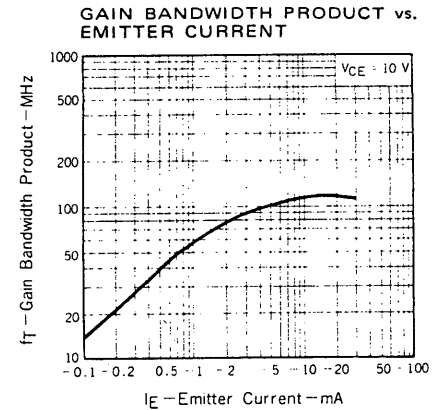
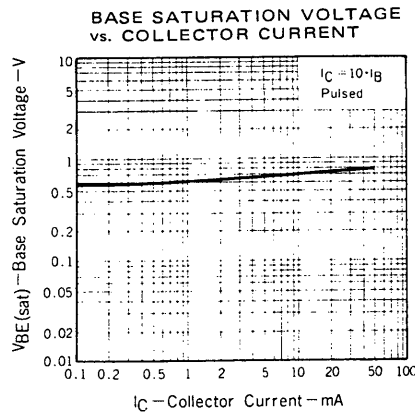
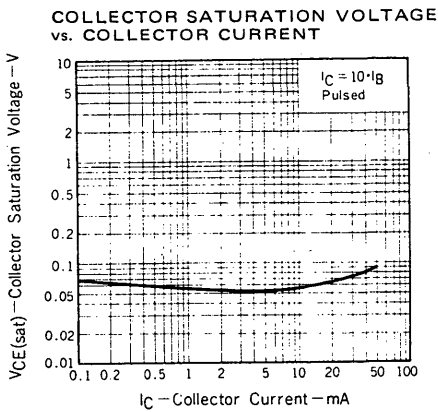
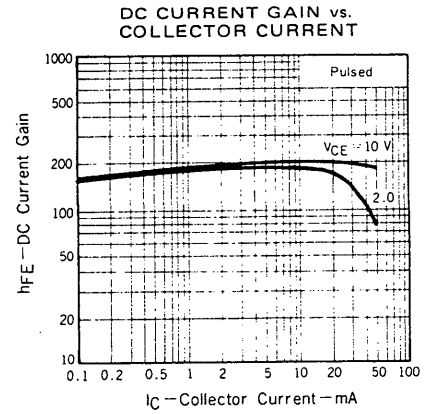
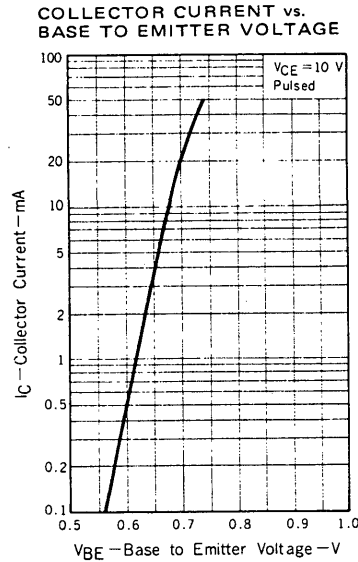
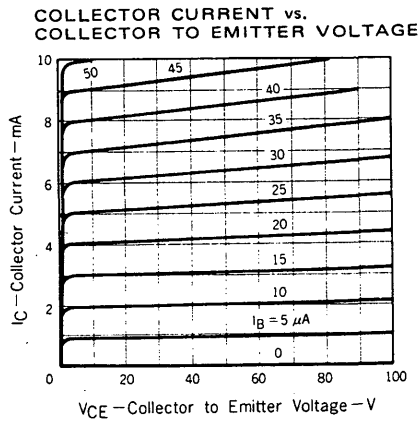
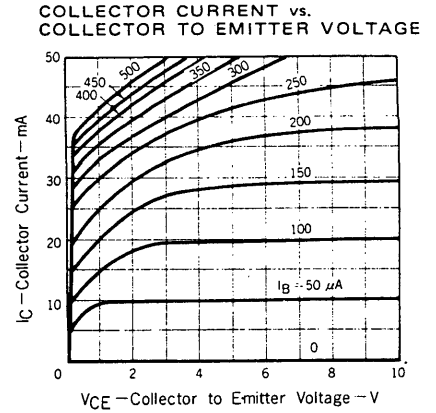
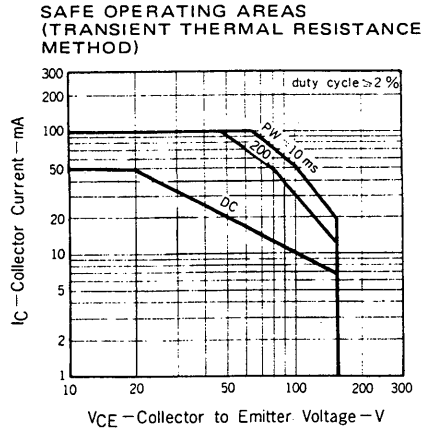
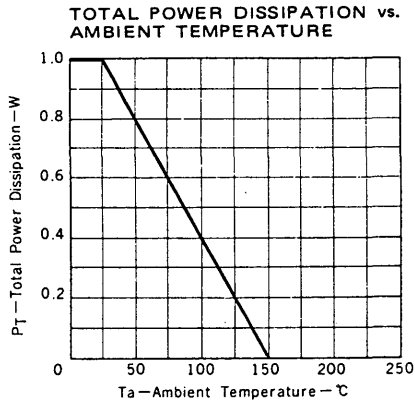
| SYMBOL        | CHARACTERISTIC               | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS                            |
|---------------|------------------------------|------|------|------|------|--|
| $h_{FE1}$     | DC Current Gain              | 90   | 200  | 400  | —    | $V_{CE} = 10$ V, $I_C = 10$ mA             |
| $h_{FE2}$     | DC Current Gain              | 50   | 180  |      | —    | $V_{CE} = 10$ V, $I_C = 1.0$ mA            |
| $f_T$         | Gain Bandwidth Product       | 50   | 120  |      | MHz  | $V_{CE} = 10$ V, $I_E = -10$ mA            |
| $C_{ob}$      | Output Capacitance           |      | 2.3  | 3.0  | pF   | $V_{CB} = 10$ V, $I_E = 0$ , $f = 1.0$ MHz |
| $I_{CBO}$     | Collector Cutoff Current     |      |      | 100  | nA   | $V_{CB} = 160$ V, $I_E = 0$                |
| $I_{EBO}$     | Emitter Cutoff Current       |      |      | 100  | nA   | $V_{EB} = 5.0$ V, $I_C = 0$                |
| $V_{BE}$      | Base to Emitter Voltage      | 650  | 685  | 750  | mV   | $V_{CE} = 10$ V, $I_C = 10$ mA             |
| $V_{CE(sat)}$ | Collector Saturation Voltage |      | 0.07 | 0.6  | V    | $I_C = 20$ mA, $I_B = 2.0$ mA              |
| $V_{BE(sat)}$ | Base Saturation Voltage      |      | 0.75 | 1.0  | V    | $I_C = 20$ mA, $I_B = 2.0$ mA              |

**Classification of  $h_{FE1}$**

| Rank  | M        | L         | K         |
|-------|----------|-----------|-----------|
| Range | 90 - 180 | 135 - 270 | 200 - 400 |

$h_{FE1}$  Test Conditions:  $V_{CE} = 10$  V,  $I_C = 10$  mA

TYPICAL CHARACTERISTICS (Ta=25 °C unless otherwise noted)



INPUT AND OUTPUT CAPACITANCE  
vs. REVERSE VOLTAGE

