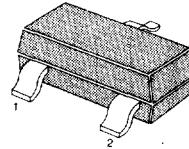


GENERAL PURPOSE TRANSISTOR

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

| Characteristic | Symbol | Rating | Unit |
|---------------------------|-----------|--------|------------------|
| Collector-Base Voltage | V_{CB0} | 75 | V |
| Collector-Emitter Voltage | V_{CEO} | 40 | V |
| Emitter-Base Voltage | V_{EBO} | 6 | V |
| Collector Current | I_C | 600 | mA |
| Collector Dissipation | P_C | 350 | mW |
| Storage Temperature | T_{stg} | 150 | $^\circ\text{C}$ |

SOT-23



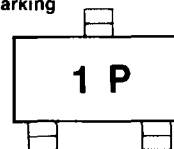
1. Base 2. Emitter 3. Collector

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

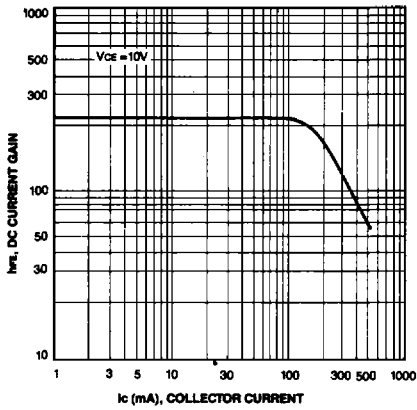
| Characteristic | Symbol | Test Condition | Min | Max | Unit |
|---------------------------------------|---------------|-------------------------------------------------------------------------------------------------|-----|------|---------------|
| Collector-Base Breakdown Voltage | BV_{CB0} | $I_C = 10\mu\text{A}$, $I_E = 0$ | 75 | | V |
| Collector-Emitter Breakdown Voltage | BV_{CEO} | $I_C = 10\text{mA}$, $I_B = 0$ | 40 | | V |
| Emitter-Base Breakdown Voltage | BV_{EBO} | $I_E = 10\mu\text{A}$, $I_C = 0$ | 6 | | V |
| Collector Cutoff Current | I_{CB0} | $V_{CB} = 60\text{V}$, $I_E = 0$ | | 0.01 | μA |
| *DC Current Gain | h_{FE} | $V_{CE} = 10\text{V}$, $I_C = 0.1\text{mA}$ | 35 | | |
| | | $V_{CE} = 10\text{V}$, $I_C = 1\text{mA}$ | 50 | | |
| | | $V_{CE} = 10\text{V}$, $I_C = 10\text{mA}$ | 75 | | |
| | | $V_{CE} = 10\text{V}$, $I_C = 150\text{mA}$ | 100 | 300 | |
| | | $V_{CE} = 10\text{V}$, $I_C = 500\text{mA}$ | 40 | | |
| *Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 150\text{mA}$, $I_B = 15\text{mA}$ | | 0.3 | V |
| | | $I_C = 500\text{mA}$, $I_B = 50\text{mA}$ | | 1.0 | V |
| *Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 150\text{mA}$, $I_B = 15\text{mA}$ | 0.6 | 1.2 | V |
| | | $I_C = 500\text{mA}$, $I_B = 50\text{mA}$ | | 2.0 | V |
| Current Gain-Bandwidth Product | f_T | $I_C = 20\text{mA}$, $V_{CE} = 20\text{V}$ $f = 100\text{MHz}$ | 300 | | MHz |
| Collector-Base Capacitance | C_{ob} | $V_{CB} = 10\text{V}$, $I_E = 0$ $f = 1\text{MHz}$ | | 8 | pF |
| Noise Figure | NF | $I_C = 100\mu\text{A}$, $V_{CE} = 10\text{V}$ $R_S = 1\text{K}\Omega$, $f = 1\text{KHz}$ | 4 | 4 | dB |
| Turn On Time | t_{on} | $V_{CC} = 30\text{V}$, $I_C = 150\text{mA}$ $V_{BE} = 0.5\text{V}$, $I_{B1} = 15\text{mA}$ | | 35 | ns |
| Turn Off Time | t_{off} | $V_{CC} = 30\text{V}$, $I_C = 150\text{mA}$ $I_{B1} = I_{B2} = 15\text{mA}$ | | 285 | ns |

* Pulse test: Pulse Width=300 μs , Duty Cycle=2%

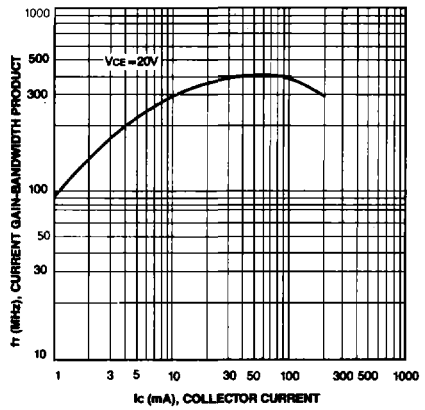
Marking



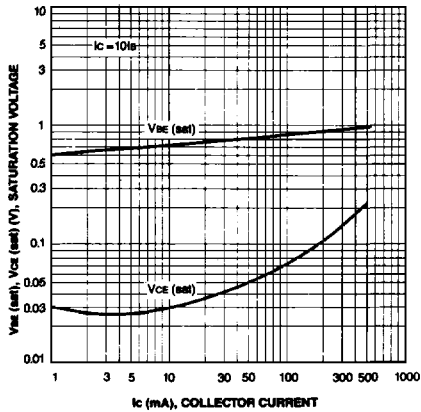
DC CURRENT GAIN



CURRENT GAIN-BANDWIDTH PRODUCT



COLLECTOR-EMITTER SATURATION VOLTAGE
BASE-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE

