

SOT-23 Plastic-Encapsulate Transistors

A733 TRANSISTOR (PNP)

FEATURE

- Collector-Base Voltage
- Complement to C945

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

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

| Symbol | Parameter | Value | Units |
|-----------|-------------------------------|---------|--------------------|
| V_{CB0} | Collector-Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -50 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current -Continuous | -150 | mA |
| P_C | Collector Power Dissipation | 200 | mW |
| 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)

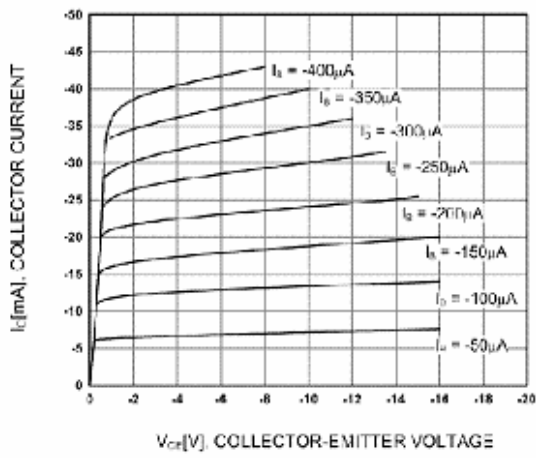
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--|-------|-------|-------|---------------|
| Collector-base breakdown voltage | $V(BR)_{CB0}$ | $I_C = -5\mu\text{A}, I_E = 0$ | -60 | | | V |
| Collector-emitter breakdown voltage | $V(BR)_{CEO}$ | $I_C = -1\text{mA}, I_B = 0$ | -50 | | | V |
| Emitter-base breakdown voltage | $V(BR)_{EBO}$ | $I_E = -50\mu\text{A}, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CB0} | $V_{CB} = -60\text{V}, I_E = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5\text{V}, I_C = 0$ | | | -0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = -6\text{V}, I_C = -1\text{mA}$ | 120 | | 475 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100\text{mA}, I_B = -10\text{mA}$ | | -0.18 | -0.3 | V |
| Base-emitter voltage | $V_{BE(on)}$ | $V_{CE} = -6\text{V}, I_C = -1.0\text{mA}$ | -0.58 | -0.62 | -0.68 | V |
| Transition frequency | f_T | $V_{CE} = -6\text{V}, I_C = -10\text{mA}$ | 50 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$ | | 4.5 | 7 | pF |
| Noise figure | NF | $V_{CE} = -6\text{V}, I_C = -0.3\text{mA}, R_g = 10\text{k}\Omega, f = 100\text{Hz}$ | | 6 | 20 | dB |

CLASSIFICATION OF h_{FE}

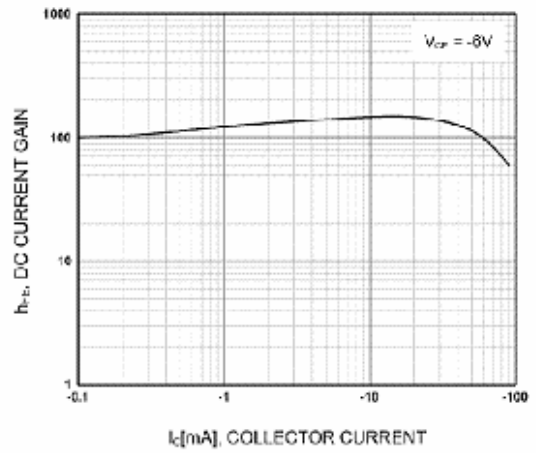
| Rank | L | H |
|---------|---------|---------|
| Range | 120-220 | 220-475 |
| MARKING | CS | |

Typical Characteristics

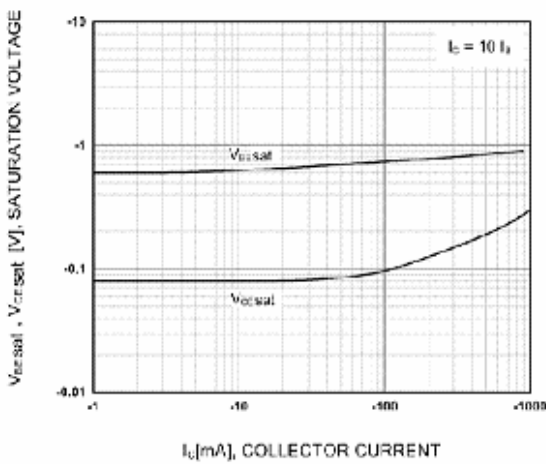
A733



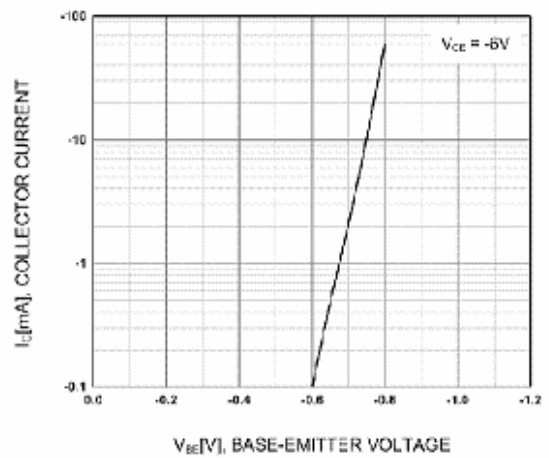
Static Characteristic



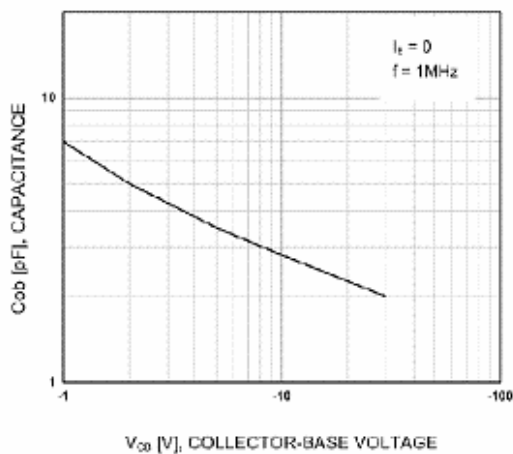
DC current Gain



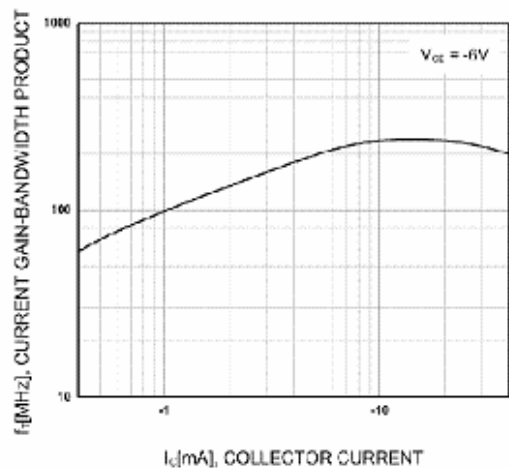
**Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage**



Base-Emitter On Voltage



Collector Output Capacitance



Current Gain Bandwidth Product