

RoHS Compliant Product

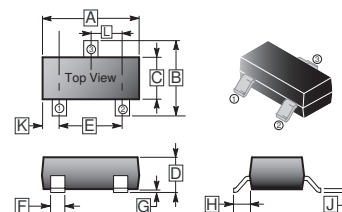
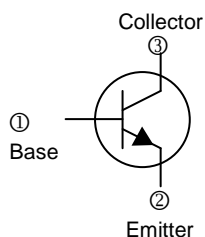
A suffix of "-C" specifies halogen & lead-free

SOT-23

FEATURE

Power Dissipation

MARKING: HF



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 2.70 | 3.04 | G | - | 0.18 |
| B | 2.10 | 2.80 | H | 0.40 | 0.60 |
| C | 1.20 | 1.60 | J | 0.08 | 0.20 |
| D | 0.89 | 1.40 | K | 0.6 REF. | |
| E | 1.78 | 2.04 | L | 0.85 | 1.15 |
| F | 0.30 | 0.50 | | | |

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

| PARAMETER | SYMBOL | RATING | UNIT |
|--------------------------------|----------------|----------------|------------------|
| Collector to Base Voltage | V_{CBO} | 60 | V |
| Collector to Emitter Voltage | V_{CEO} | 50 | V |
| Emitter to Base Voltage | V_{EBO} | 5 | V |
| Collector Current - Continuous | I_C | 150 | mA |
| Collector Power Dissipation | P_C | 200 | mW |
| Junction, Storage Temperature | T_J, T_{STG} | 150, -55 ~ 150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise specified)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITION |
|---|---------------|-----|-----|------|---------------|---|
| Collector to Base Breakdown Voltage | $V_{(BR)CBO}$ | 60 | - | - | V | $I_C=100\mu\text{A}, I_E = 0\text{A}$ |
| Collector to Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 50 | - | - | V | $I_C=0.1\text{mA}, I_B = 0\text{A}$ |
| Collector Cut-Off Current | I_{CBO} | - | - | 0.1 | μA | $V_{CB}=60\text{V}, I_E = 0\text{A}$ |
| Collector Cut-Off Current | I_{CEO} | - | - | 0.1 | μA | $V_{CE}=50\text{V}, I_B = 0\text{A}$ |
| Emitter Cut-Off Current | I_{EBO} | - | - | 0.1 | μA | $V_{EB}=5\text{V}, I_C = 0\text{A}$ |
| DC Current Gain | h_{FE} | 130 | - | 400 | | $V_{CE}=6\text{V}, I_C=2\text{mA}$ |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | - | - | 0.25 | V | $I_C=100\text{mA}, I_B=10\text{mA}$ |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | - | - | 1 | V | $I_C=100\text{mA}, I_B=10\text{mA}$ |
| Transition Frequency | f_T | 80 | - | - | MHZ | $V_{CE} = 10\text{V}, I_C = 1\text{mA}, f = 30\text{MHz}$ |

CLASSIFICATION OF h_{FE}

| Rank | L | H |
|-------|---------|---------|
| Range | 130-200 | 200-400 |

CHARACTERISTIC CURVES

