

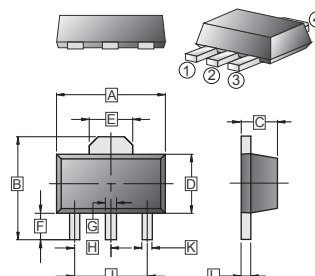
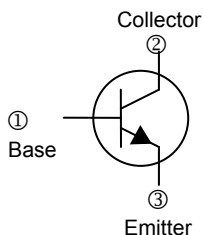
RoHS Compliant Product

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

SOT-89

FEATURES

- Low saturation voltage, typically $V_{CE(SAT)}=0.1V$ at $I_C/I_B=1A/50mA$.
- Excellent DC current gain characteristics.
- Complements the 2SA1797



| REF. | Millimeter | | REF. | Millimeter | |
|------|------------|------|------|------------|------|
| | Min. | Max. | | Min. | Max. |
| A | 4.40 | 4.60 | G | 0.40 | 0.58 |
| B | 3.94 | 4.25 | H | 1.50 | TYP |
| C | 1.40 | 1.60 | J | 3.00 | TYP |
| D | 2.30 | 2.60 | K | 0.32 | 0.52 |
| E | 1.50 | 1.70 | L | 0.35 | 0.44 |
| F | 0.89 | 1.20 | | | |

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ 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} | 6 | V |
| Continuous Collector Current | I_C | 2 | A |
| Collector Power Dissipation | P_C | 500 | mW |
| Junction, Storage Temperature | T_J, T_{STG} | 150, -55~150 | $^\circ C$ |

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

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITION |
|---|---------------|-----|-----|------|---------|----------------------------------|
| Collector to Base Breakdown Voltage | $V_{(BR)CBO}$ | 60 | - | - | V | $I_C=50\mu A, I_E=0$ |
| Collector to Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 50 | - | - | V | $I_C=1mA, I_B=0$ |
| Emitter to Base Breakdown Voltage | $V_{(BR)EBO}$ | 6 | - | - | V | $I_E=50\mu A, I_C=0$ |
| Collector Cut-Off Current | I_{CBO} | - | - | 0.1 | μA | $V_{CB}=60V, I_E=0$ |
| Emitter Cut-Off Current | I_{EBO} | - | - | 0.1 | μA | $V_{EB}=5V, I_C=0$ |
| DC Current Gain | h_{FE} | 82 | - | 270 | | $V_{CE}=2V, I_C=0.5A$ |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | - | - | 0.35 | V | $I_C=1A, I_B=50mA$ |
| Transition Frequency | f_T | - | 210 | - | MHz | $V_{CE}=2V, I_C=500mA, f=100MHz$ |
| Collector Output Capacitance | C_{ob} | - | 25 | - | pF | $V_{CB}=10V, I_E=0, f=1MHz$ |

CLASSIFICATION OF h_{FE}

| Rank | P | Q |
|---------|--------|---------|
| Range | 82~180 | 120~270 |
| Marking | DKP | DKQ |

CHARACTERISTIC CURVES

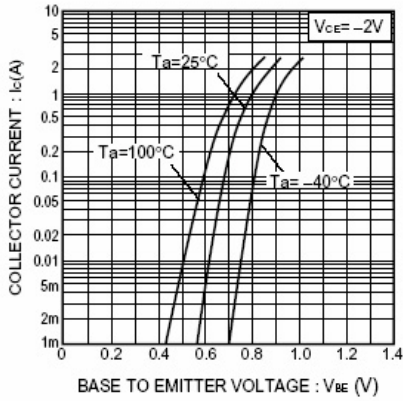


Fig.1 Grounded emitter propagation characteristics

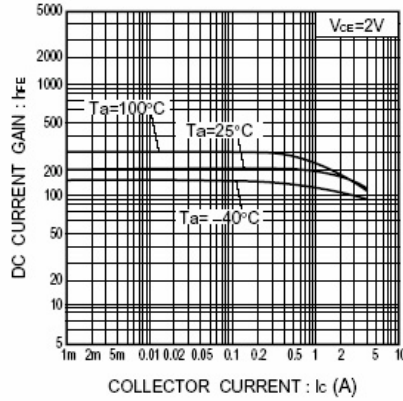


Fig.2 DC current gain vs. collector current

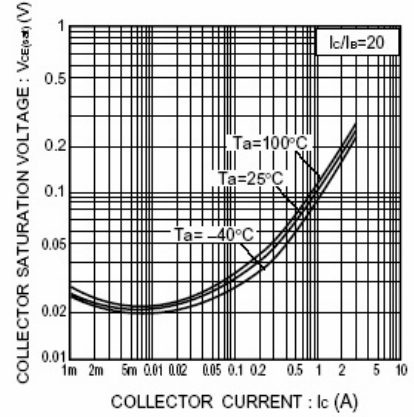


Fig.3 Collector-emitter saturation voltage vs. collector current

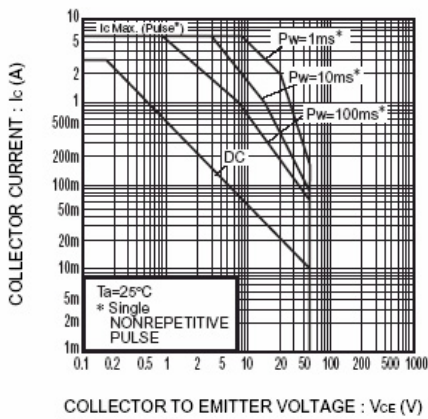


Fig.4 Safe Operating area