

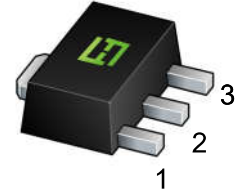
FEATURES

Power dissipation

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------------------------|--------------------------------------------------|---------|------|
| V _{CB0} | Collector-Base Voltage | 40 | V |
| V _{CEO} | Collector-Emitter Voltage | 30 | V |
| V _{EBO} | Emitter-Base Voltage | 6 | V |
| I _C | Collector Current -Continuous | 3 | A |
| P _C | Collector Power Dissipation | 0.5 | W |
| R _{θJA} | Thermal Resistance from Junction to Ambient | 250 | °C/W |
| T _J , T _{stg} | Operation Junction and Storage Temperature Range | -55~150 | °C |

SOT-89



1. BASE
2. COLLECTOR
3. EMITTER

Marking: .D882

ELECTRICAL CHARACTERISTICS(T_a=25°C unless otherwise specified)

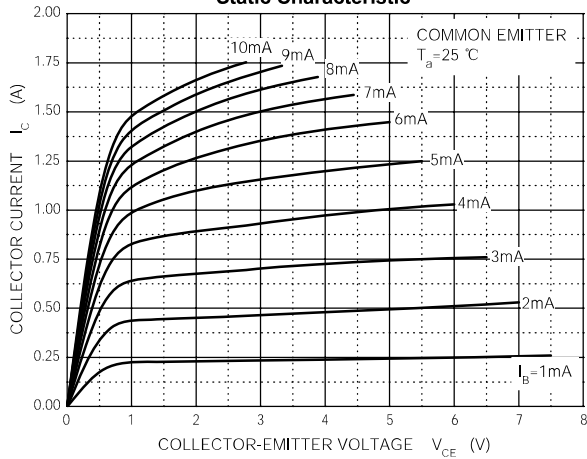
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---------------------------------------------------------|-----|-----|-----|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C = 100μA, I _E =0 | 40 | | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _C = 10mA, I _B =0 | 30 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E = 100μA, I _C =0 | 6 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} = 40V, I _E =0 | | | 1 | μA |
| Collector cut-off current | I _{CEO} | V _{CE} = 30V, I _B =0 | | | 10 | μA |
| Emitter cut-off current | I _{EBO} | V _{EB} = 6V, I _C =0 | | | 1 | μA |
| DC current gain | h _{FE(1)} | V _{CE} =2V, I _C = 1A | 60 | | 400 | |
| | h _{FE(2)} | V _{CE} =2V, I _C = 100mA | 32 | | | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C = 2A, I _B = 0.2 A | | | 0.5 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | I _C = 2A, I _B = 0.2 A | | | 1.5 | V |
| Transition frequency | f _T | V _{CE} = 5V , I _C =0.1A f =10MHz | 50 | | | MHz |

CLASSIFICATION OF h_{FE(1)}

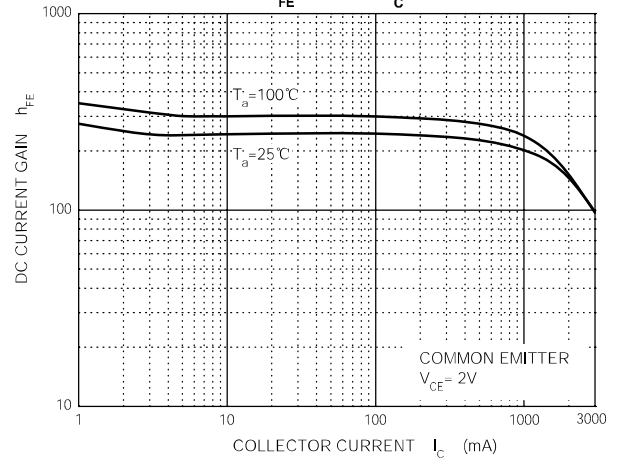
| Rank | R | O | Y | GR |
|-------|--------|---------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 | 200-400 |

Typical Characteristics

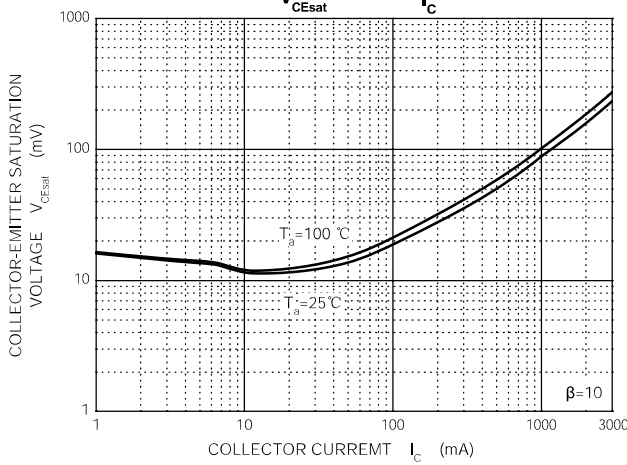
Static Characteristic



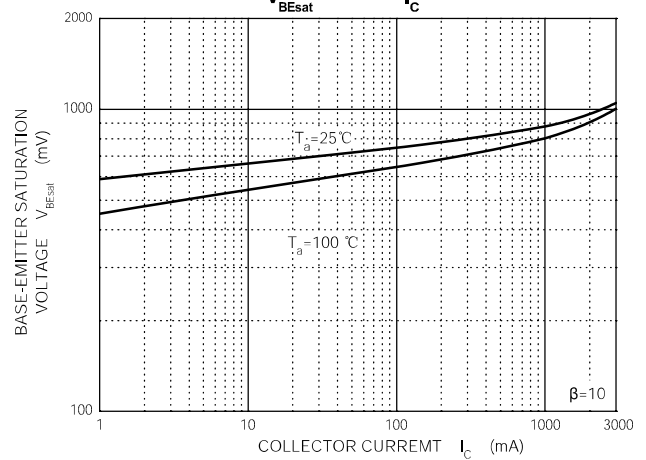
h_{FE} — I_c



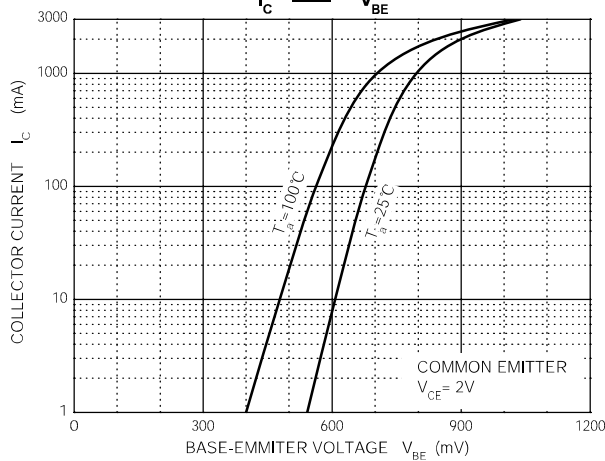
V_{CEsat} — I_c



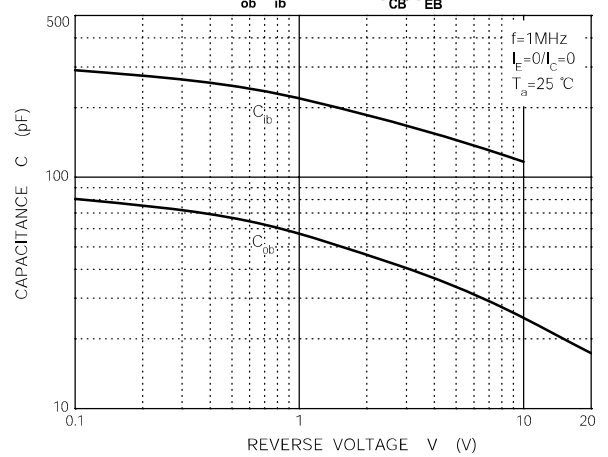
V_{BEsat} — I_c



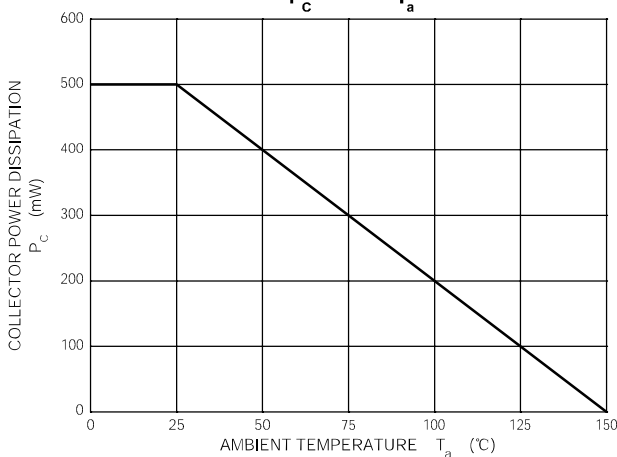
I_c — V_{BE}



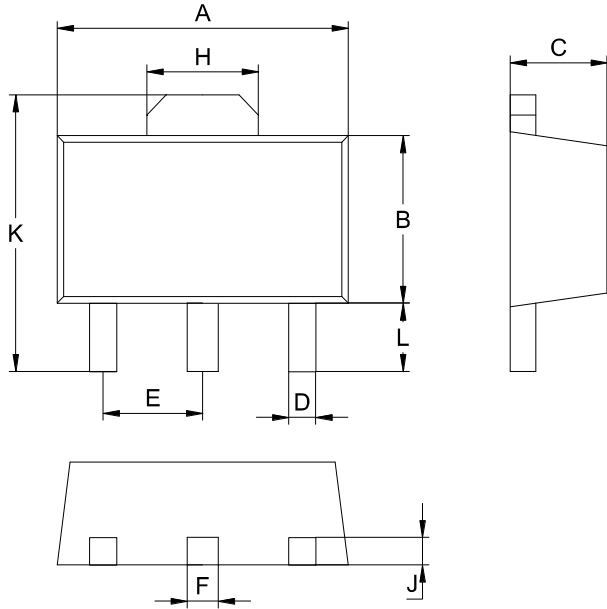
C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_c — T_a

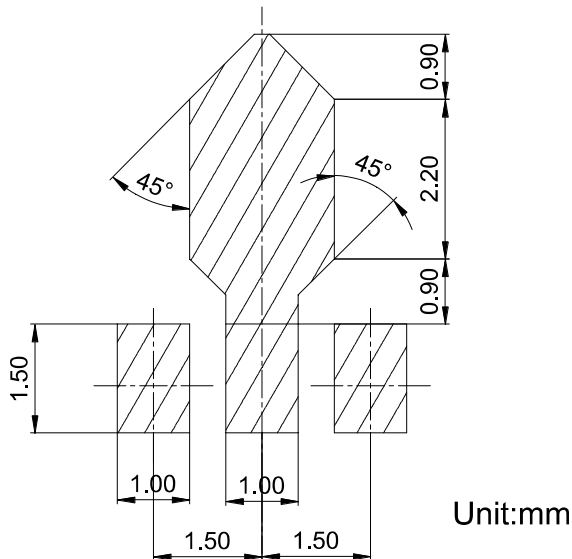


SOT-89 Package Outline Dimensions



| SOT-89 | | |
|----------------------|------|------|
| Dim | Min | Max |
| A | 4.30 | 4.70 |
| B | 2.20 | 2.70 |
| C | 1.30 | 1.70 |
| D | 0.30 | 0.60 |
| E | 1.40 | 1.60 |
| F | 0.30 | 0.60 |
| H | 1.40 | 1.80 |
| J | 0.30 | 0.60 |
| L | 0.90 | 1.10 |
| K | 3.75 | 4.35 |
| All Dimensions in mm | | |

SOT-89 Suggested Pad Layout



Unit:mm