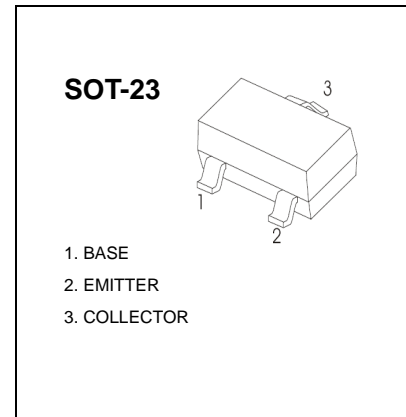


TRANSISTOR (NPN)

FEATURE

- Excellent h_{FE} Linearity
- Low noise
- Complementary to A733

MARKING:CR •



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

| Symbol | Parameter | Value | Unit |
|------------------|---|----------|------|
| V _{CB0} | Collector-Base Voltage | 60 | V |
| V _{CE0} | Collector-Emitter Voltage | 50 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _c | Collector Current | 150 | mA |
| P _c | Collector Power Dissipation | 200 | mW |
| R _{θJA} | Thermal Resistance From Junction To Ambient | 625 | °C/W |
| T _j | Junction Temperature | 150 | °C |
| T _{stg} | Storage Temperature | -55~+150 | °C |

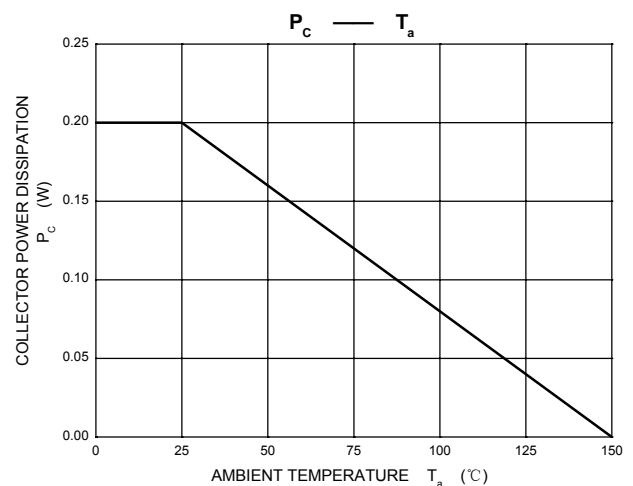
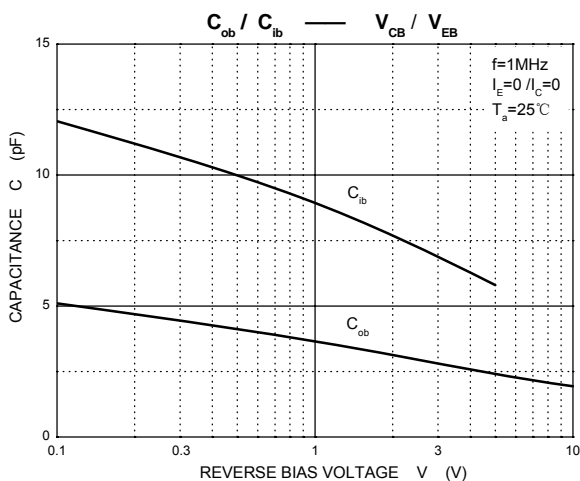
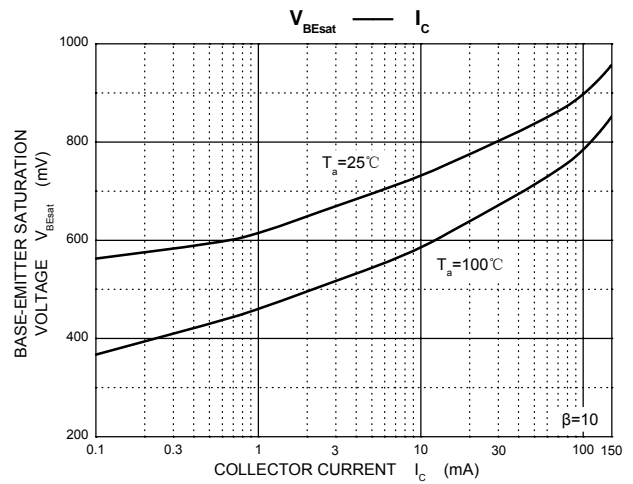
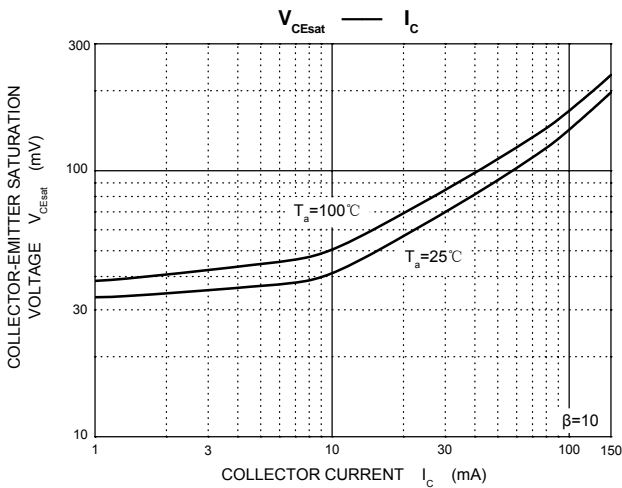
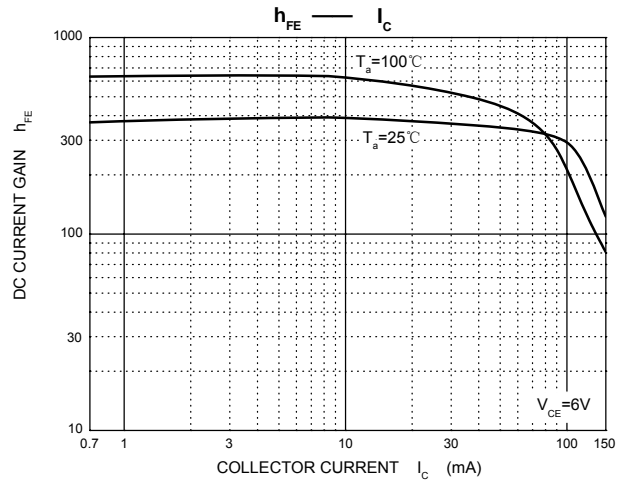
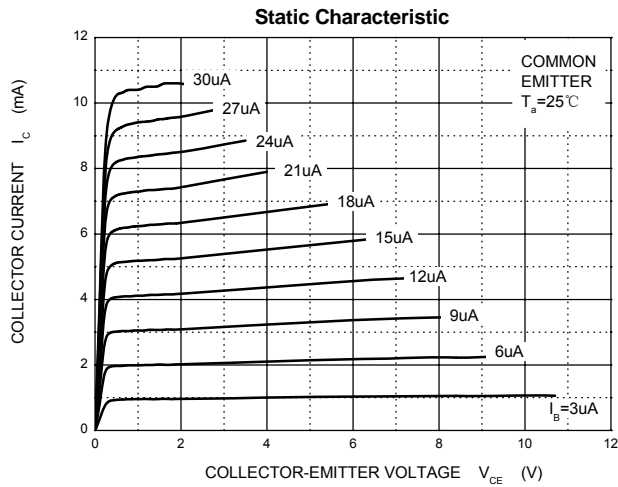
ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|-----|-----|-----|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _c =100uA, I _E =0 | 60 | | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _c =1mA, I _B =0 | 50 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =0.1mA, I _C =0 | 5 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =60V, I _E =0 | | | 0.1 | uA |
| Collector cut-off current | I _{CER} | V _{CE} =55V, R=10MΩ | | | 0.1 | uA |
| Emitter cut-off current | I _{EBO} | V _{EB} =5V, I _C =0 | | | 0.1 | uA |
| DC current gain | h _{FE(1)} | V _{CE} =6 V, I _C =1mA | 130 | | 400 | |
| | h _{FE(2)} | V _{CE} =6 V, I _C =0.1mA | 40 | | | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C =100mA, I _B =10mA | | | 0.3 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | I _C =100mA, I _B =10mA | | | 1 | V |
| Transition frequency | f _T | V _{CE} =6V, I _C =10mA, f =30 MHz | 150 | | | MHz |
| Collector output capacitance | C _{ob} | V _{CB} =10V, I _E =0, f=1MHz | | | 3.0 | pF |
| Noise figure | NF | V _{CE} =6V, I _C =0.1mA R _g =10kΩ, f=1kMHz | | 4 | 10 | dB |

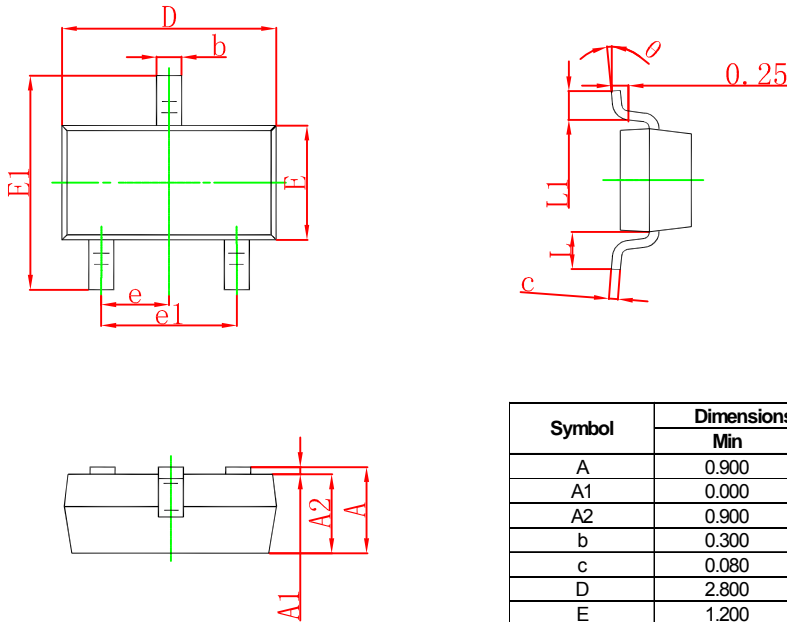
CLASSIFICATION OF h_{FE(1)}

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

Typical Characteristics

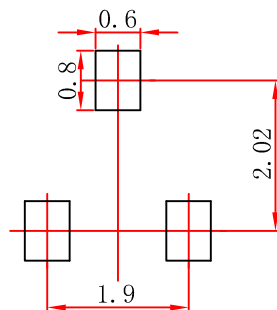


SOT-23 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.150 | 0.035 | 0.045 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.050 | 0.035 | 0.041 |
| b | 0.300 | 0.500 | 0.012 | 0.020 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.800 | 3.000 | 0.110 | 0.118 |
| E | 1.200 | 1.400 | 0.047 | 0.055 |
| E1 | 2.250 | 2.550 | 0.089 | 0.100 |
| e | 0.950 TYP | | 0.037 TYP | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550 REF | | 0.022 REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Suggested Pad Layout



- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05mm.
 3. The pad layout is for reference purposes only.