

MSKSEMI 美森科

SEMICONDUCTOR



ESD



TVS



TSS



MOV



GDT



PLED

S9018-MS

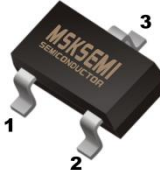

Product specification

TRANSISTOR (NPN)

FEATURES

- AM/FM Amplifier, Local Oscillator of FM/VHF Tuner
- High Current Gain Bandwidth Product

Reference News

| PACKAGE OUTLINE | MARKING |
|--|---|
|  <p>1. BASE 2. EMITTER 3. COLLECTOR</p> |  |
| SOT-23 | |

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

| Symbol | Parameter | Value | Unit |
|-----------------------------------|--|---------|------|
| V _{CB0} | Collector-Base Voltage | 30 | V |
| V _{CEO} | Collector-Emitter Voltage | 15 | V |
| V _{EBO} | Emitter-Base Voltage | 5 | V |
| I _C | Collector Current -Continuous | 50 | mA |
| P _C | Collector Power Dissipation | 200 | mW |
| R _{θJA} | Thermal Resistance from Junction to Ambient | 625 | °C/W |
| T _J , T _{stg} | Operation Junction and Storage Temperature Range | -55-150 | °C |

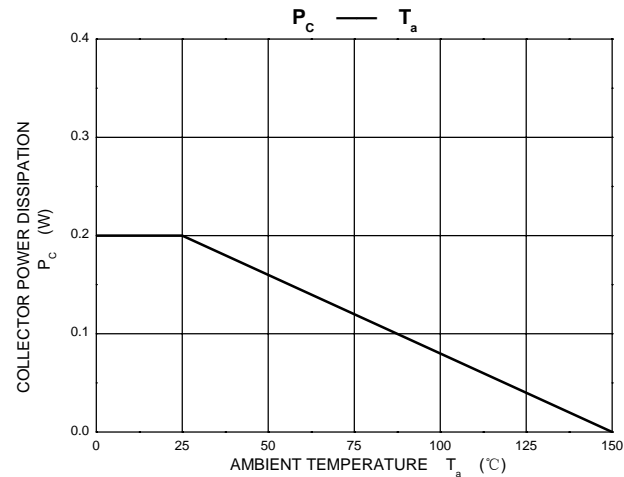
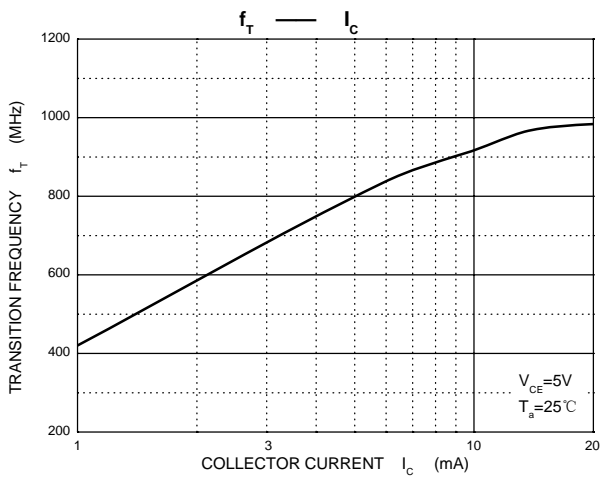
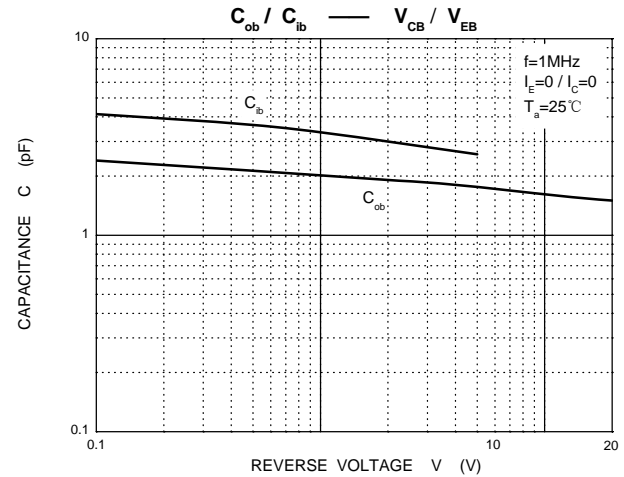
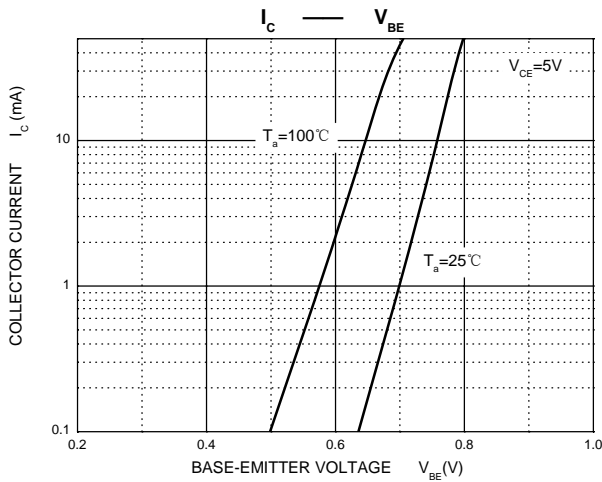
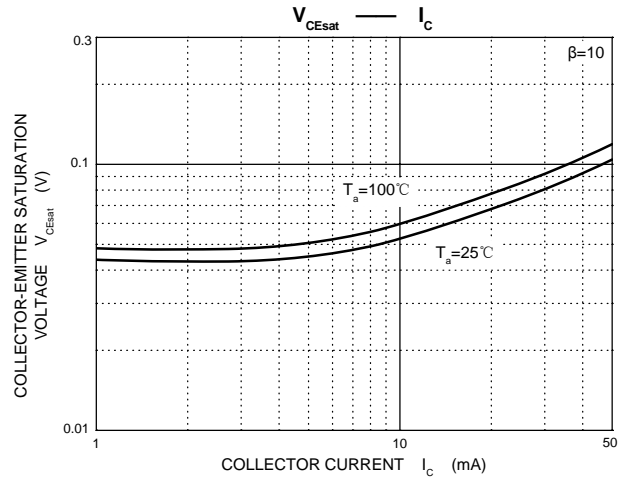
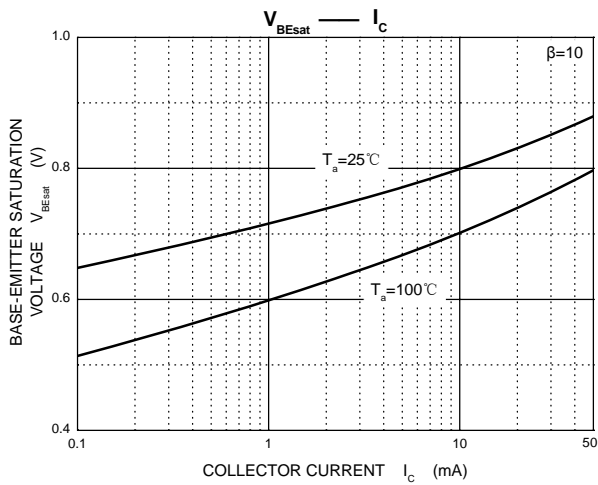
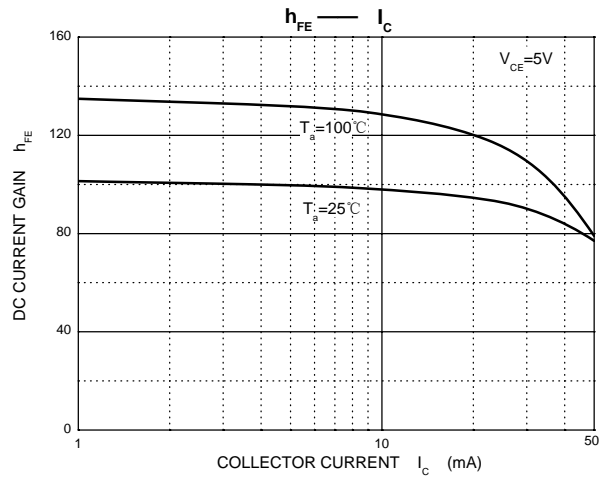
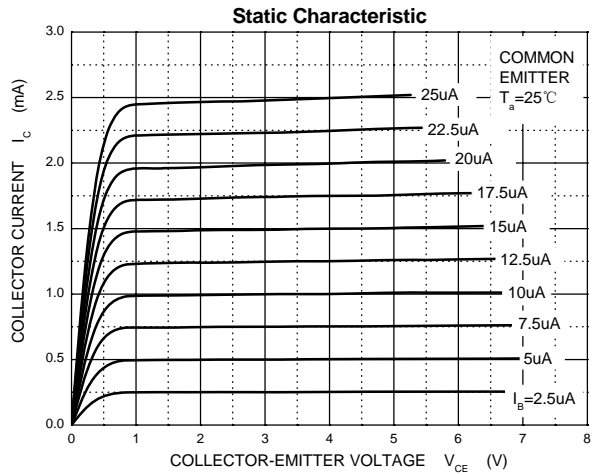
ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|----------------------|---|-----|-----|------|------|
| Collector-base breakdown voltage | V _{(BR)CBO} | I _C = 100μA, I _E =0 | 30 | | | V |
| Collector-emitter breakdown voltage | V _{(BR)CEO} | I _C = 1mA, I _B =0 | 15 | | | V |
| Emitter-base breakdown voltage | V _{(BR)EBO} | I _E =100μA, I _C =0 | 5 | | | V |
| Collector cut-off current | I _{CBO} | V _{CB} =12V, I _E =0 | | | 0.05 | μA |
| Collector cut-off current | I _{CEO} | V _{CE} =12V, I _B =0 | | | 0.1 | μA |
| Emitter cut-off current | I _{EBO} | V _{EB} = 3V, I _C =0 | | | 0.1 | μA |
| DC current gain | h _{FE(1)} | V _{CE} =5V, I _C = 1mA | 70 | | 200 | |
| Collector-emitter saturation voltage | V _{CE(sat)} | I _C =10mA, I _B = 1mA | | | 0.5 | V |
| Base-emitter saturation voltage | V _{BE(sat)} | I _C =10mA, I _B = 1mA | | | 1.4 | V |
| Transition frequency | f _T | V _{CE} =5V, I _C = 5mA f=400MHz | | 800 | | MHz |

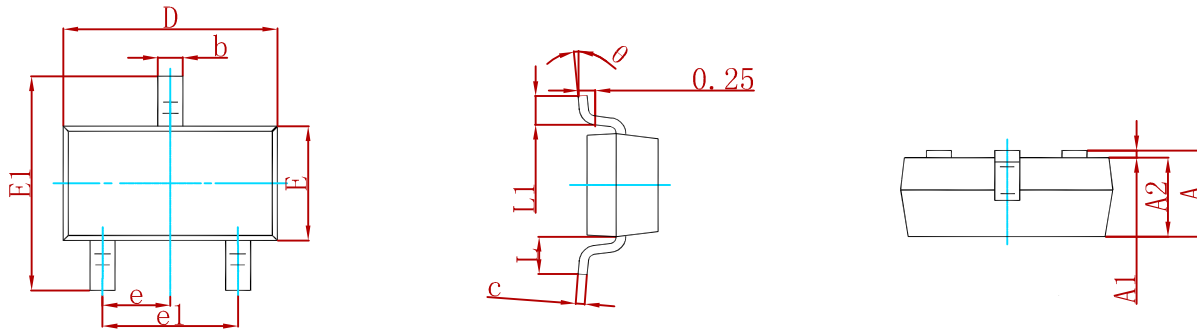
CLASSIFICATION OF h_{FE(1)}

| Rank | L | H |
|-------|--------|---------|
| Range | 70-100 | 100-200 |

Typical Characteristics

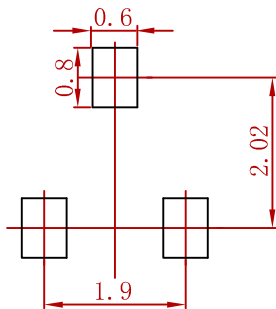


PACKAGE MECHANICAL DATA



| 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° |

Suggested Pad Layout



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

REEL SPECIFICATION

| P/N | PKG | QTY |
|----------|--------|------|
| S9018-MS | SOT-23 | 3000 |

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