

# MSKSEMI

SEMICONDUCTOR



ESD



TVS



TSS



MOV

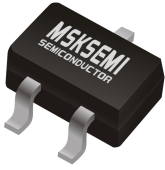


GDT

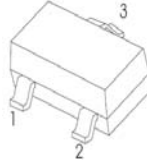


PLED

Product data sheet



SOT - 23



1. BASE
2. EMITTER
3. COLLECTOR

TRANSISTOR (PNP)

**FEATURE**

- Collector-Base Voltage
- Complement to C945-MS

MARKING :CS

**MAXIMUM RATINGS(T<sub>a</sub>=25°C unless otherwise noted)**

| Symbol           | Parameter                     | Value   | Unit |
|------------------|-------------------------------|---------|------|
| V <sub>CB0</sub> | Collector-Base Voltage        | -60     | V    |
| V <sub>CEO</sub> | Collector-Emitter Voltage     | -50     | V    |
| V <sub>EBO</sub> | Emitter-Base Voltage          | -5      | V    |
| I <sub>C</sub>   | Collector Current -Continuous | -150    | mA   |
| P <sub>C</sub>   | Collector Power Dissipation   | 200     | mW   |
| T <sub>j</sub>   | Junction Temperature          | 150     | °C   |
| T <sub>stg</sub> | Storage Temperature           | -55-150 | °C   |

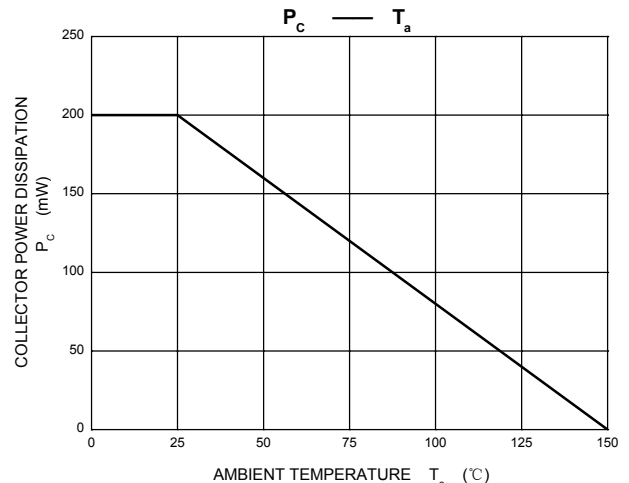
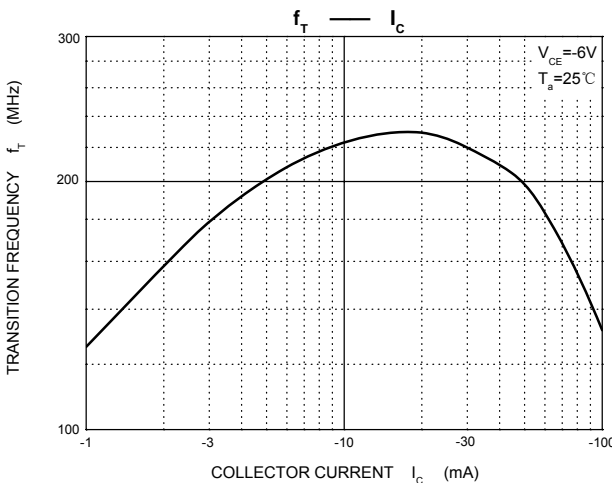
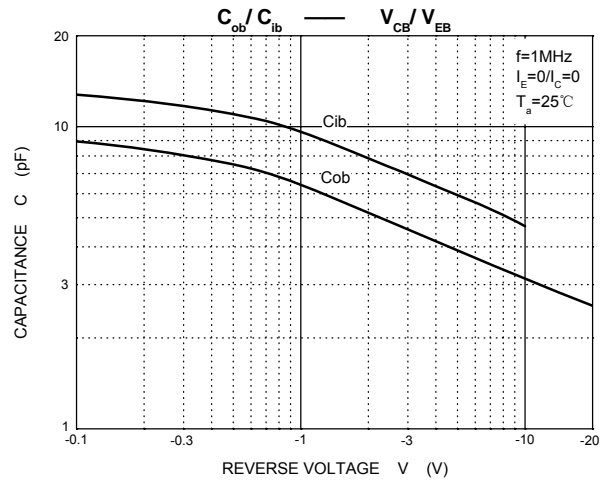
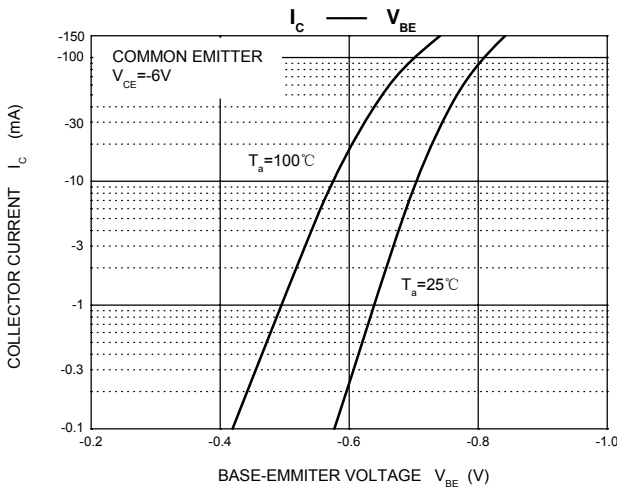
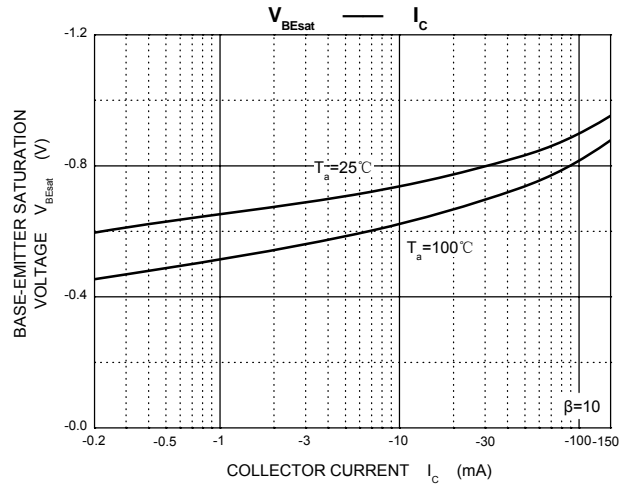
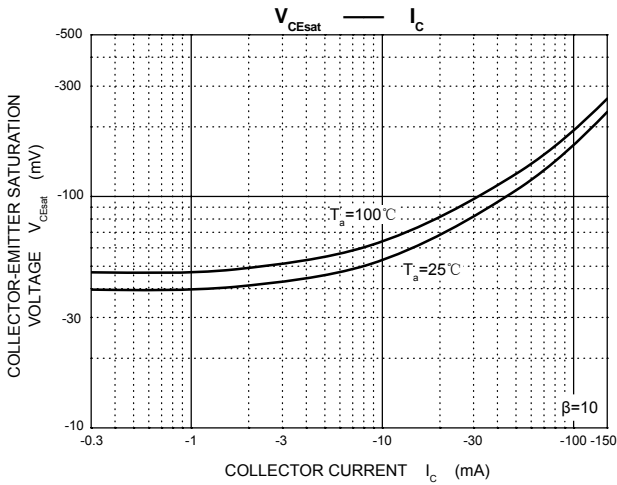
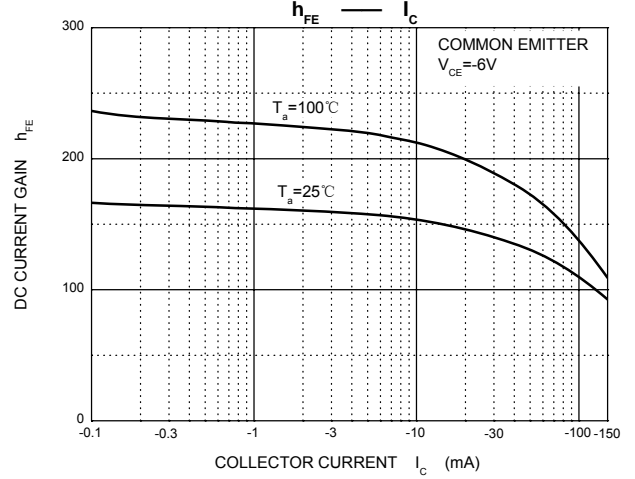
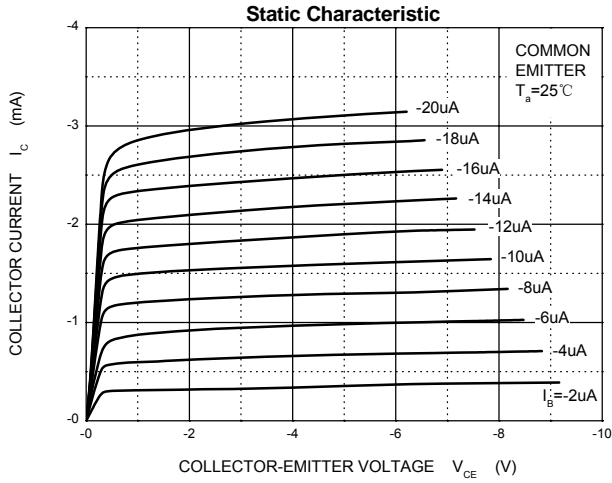
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub>=25°C unless otherwise specified)**

| Parameter                            | Symbol               | Test conditions   | Min   | Typ   | Max   | Unit |
|--------------------------------------|----------------------|---|-------|-------|-------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CB0</sub> | I <sub>C</sub> = -5uA, I <sub>E</sub> =0                                    | -60   |       |       | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> = -1mA , I <sub>B</sub> =0                                   | -50   |       |       | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> = -50uA, I <sub>C</sub> =0                                   | -5    |       |       | V    |
| Collector cut-off current            | I <sub>CB0</sub>     | V <sub>CB</sub> = -60 V , I <sub>E</sub> =0                                 |       |       | -0.1  | uA   |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> = -5 V , I <sub>C</sub> =0                                  |       |       | -0.1  | uA   |
| DC current gain                      | h <sub>FE</sub>      | V <sub>CE</sub> = -6 V, I <sub>C</sub> = -1mA                               | 120   |       | 475   |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> = -100mA, I <sub>B</sub> =- 10mA                             |       | -0.18 | -0.3  | V    |
| Base-emitter voltage                 | V <sub>BE(on)</sub>  | V <sub>CE</sub> =-6V, I <sub>C</sub> =-1.0mA                                | -0.58 | -0.62 | -0.68 | V    |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =-6V, I <sub>C</sub> =-10mA                                 | 50    |       |       | MHz  |
| Collector output capacitance         | C <sub>ob</sub>      | V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz                            |       | 4.5   | 7     | pF   |
| Noise figure                         | NF                   | V <sub>CE</sub> =-6V, I <sub>C</sub> =-0.3mA, R <sub>g</sub> =10kΩ, f=100Hz |       | 6     | 20    | dB   |

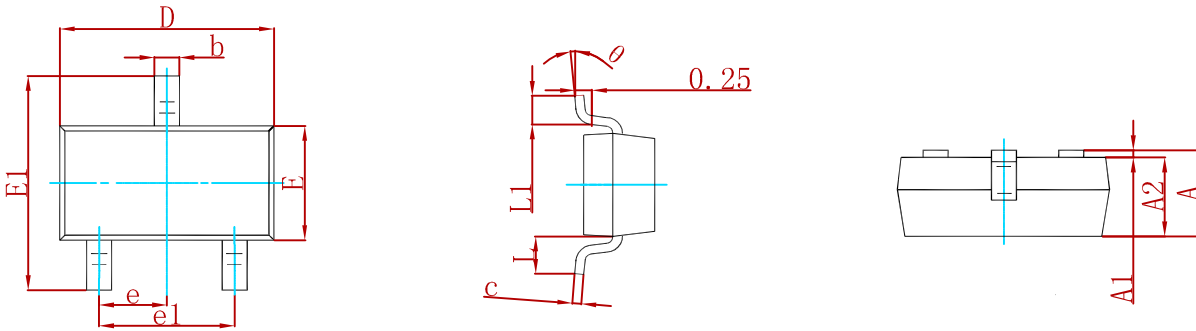
**CLASSIFICATION OF h<sub>FE</sub>**

| Rank  | L       | H       |
|-------|---------|---------|
| Range | 120-200 | 200-400 |

# Typical Characteristics

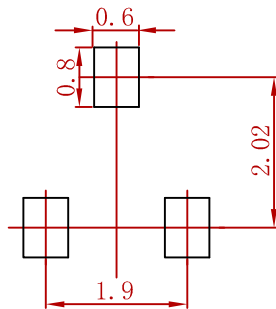


**PACKAGE MECHANICAL DATA**



| 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  |
|---------|--------|------|
| A733-MS | SOT-23 | 3000 |

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