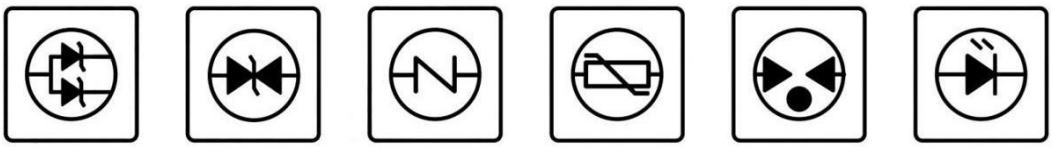
MSKSEMI 美森科
SEMICONDUCTOR



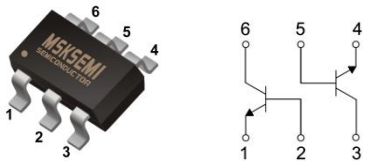

# MMDT5551

## Product specification

## FEATURES

- Epitaxial Planar Die Construction
- Complementary PNP Type Available(MMDT5401)
- Ideal for Medium Power Amplification and Switching

## Reference News

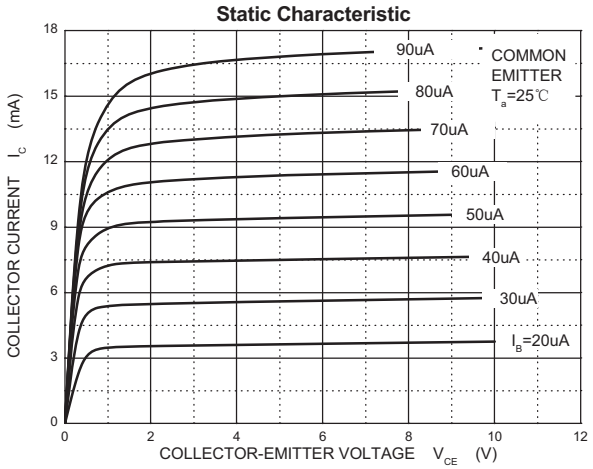
| PACKAGE OUTLINE | MARKING |
|---|---|
|  |  |
| SOT-363 | |

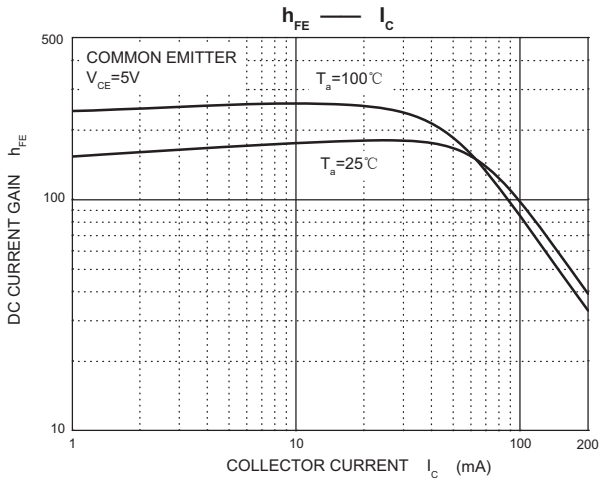
## MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

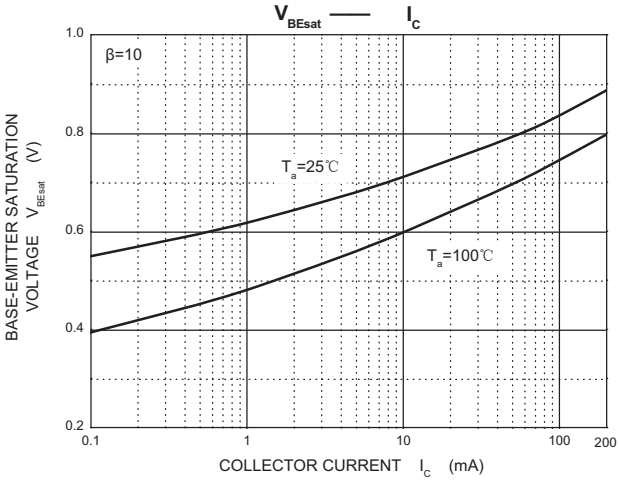
| Symbol | parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | collector- Base Voltage | 180 | V |
| $V_{CEO}$ | collector-Emitter Voltage | 160 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | V |
| $I_C$ | collector current -continuous | 0.2 | A |
| $p_C$ | collector Power Dissipation | 0.2 | W |
| $T_J$,$T_{stg}$ | operation Junction and storage Temperature Range | -55~+150 | ℃ |

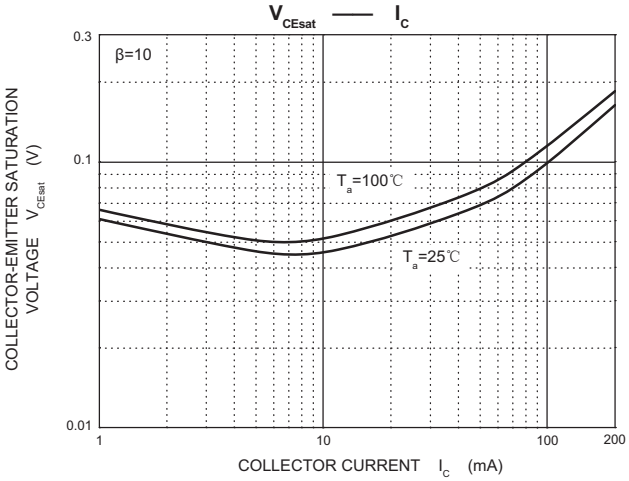
## ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

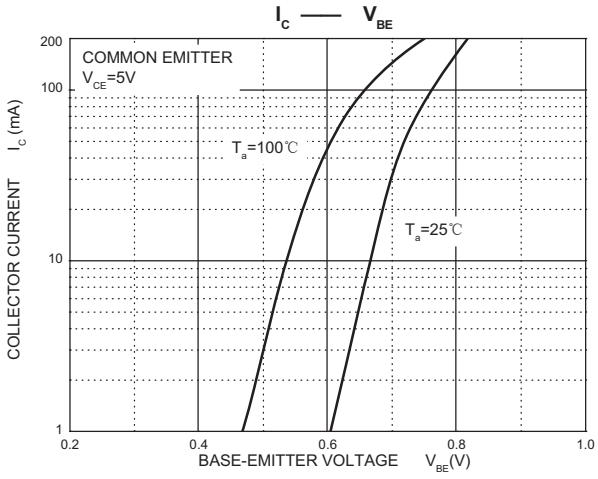
| parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown Voltage** | $V_{(BR)cBO}$ | $I_c$=100μA, $I_E$=0 | 180 | | | V |
| **Collector-emitter breakdown Voltage** | $V_{(BR)cEO}$ | $I_c$=1mA , $I_B$=0 | 160 | | | V |
| **Emitter-base breakdown Voltage** | $V_{(BR)EBO}$ | $I_E$=10μA, $I_c$=0 | 6 | | | V |
| **Collector cut-off current** | $I_{cBO}$ | $V_{cB}$=120V, $I_E$=0 | | | 0.05 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=4V, $I_c$=0 | | | 0.05 | μA |
| **DC current gain** | $h_{FE(1)}$ | $V_{cE}$=5 V, $I_c$=1mA | 80 | | | |
| | $h_{FE(2)}$ | $V_{cE}$=5 V, $I_c$=10mA | 100 | | 300 | |
| | $h_{FE(3)}$ | $V_{cE}$=5 V, $I_c$=50mA | 30 | | | |
| **Collector-emitter saturation Voltage** | $V_{cE(sat)1}$ | $I_c$=10mA, $I_B$=1mA | | | 0.15 | V |
| | $V_{cE(sat)2}$ | $I_c$=50mA, $I_B$=5mA | | | 0.2 | V |
| **Base-emitter saturation Voltage** | $V_{BE(sat)1}$ | $I_c$=10mA, $I_B$=1mA | | | 1 | V |
| | $V_{BE(sat)2}$ | $I_c$=50mA, $I_B$=5mA | | | 1 | V |
| **Transition frequency** | $f_T$ | $V_{cE}$=10V, $I_c$=10mA,f=100MHz | 100 | | 300 | MHz |
| **Output Capacitance** | $c_{ob}$ | $V_{cB}$=10V, $I_E$=0, f=1MHz | | | 6 | pF |
| **Noise Figure** | NF | $V_{cE}$=5V, $I_c$=0.2mA, $R_S$=1KΩ,f =1KHz | | | 8 | dB |

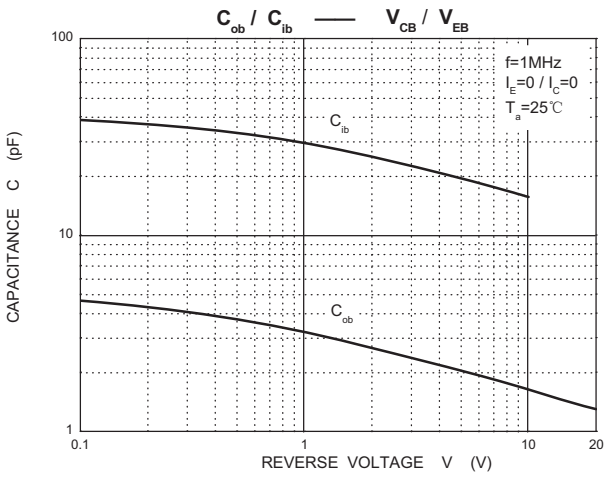


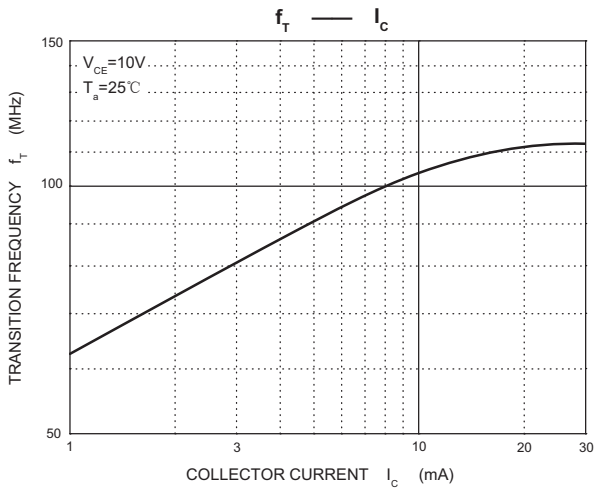



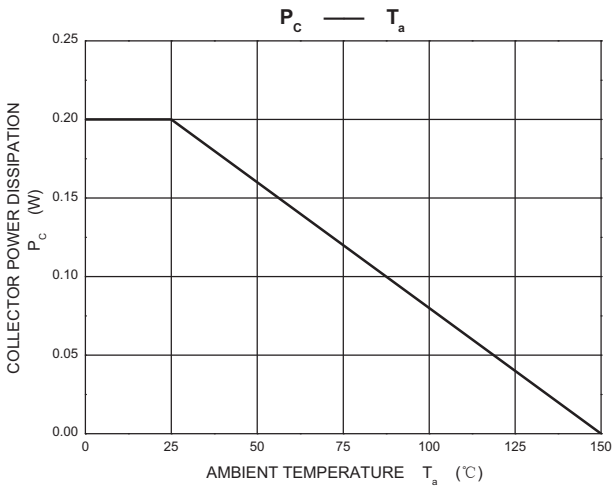



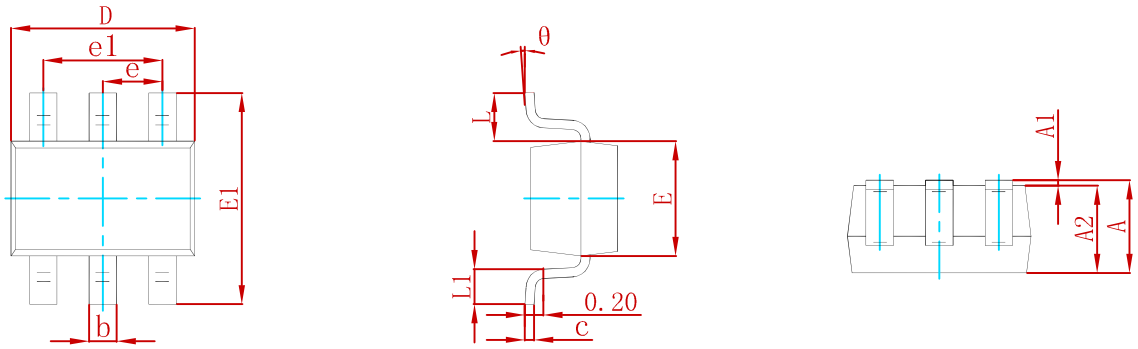



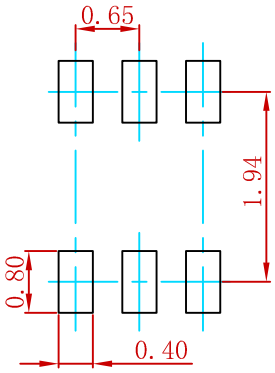



## PACKAGEMECHANICALDATA




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.150 | 0.350 | 0.006 | 0.014 |
| c | 0.100 | 0.150 | 0.004 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.400 | 0.085 | 0.094 |
| e | 0.650 TYP | | 0.026 TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF | | 0.021 REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| 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 |
|---|---|---|
| MMDT5551 | SOT-363 | 3000 |

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