

Plastic-Encapsulate Transistors

DUAL TRANSISTOR (NPN+NPN)

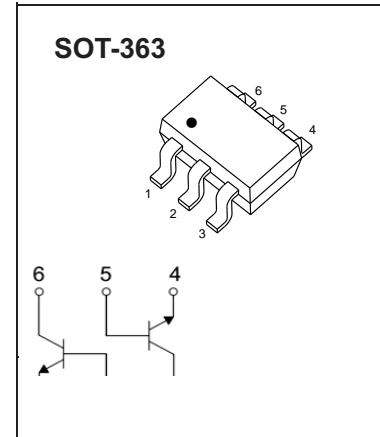
FEATURES

- Epitaxial Planar Die Construction
- Complementary PNP Type Available(MMDT9015DW)
- Ideal for Medium Power Amplification and Switching

MARKING:TGL6

MAXIMUM RATINGS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------|-------------------------------|----------|--------------------|
| V_{CB0} | Collector- Base Voltage | 50 | V |
| V_{CE0} | Collector-Emitter Voltage | 45 | V |
| V_{EB0} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current -Continuous | 0.1 | A |
| P_C | Collector Power Dissipation | 0.2 | W |
| T_J | Junction Temperature | 150 | $^{\circ}\text{C}$ |
| T_{stg} | Storage Temperature | -55~+150 | $^{\circ}\text{C}$ |



ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|--------------------------------------|---------------|--|------|-----|-----|---------------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}, I_E=0$ | 50 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C=100\mu\text{A}, I_B=0$ | 45 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}, I_C=0$ | 5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB}=50\text{V}, I_E=0$ | | | 0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE}=35\text{V}, I_B=0$ | | | 1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB}=4\text{V}, I_C=0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE}=5\text{V}, I_C=1\text{mA}$ | 300 | | 400 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=100\text{mA}, I_B=5\text{mA}$ | | | 0.3 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C=100\text{mA}, I_B=5\text{mA}$ | | | 1 | V |
| Base-emitter voltage | V_{BE} | $V_{CE}=5\text{V}, I_C=2\text{mA}$ | 0.58 | | 0.7 | V |
| Transition frequency | f_T | $V_{CE}=5\text{V}, I_C=10\text{mA}, f=30\text{MHz}$ | 150 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$ | | | 3.5 | pF |
| Noise Figure | NF | $V_{CE}=5\text{V}, I_C=0.2\text{mA}, R_g=2\text{k}\Omega, f=1\text{kHz}$ | | | 10 | dB |



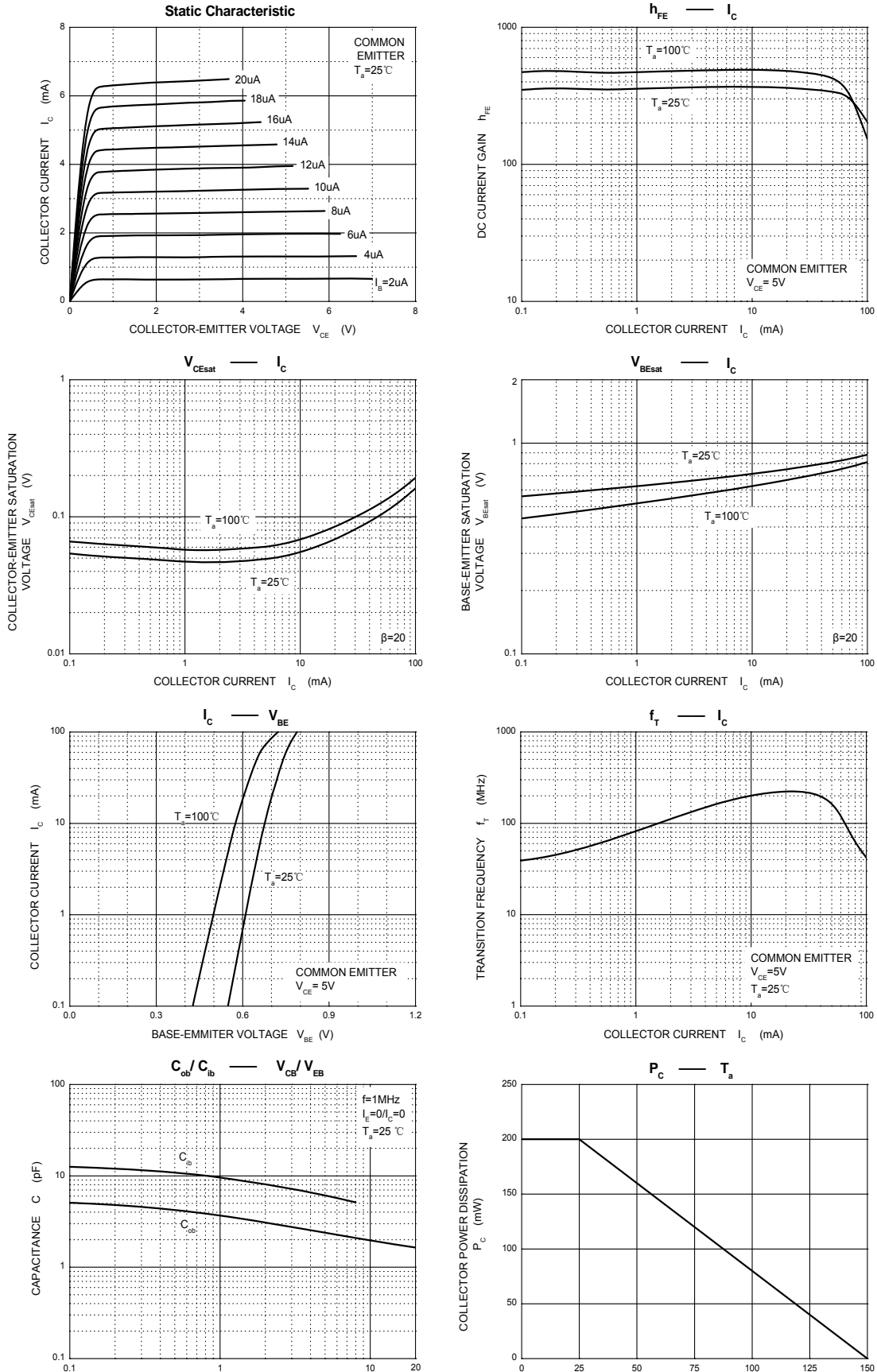
CHINA BASE
INTERNATIONAL

SOT-363



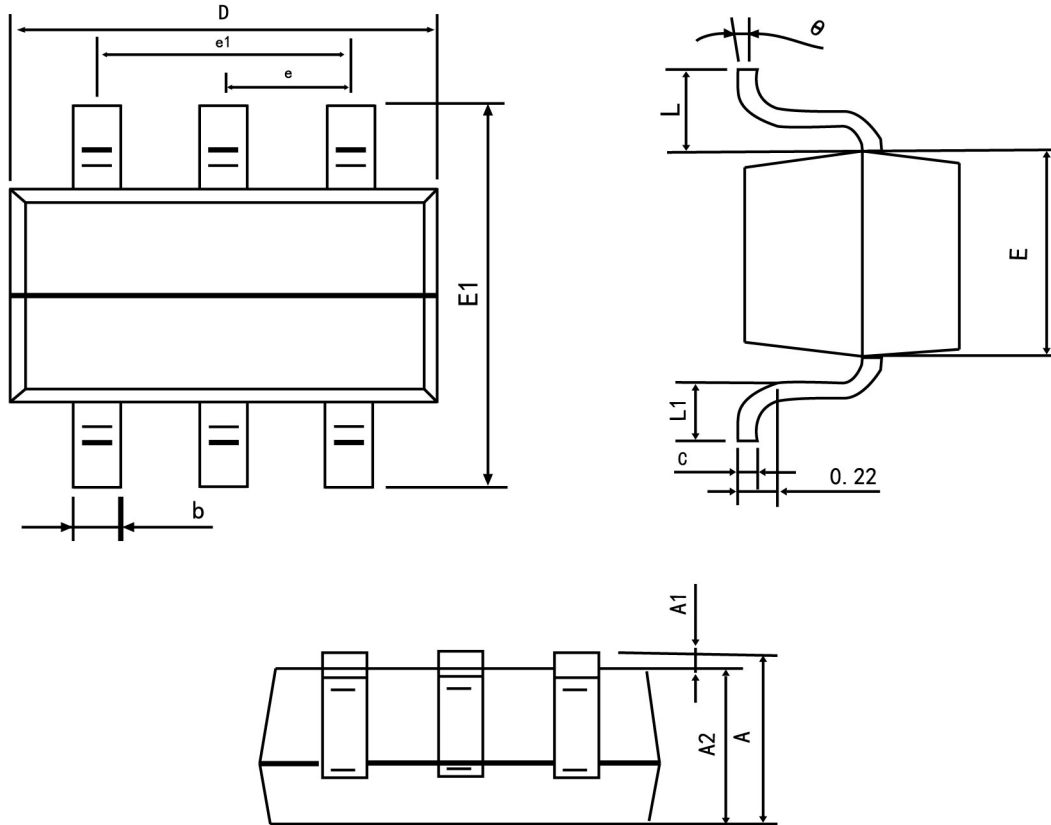
MMDT9014DW

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SOT-363-Package Outline Dimensions



| Symbol | Dimension in Millimeters | |
|--------|--------------------------|-------|
| | Min | Max |
| A | 0.900 | 1.100 |
| A1 | 0.000 | 0.100 |
| A2 | 0.900 | 1.000 |
| b | 0.150 | 0.350 |
| c | 0.080 | 0.150 |
| D | 2.000 | 2.200 |
| E | 1.150 | 1.350 |
| E1 | 2.150 | 2.450 |
| e | 0.650 TYP | |
| e1 | 1.200 | 1.400 |
| L | 0.525 REF | |
| L1 | 0.260 | 0.460 |
| theta | 0° | 8° |