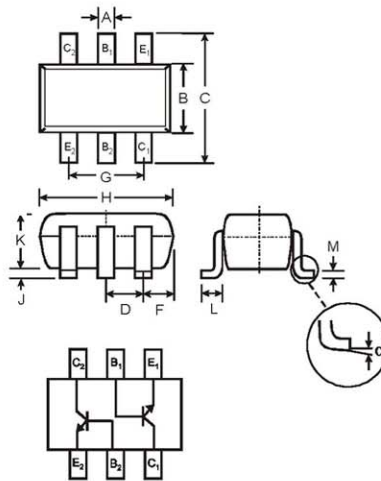


● Features

Epitaxial Planar Die Construction
 Complementary PNP Type Available (MMDT5401)
 Ideal for Medium Power Amplification and Switching
 Ultra-Small Surface Mount Package
Lead Free/RoHS Compliant (Note 3)

● Mechanical Data

Case: SOT-363
 Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
 Moisture Sensitivity: Level 1 per J-STD-020C
 Terminals: Solderable per MIL-STD-202, Method 208
 Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
 Terminal Connections: See Diagram
 Marking Information: K4N, See Page 3
 Ordering & Date Code Information: See Page 3
 Weight: 0.006 grams (approximate)



| SOT-363 | | |
|----------------------|--------------|------|
| Dim | Min | Max |
| A | 0.10 | 0.30 |
| B | 1.15 | 1.35 |
| C | 2.00 | 2.20 |
| D | 0.65 Nominal | |
| F | 0.30 | 0.40 |
| H | 1.80 | 2.20 |
| J | — | 0.10 |
| K | 0.90 | 1.00 |
| L | 0.25 | 0.40 |
| M | 0.10 | 0.25 |
| α | 0° | 8° |
| All Dimensions in mm | | |

● Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|---------------------------|
| Collector-Base Voltage | V_{CB0} | 180 | V |
| Collector-Emitter Voltage | V_{CE0} | 160 | V |
| Emitter-Base Voltage | V_{EB0} | 6.0 | V |
| Collector Current - Continuous | I_C | 200 | mA |
| Power Dissipation | P_d | 200 | mW |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 625 | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_J, T_{STG} | -55 to +150 | $^\circ\text{C}$ |

Notes: 1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch
 2. Maximum combined dissipation.
 3. No purposefully added lead.

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic | Symbol | Min | Max | Unit | Test Condition |
|--------------------------------------|---------------|----------------|---------------|------|--|
| OFF CHARACTERISTICS (Note 6) | | | | | |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | 180 | — | V | $I_C = 100\mu\text{A}, I_E = 0$ |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 160 | — | V | $I_C = 1.0\text{mA}, I_B = 0$ |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | 6.0 | — | V | $I_E = 10\mu\text{A}, I_C = 0$ |
| Collector Cutoff Current | I_{CBO} | — | 50 | nA | $V_{CB} = 120\text{V}, I_E = 0$ |
| Emitter Cutoff Current | I_{EBO} | — | 50 | nA | $V_{EB} = 4.0\text{V}, I_C = 0$ |
| ON CHARACTERISTICS (Note 6) | | | | | |
| DC Current Gain | h_{FE} | 80 80 30 | — 250 — | — | $I_C = 1.0\text{mA}, V_{CE} = 5.0\text{V}$ $I_C = 10\text{mA}, V_{CE} = 5.0\text{V}$ $I_C = 50\text{mA}, V_{CE} = 5.0\text{V}$ |
| Collector-Emitter Saturation Voltage | $V_{CE(SAT)}$ | — | 0.15 0.20 | V | $I_C = 10\text{mA}, I_B = 1.0\text{mA}$ $I_C = 50\text{mA}, I_B = 5.0\text{mA}$ |
| Base-Emitter Saturation Voltage | $V_{BE(SAT)}$ | — | 1.0 | V | $I_C = 10\text{mA}, I_B = 1.0\text{mA}$ $I_C = 50\text{mA}, I_B = 5.0\text{mA}$ |
| SMALL SIGNAL CHARACTERISTICS | | | | | |
| Output Capacitance | C_{obo} | — | 6.0 | pF | $V_{CB} = 10\text{V}, f = 1.0\text{MHz}, I_E = 0$ |
| Small Signal Current Gain | h_{fe} | 50 | 250 | — | $V_{CE} = 10\text{V}, I_C = 1.0\text{mA}, f = 1.0\text{kHz}$ |
| Current Gain-Bandwidth Product | f_T | 100 | 300 | MHz | $V_{CE} = 10\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$ |
| Noise Figure | NF | — | 8.0 | dB | $V_{CE} = 5.0\text{V}, I_C = 200\mu\text{A}, R_S = 1.0\text{k}\Omega, f = 1.0\text{kHz}$ |

Notes: 6. Short duration pulse test used to minimize self-heating effect.

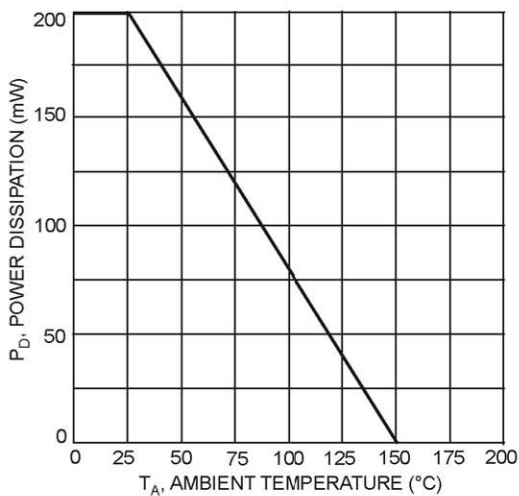


Fig. 1, Max Power Dissipation vs. Ambient Temperature

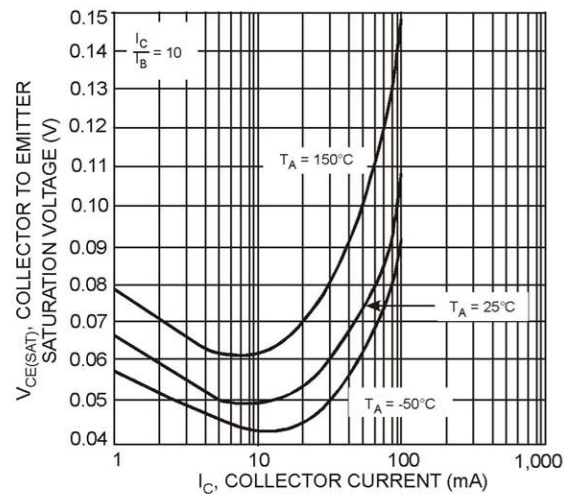


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

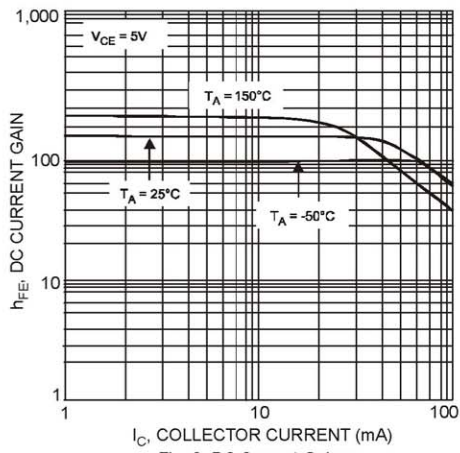


Fig. 3. DC Current Gain vs. Collector Current

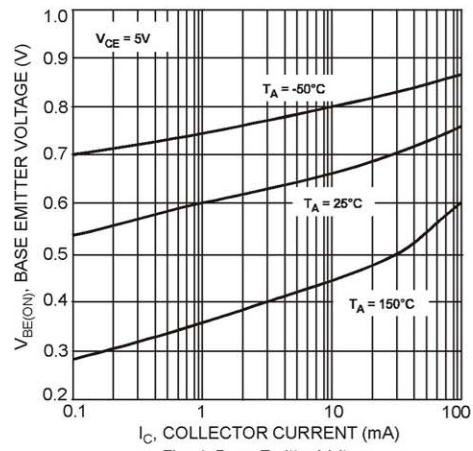


Fig. 4. Base Emitter Voltage vs. Collector Current

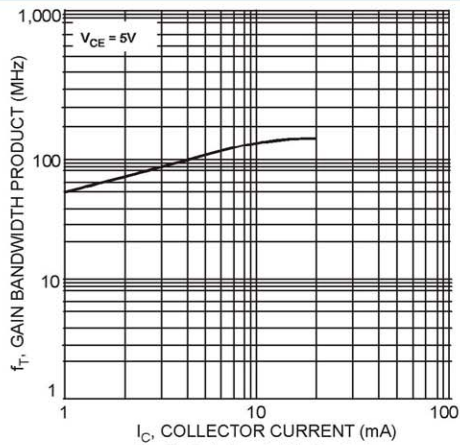


Fig. 5. Gain Bandwidth Product vs. Collector Current

单击下面可查看定价，库存，交付和生命周期等信息

[>>SHIKUES\(时科\)](#)