



Micro Commercial Components

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MMDT5401

Plastic-Encapsulate Transistors

Features

- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Marking:K4M
- Ideal for Low Power Amplification and Switching
- Ultra-small Surface Mount Package
- Epitaxial Planar Die Construction
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

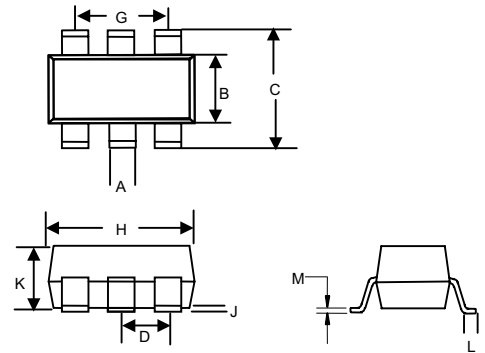
Maximum Ratings @ 25°C Unless Otherwise Specified

| Symbol | Rating | Rating | Unit |
|------------------|--------------------------------|-------------|------|
| V _{CEO} | Collector-Emitter Voltage | -150 | V |
| V _{CBO} | Collector-Base Voltage | -160 | V |
| V _{EBO} | Emitter-Base Voltage | -5 | V |
| I _C | Collector Current-Continuous | -0.2 | A |
| P _C | Collector Dissipation | 0.2 | W |
| T _J | Operating Junction Temperature | -55 to +150 | °C |
| T _{STG} | Storage Temperature | -55 to +150 | °C |

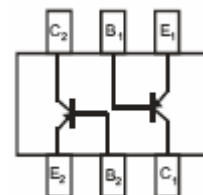
Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------|-------|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage (I _C =-1mA, I _B =0) | -150 | --- | Vdc |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage (I _C =-100uA, I _E =0) | -160 | --- | Vdc |
| V _{(BR)EBO} | Collector-Emitter Breakdown Voltage (I _E =-10uA, I _C =0) | -5 | --- | Vdc |
| I _{CBO} | Collector Cutoff Current (V _{CB} =-120V, I _E =0) | --- | 0.05 | uA |
| I _{EBO} | Emitter Cutoff Current (V _{EB} =-3V, I _C =0) | --- | -0.05 | uA |
| h _{FE} | DC Current Gain (I _C =-1mA, V _{CE} =-5V) (I _C =-10mA, V _{CE} =-5V) (I _C =-50mA, V _{CE} =-5V) | 50 60 50 | --- 240 --- | --- |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage (I _C =-10mA, I _B =-1mA) (I _C =-50mA, I _B =-5mA) | --- | -0.2 -0.5 | Vdc |
| V _{BE(sat)} | Base-Emitter Saturation Voltage (I _C =-10mA, I _B =-1mA) (I _C =-50mA, I _B =-5mA) | --- | -1 -1 | Vdc |
| f _T | Current Gain-Bandwidth Product (V _{CE} =-10V, I _C =-10mA, f=100MHz) | 100 | 300 | MHz |
| C _{ob} | Output Capacitance (V _{CB} =-5V, f=1.0MHz, I _E =0) | --- | 4.5 | pF |
| NF | Noise Figure (V _{CE} =-10V, I _C =-0.1mA, f=1KHz, R _S =1kΩ) | --- | 6 | dB |
| t _d | Delay Time V _{CC} =-3V, I _C =-10mA, | --- | 35 | ns |
| t _r | Rise Time V _{BE} =-0.5V, I _{B1} =-I _{B2} =-1mA | --- | 35 | ns |
| t _S | Storage Time V _{CC} =-3V, I _C =-10mA, | --- | 225 | ns |
| t _f | Fall Time I _{B1} =-I _{B2} =-1mA | --- | 75 | ns |

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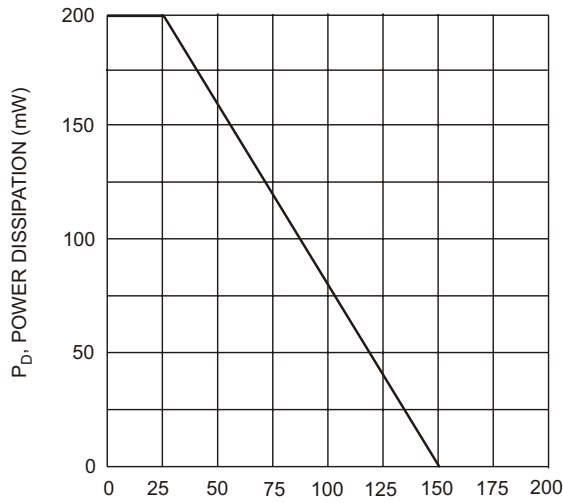
| DIM | DIMENSIONS | | | | NOTE |
|-----|------------|------|-------------|------|------|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .006 | .014 | 0.15 | 0.35 | |
| B | .045 | .053 | 1.15 | 1.35 | |
| C | .085 | .096 | 2.15 | 2.45 | |
| D | .026 | | 0.65Nominal | | |
| G | .047 | .055 | 1.20 | 1.40 | |
| H | .071 | .087 | 1.80 | 2.20 | |
| J | --- | .004 | --- | 0.10 | |
| K | .035 | .043 | 0.90 | 1.10 | |
| L | .010 | .018 | 0.26 | 0.46 | |
| M | .003 | .006 | 0.08 | 0.15 | |



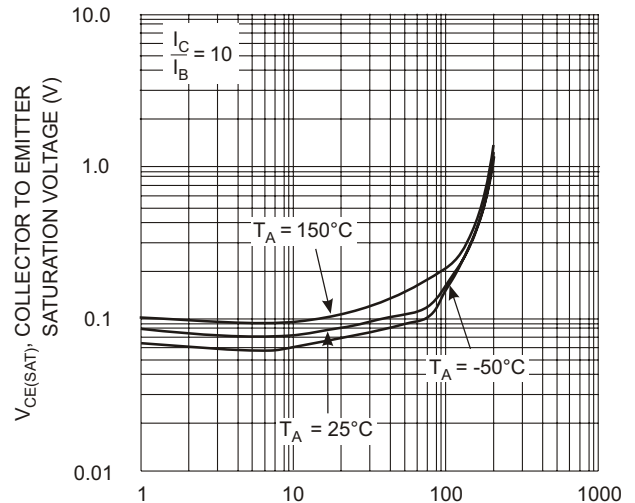
MMDT5401



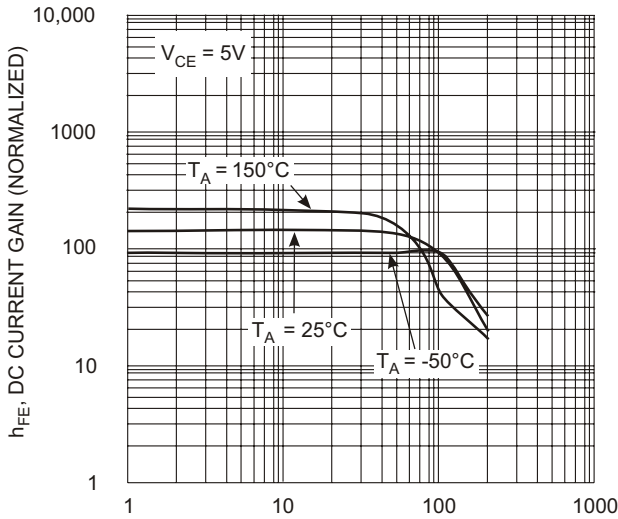
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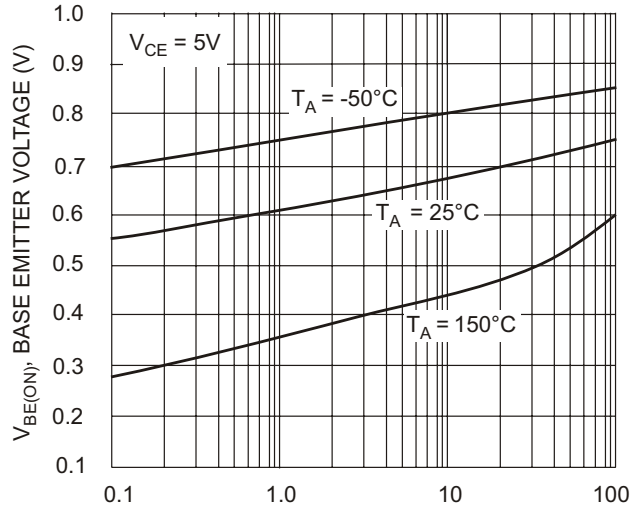
T_A , AMBIENT TEMPERATURE (°C)
Fig. 1, Max Power Dissipation vs Ambient Temperature



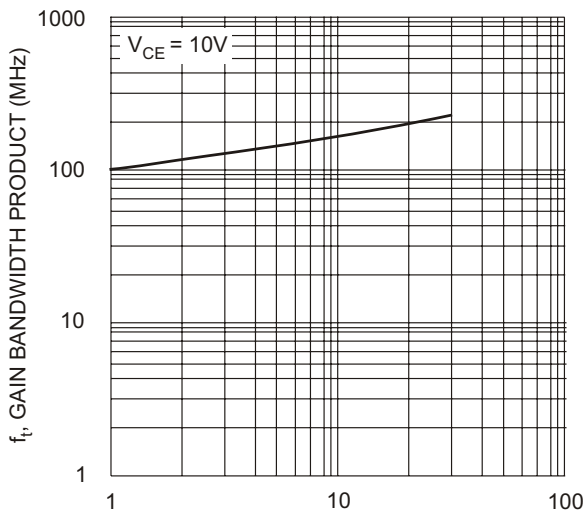
I_C , COLLECTOR CURRENT (mA)
Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current



I_C , COLLECTOR CURRENT (mA)
Fig. 3, DC Current Gain vs. Collector Current



I_C , COLLECTOR CURRENT (mA)
Fig. 4, Base Emitter Voltage vs. Collector Current



I_C , COLLECTOR CURRENT (mA)
Fig. 5, Gain Bandwidth Product vs Collector Current



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Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel; 3Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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