



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-363 Plastic-Encapsulate Transistors

MMDT5401 DUAL TRANSISTOR (PNP+PNP)

FEATURES

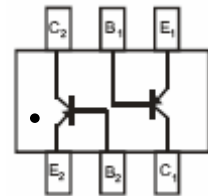
- Epitaxial Planar Die Construction
- Complementary NPN Type Available(MMDT 5551)
- Ideal for Medium Power Amplification and Switching

MRKING:K4M

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage	-160	V
V_{CEO}	Collector-Emitter Voltage	-150	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.2	A
P_C	Collector Power Dissipation	0.2	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

SOT-363



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$, $I_E=0$	-160			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $I_B=0$	-150			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$, $I_C=0$	-5			V
Collector cut-off current	I_{CBO}	$V_{CB}=-120\text{V}$, $I_E=0$			-0.05	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-3\text{V}$, $I_C=0$			-0.05	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=-5\text{V}$, $I_C=-1\text{mA}$	50			
	$h_{FE(2)}$	$V_{CE}=-5\text{V}$, $I_C=-10\text{mA}$	60		240	
	$h_{FE(3)}$	$V_{CE}=-5\text{V}$, $I_C=-50\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=-10\text{mA}$, $I_B=-1\text{mA}$			-0.2	V
	$V_{CE(sat)2}$	$I_C=-50\text{mA}$, $I_B=-5\text{mA}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	$I_C=-10\text{mA}$, $I_B=-1\text{mA}$			-1	V
	$V_{BE(sat)2}$	$I_C=-50\text{mA}$, $I_B=-5\text{mA}$			-1	V
Transition frequency	f_T	$V_{CE}=-10\text{V}$, $I_C=-10\text{mA}$, $f=100\text{MHz}$	100			MHz
Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$			6	pF
Noise Figure	NF	$V_{CE}=-5.0\text{V}$, $I_C=-200\mu\text{A}$, $R_S=10\Omega$, $f=1.0\text{kHz}$			8.0	dB

Typical Characteristics

MMDT5401

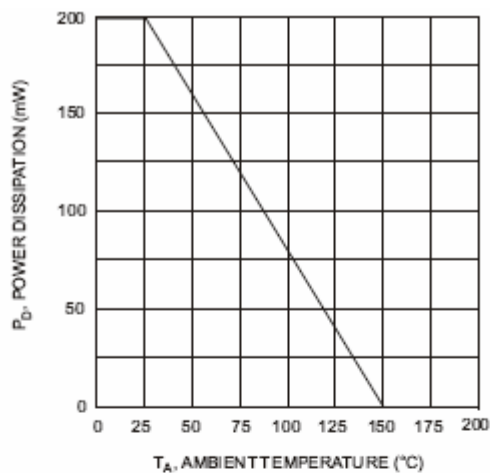


Fig. 1, Max Power Dissipation vs Ambient Temperature

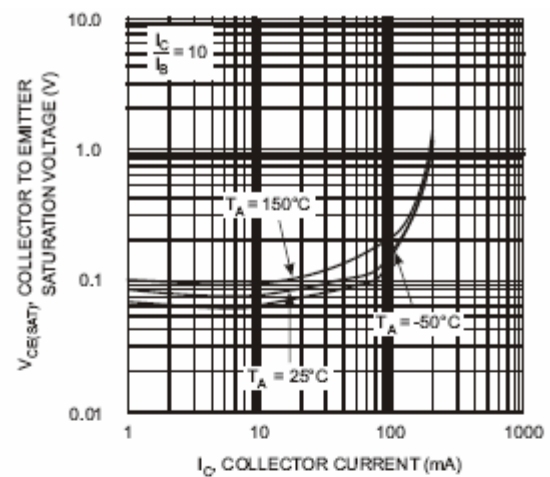


Fig. 2, Collector Emitter Saturation Voltage vs. Collector Current

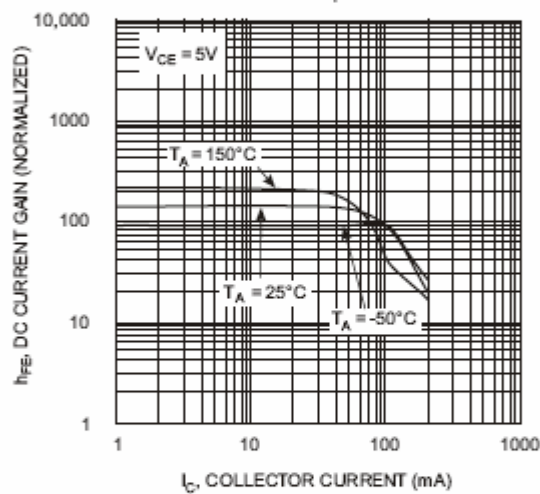


Fig. 3, DC Current Gain vs. Collector Current

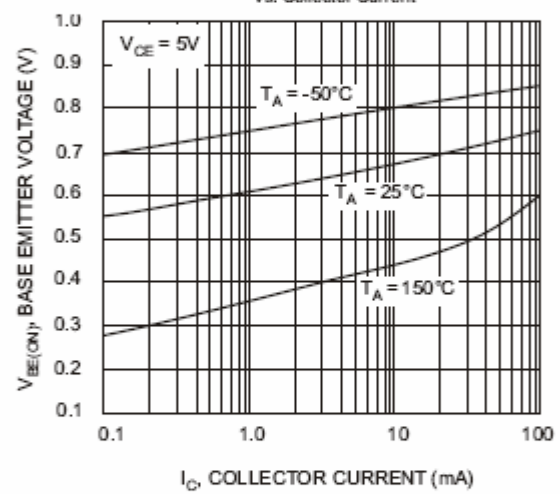


Fig. 4, Base Emitter Voltage vs. Collector Current

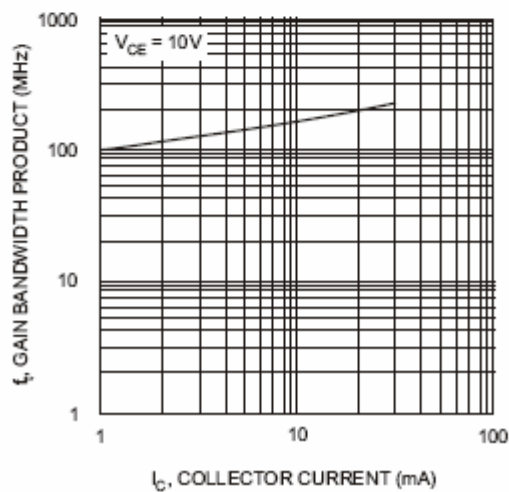


Fig. 5, Gain Bandwidth Product vs Collector Current