

# MMDT5551

DUAL TRANSISTOR (NPN+NPN)

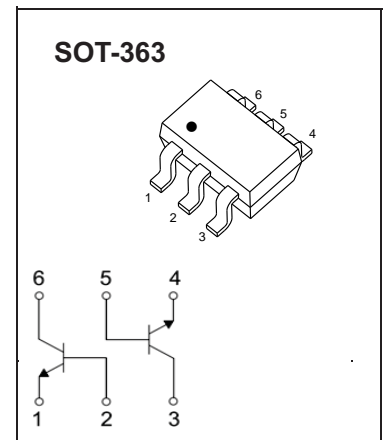
## FEATURES

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

MRKING: K4N

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

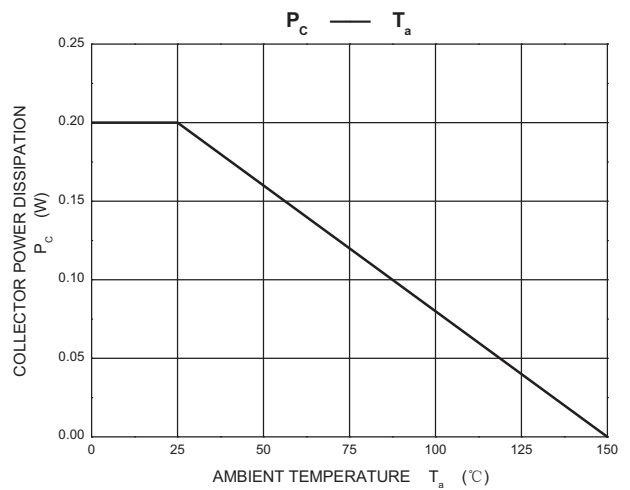
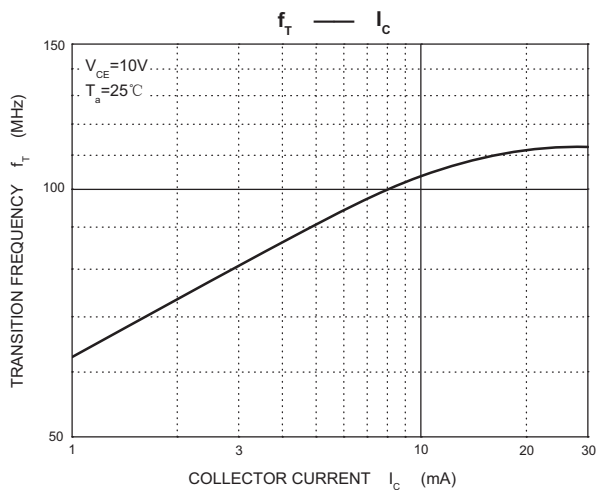
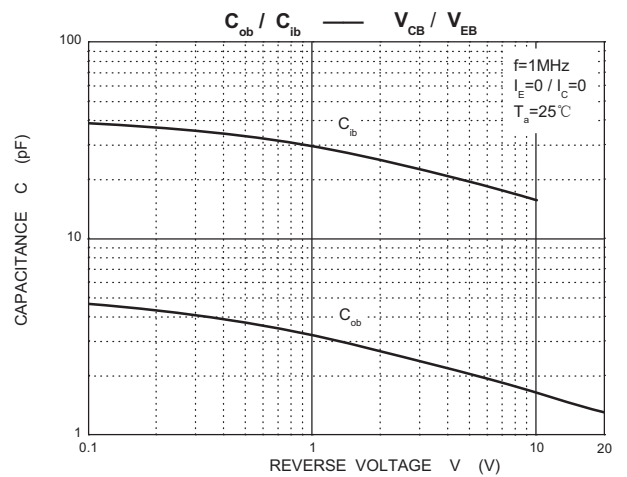
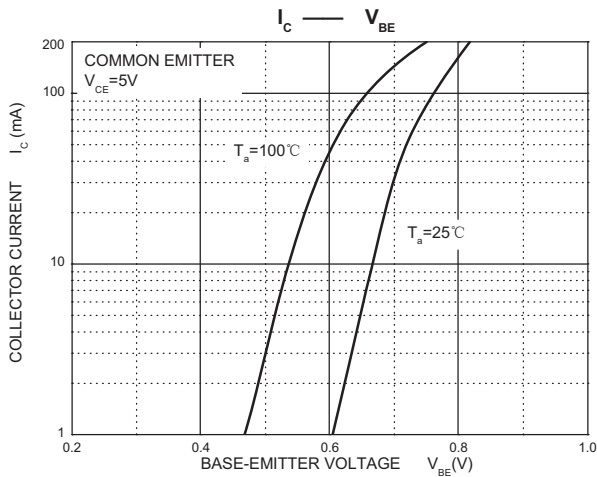
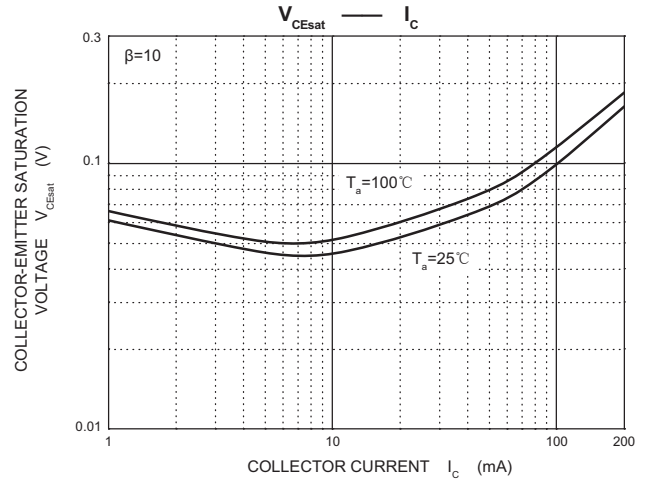
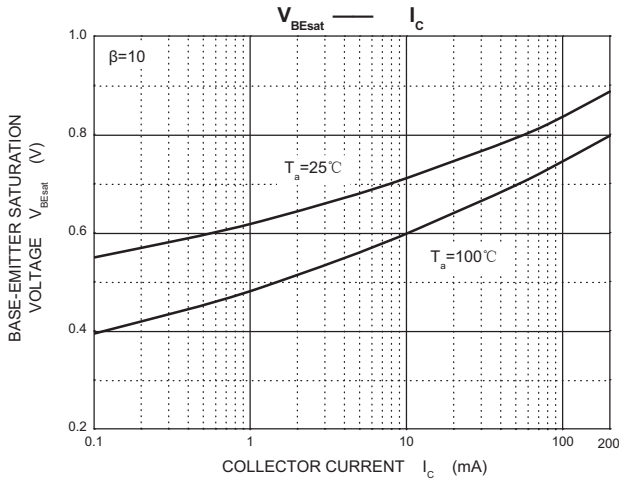
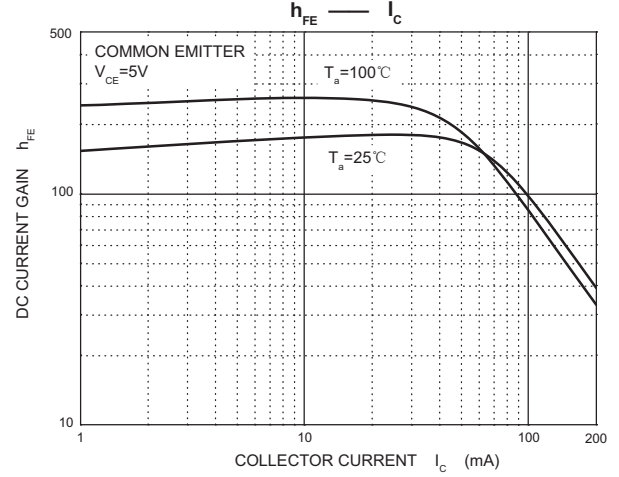
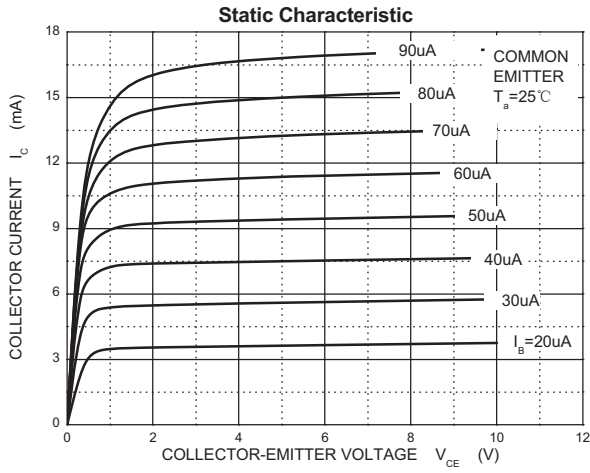
Symbol	Parameter	Value	Units
$V_{CB0}$	Collector- Base Voltage	180	V
$V_{CE0}$	Collector-Emitter Voltage	160	V
$V_{EB0}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current -Continuous	0.2	A
$P_C$	Collector Power Dissipation	0.2	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55-150	$^\circ\text{C}$



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

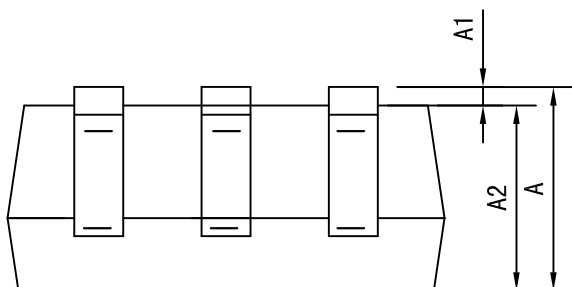
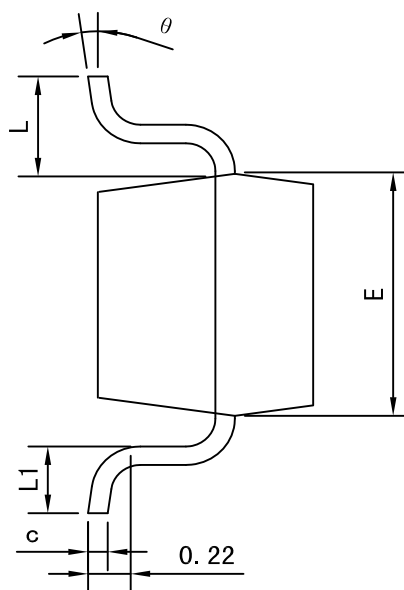
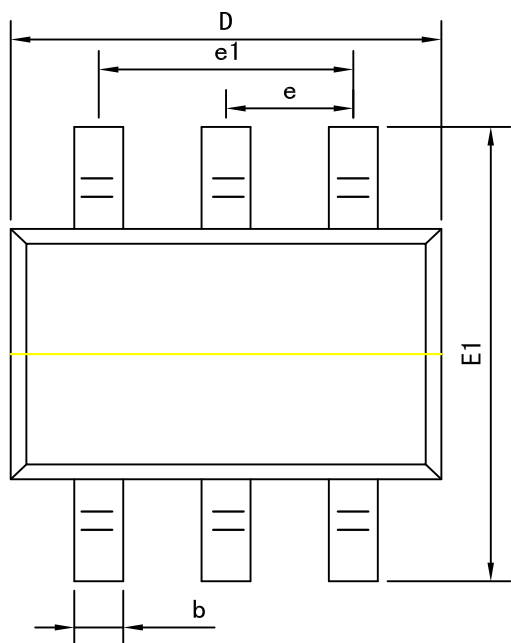
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=120\text{V}, I_E=0$			0.05	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4\text{V}, I_C=0$			0.05	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80			
	$h_{FE(2)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100		300	
	$h_{FE(3)}$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	30			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.15	V
	$V_{CE(sat)2}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.2	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		300	MHz
Output Capacitance	$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			6	pF
Noise Figure	NF	$V_{CE}=5\text{V}, I_C=0.2\text{mA}, R_S=1\text{K}\Omega, f=1\text{kHz}$			8	dB

# Typical Characteristics



# Package outline dimensions

## SOT-363



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°

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