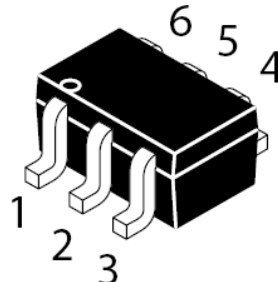
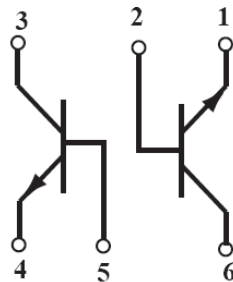


NPN/NPN Multi-Chip Transistor
FEATURES

- Ideal for Medium Power Amplification and Switching
- Complementary PNP Type Available(MMDT5401)

MECHANICAL DATA

- Case: SOT-363 Plastic
- Case material: "Green" molding compound, UL flammability classification 94V-0, (No Br. Sb. Cl)
- Lead Free in RoHS 2002/95/EC Compliant


Maximum Ratings @ $T_A = 25^\circ\text{C}$

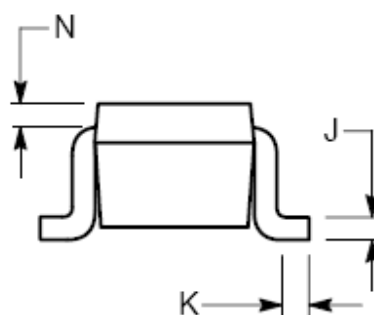
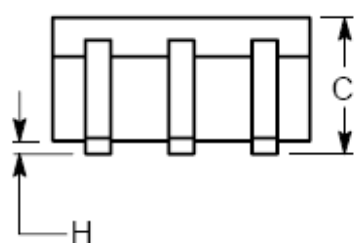
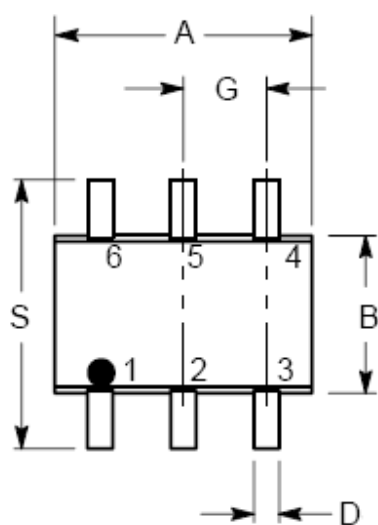
Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current -Continuous	I_C	200	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~+150	$^\circ\text{C}$

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

Characteristic	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	$I_C=100\mu\text{A}, I_E=0$	V_{CBO}	180			V
Collector-emitter breakdown voltage	$I_C=1\text{mA}, I_B=0$	V_{CEO}	160			V
Emitter-base breakdown voltage	$I_E=10\mu\text{A}, I_C=0$	V_{EBO}	6			V
Collector-base cut-off current	$V_{CB}=120\text{V}, I_E=0$	I_{CBO}			0.05	μA
Emitter-base cut-off current	$V_{EB}=4\text{V}, I_C=0$	I_{EBO}			0.05	μA
DC current gain	$V_{CE}=5\text{V}, I_C=1\text{mA}$	h_{FE1}	80			
	$V_{CE}=5\text{V}, I_C=10\text{mA}$	h_{FE2}	100		300	
	$V_{CE}=5\text{V}, I_C=50\text{mA}$	h_{FE3}	30			
Collector-emitter saturation voltage	$I_C=10\text{mA}, I_B=1\text{mA}$	$V_{CE(sat)1}$			0.15	V
	$I_C=50\text{mA}, I_B=5\text{mA}$	$V_{CE(sat)2}$			0.2	V
Base-emitter saturation voltage	$I_C=10\text{mA}, I_B=1\text{mA}$	$V_{BE(sat)1}$			1	V
	$I_C=50\text{mA}, I_B=5\text{mA}$	$V_{BE(sat)2}$			1	V
Transition frequency	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	f_T	100		300	MHz
Collector output capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	C_{ob}			6	pF
Noise Figure	$V_{CE}=5\text{V}, I_C=0.2\text{mA}, R_S=1\text{k}\Omega, f=1\text{kHz}$	NF			8	dB

REV. 3, Jan-2013, KSTR09

SOT-363 Outline Dimension



Symbol	Dimension In Millimeters	
	Min	Max.
A	1.89	2.20
B	1.15	1.35
C	0.80	1.10
D	0.10	0.30
G	0.65 BSC	
H	---	0.10
J	0.10	0.25
K	0.10	0.30
N	0.20 REF	
S	2.00	2.20

Device Marking :

Device P/N	Marking code
MMDT5551	G1

Electrical characteristic curves

Fig.1 Power Dissipation vs. Ambient Temperature

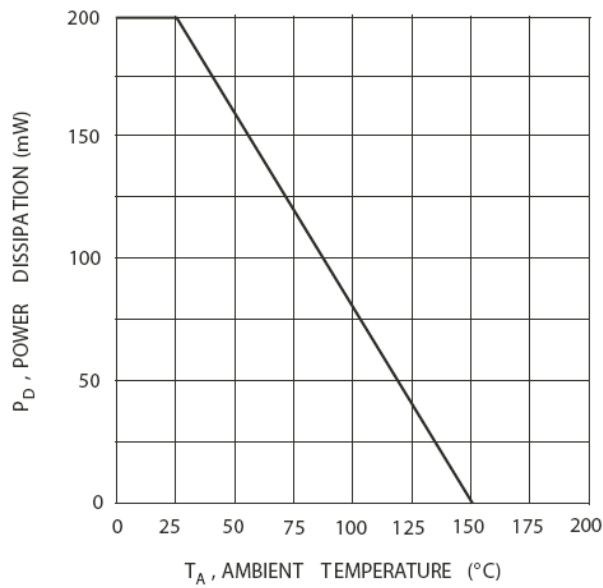


Fig.2 Collector Emitter Saturation Voltages vs. Collector Current

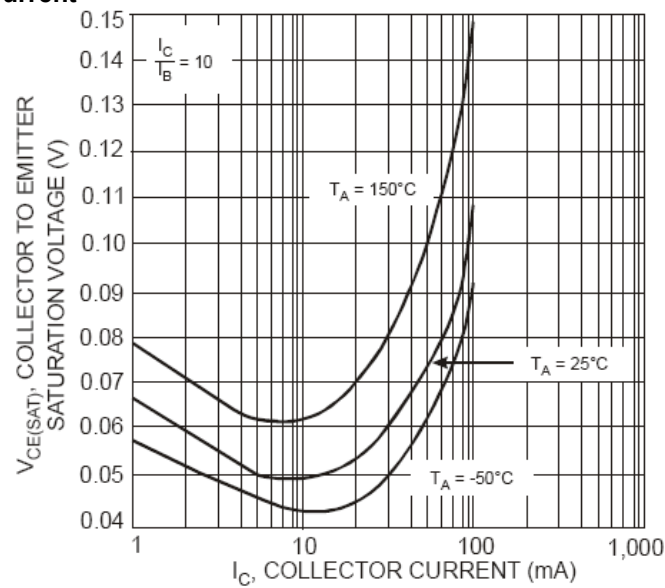


Fig.3 DC Current Gain vs. Collector Current

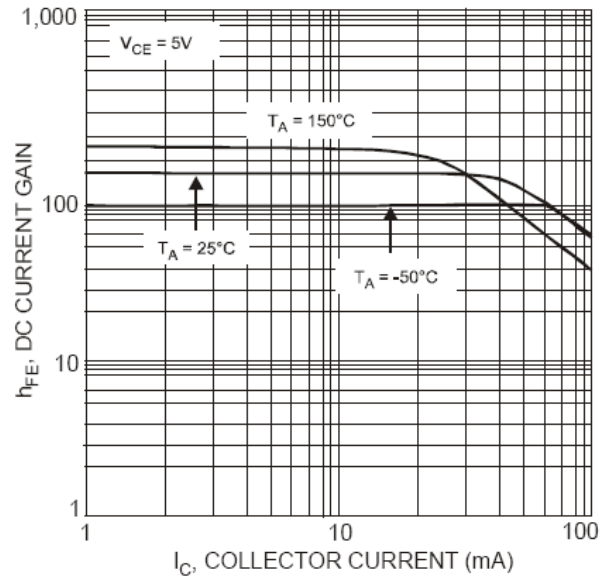


Fig.4 Base Emitter Voltage vs. Collector Current

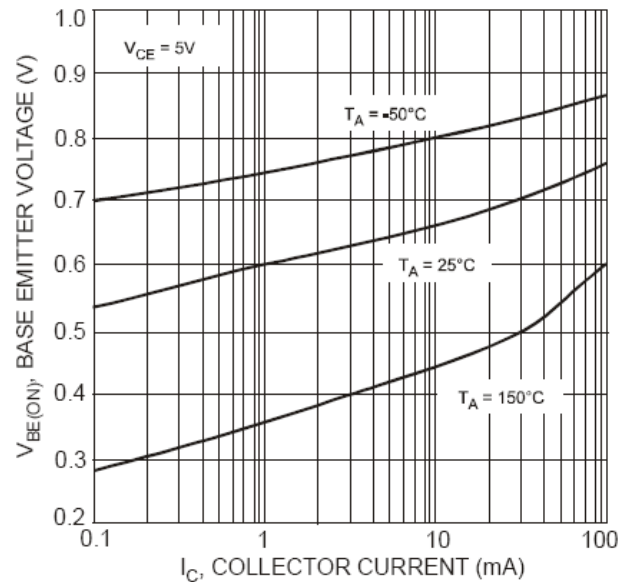
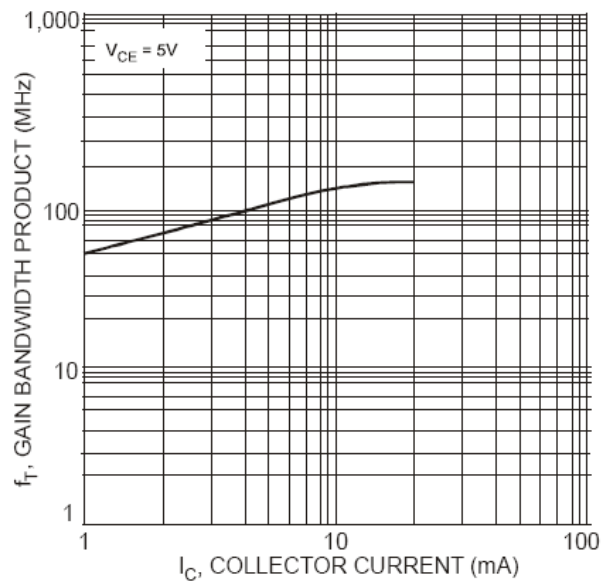


Fig.5 Gain Bandwidth Product vs. Collector Current



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New Marking Rule Notification

Range: In order to have well management in process control, the new marking rule is applied to small signal device including Switching Diode, Transistor and Schottky Diode.

Package: SOT-363

