



SOT-23 Plastic-Encapsulate Transistors

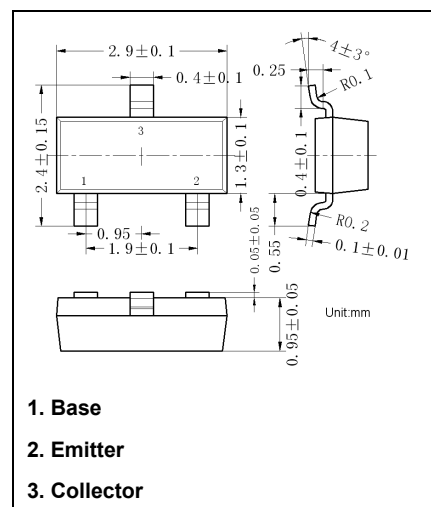
MMBT5551

NPN Transistors

Features

- Complementary to MMBT5401
- Ideal for Medium Power Amplification and Switching

Marking: G1



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

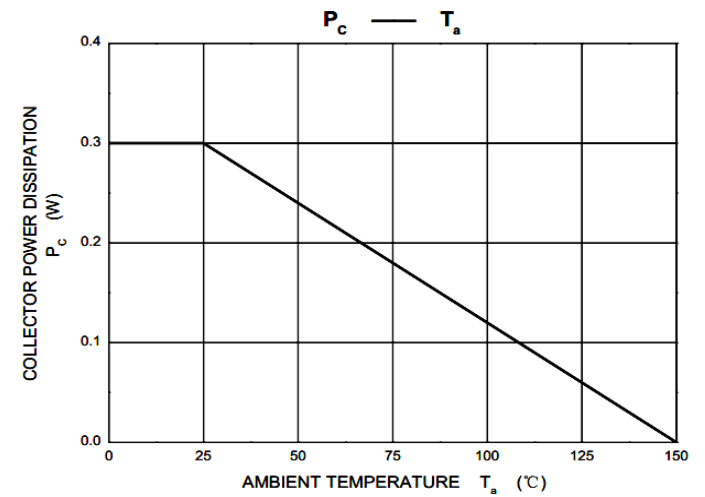
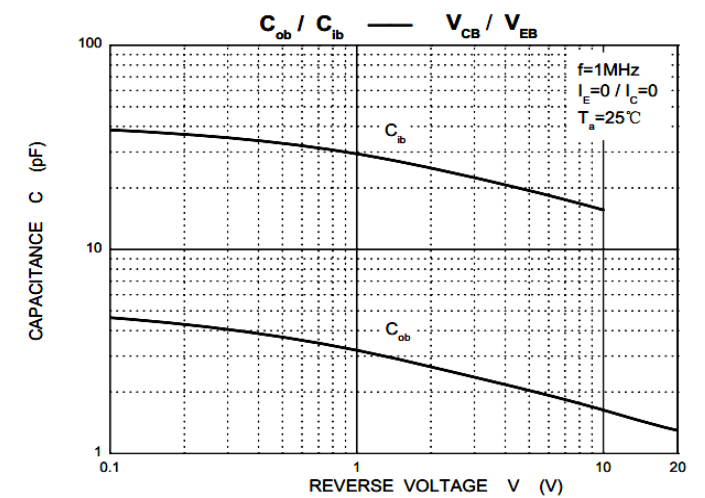
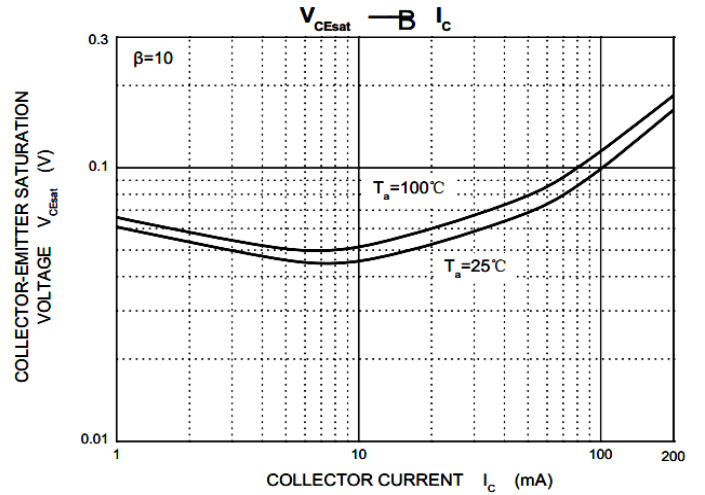
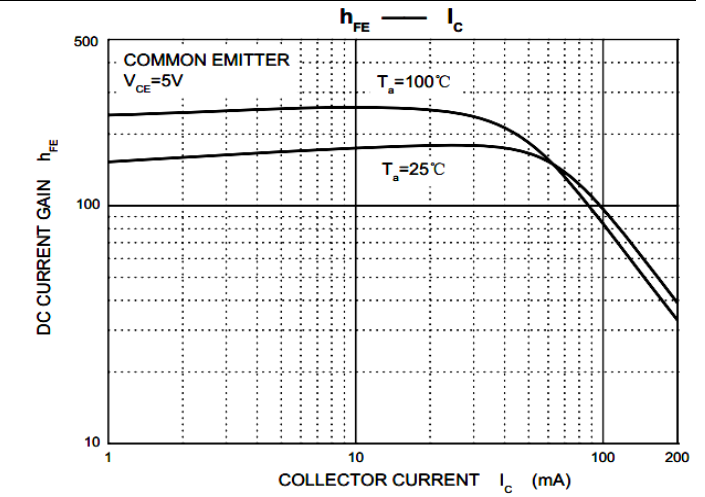
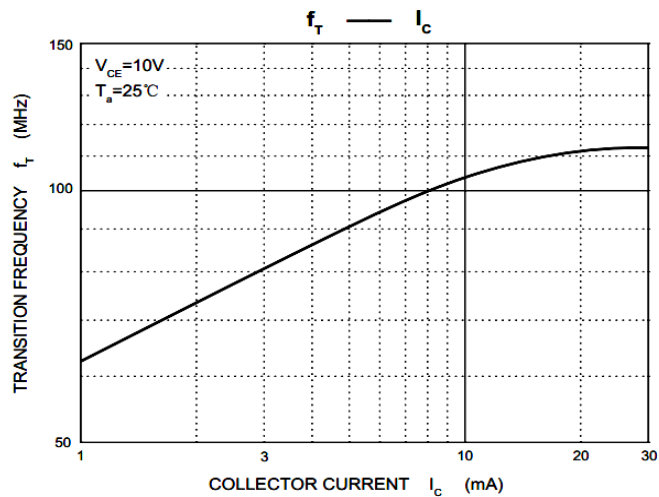
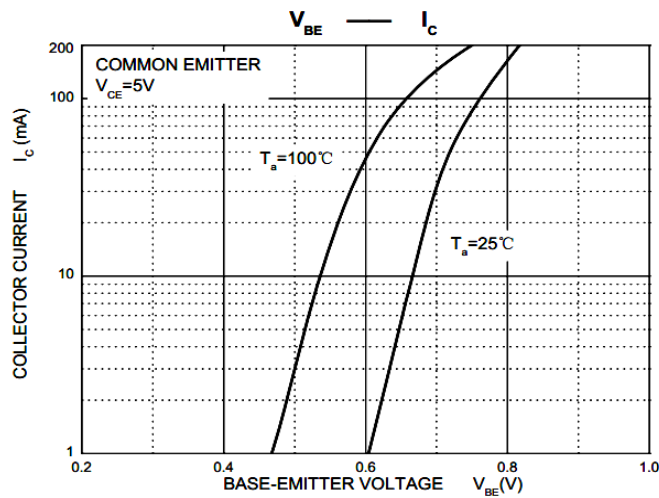
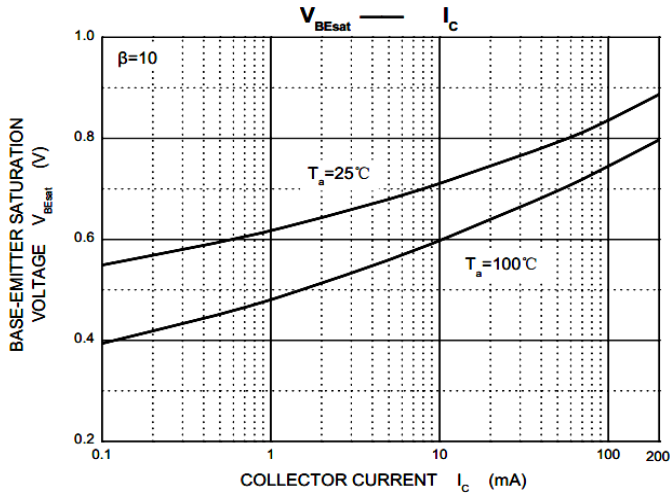
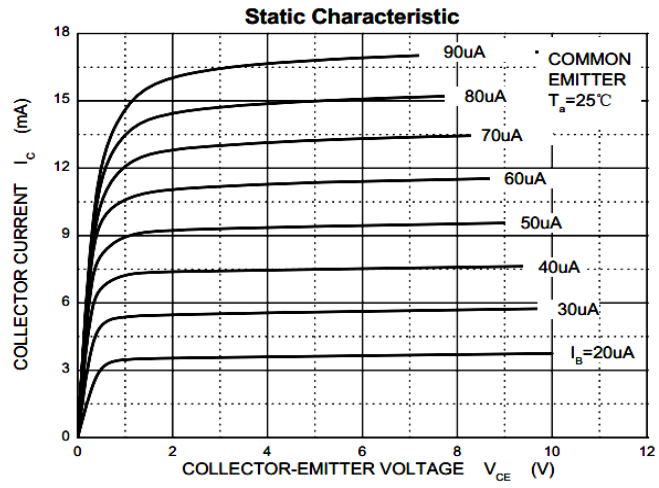
Symbol	Parameter	Value	Unit
V_{CBO}	Collector Base Voltage	180	V
V_{CEO}	Collector Emitter Voltage	160	V
V_{EBO}	Emitter Base Voltage	6	V
I_C	Collector Current	600	mA
P_C	Collector Power Dissipation	300	mW
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55 ~ +150	$^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	416	$^{\circ}\text{C}/\text{W}$

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

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = 100\mu\text{A}, I_E = 0$	180			V
$V_{(BR)CEO}^*$	Collector-emitter breakdown voltage	$I_C = 1\text{mA}, I_B = 0$	160			V
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = 10\mu\text{A}, I_C = 0$	6			V
I_{CBO}	Collector cut-off current	$V_{CB} = 120\text{V}, I_E = 0$			50	nA
I_{EBO}	Emitter cut-off current	$V_{EB} = 4\text{V}, I_C = 0$			50	nA
$h_{FE(1)}^*$	DC current gain	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	100		200	
$h_{FE(2)}^*$		$V_{CE} = 5\text{V}, I_C = 50\text{mA}$	50			
$V_{CE(sat)}^*$	Collector-emitter saturation voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$			0.15	V
		$I_C = 50\text{mA}, I_B = 5\text{mA}$			0.2	V
$V_{BE(sat)}^*$	Base-emitter saturation voltage	$I_C = 10\text{mA}, I_B = 1\text{mA}$			1	V
		$I_C = 50\text{mA}, I_B = 5\text{mA}$			1	V
f_T	Transition frequency	$V_{CE} = 10\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	100		300	MHz
C_{ob}	Collector output capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			6	pF

*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycles $\leq 2.0\%$

Typical Characteristics



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