



雙極型晶體管

MMBT5551  
SOT-23 PNP General Purpose Amplifier

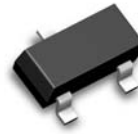
FEATURE:

- ◆ Power Dissipation
- ◆ Ideal for Medium Power Amplification and Switching
- ◆ This device is designed for general purpose high voltage amplifiers and gas discharge display drivers.

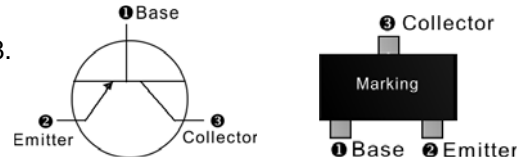
MECHANICAL CHARACTERISTICS:

- ◆ Case: SOT-23 Molded Plastic
- ◆ Weight: 0.01 Grams (approx)
- ◆ Marking: Body top
- ◆ Terminals: Plated leads solderable per MIL-STD-202, Method 208.
- ◆ Mounting: Position any

Figure



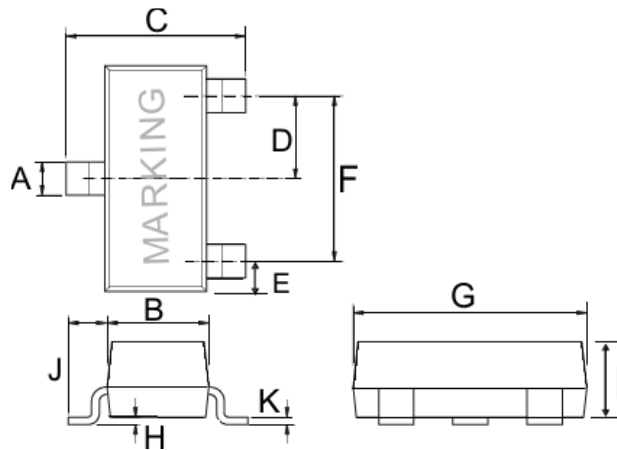
SOT-23 MMBT5551 Top View



DIMENSION:

mm

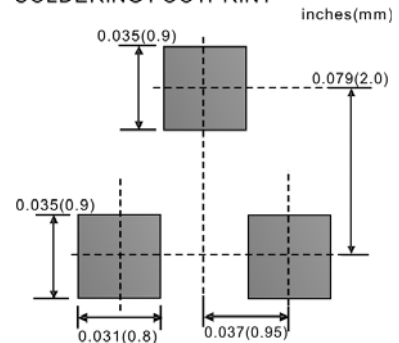
SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.19	1.4
C	2.1	2.5
D	0.89	1.05
E	0.45	0.61
F	1.78	2.05
G	2.65	3.05
H	0.013	0.15
I	0.89	1.1
J	0.45	0.61
K	0.076	0.178



Maximum Ratings @T<sub>A</sub>=25°C unless otherwise noted

Parameter	Symbol	Value	Units
Collector-Base Voltage	V <sub>CBO</sub>	180	V
Collector-Emitter Voltage	V <sub>CEO</sub>	160	V
Emitter-Base Voltage	V <sub>EBO</sub>	6.0	V
Collector Current - Continuous	I <sub>C</sub>	600	mA
Collector Power Dissipation	P <sub>C</sub>	300	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55~150	°C
Thermal Resistance From Junction to Ambient	T <sub>θJA</sub>	416	°C/W

SOLDERING FOOTPRINT



Classification Of h<sub>FE(2)</sub>

Rank	L	H
Range:	100-200	200-300



□ **Electrical Characteristics**  $T_{amb}=25^{\circ}C$  unless otherwise specified

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
Collector-Base Breakdown voltage	$V(BR)_{CBO}$	$I_C=100\mu A, I_E=0$	180	---	V
Collector-Emitter Breakdown voltage*	$V(BR)_{CEO}$	$I_C=1mA, I_B=0$	160	---	V
Emitter-Base Breakdown voltage	$V(BR)_{EBO}$	$I_E=10\mu A, I_C=0$	6	---	V
Collector cut-off current	$I_{CBO}$	$V_{CB}=120V, I_E=0$	---	50	nA
Emitter cut-off current	$I_{EBO}$	$V_{EB}=4V, I_C=0$	---	50	nA
DC Current gain*	$h_{FE(1)}$	$V_{CE}=5V, I_C=1mA$	80	---	---
	$h_{FE(2)}$	$V_{CE}=5V, I_C=10mA$	100	300	---
	$h_{FE(3)}$	$V_{CE}=5V, I_C=50mA$	50	---	---
Collector-emitter saturation voltage*	$V_{CE(sat)1}$	$I_C=10mA, I_B=1mA$	---	0.15	V
	$V_{CE(sat)2}$	$I_C=50mA, I_B=5mA$	---	0.2	V
Base-emitter saturation voltage*	$V_{BE(sat)1}$	$I_C=10mA, I_B=1mA$	---	1	V
	$V_{BE(sat)2}$	$I_C=50mA, I_B=5mA$	---	1	V
Transition Frequency	$f_T$	$V_{CE}=10V, I_C=10mA, f=100MHz$	100	300	MHz
Collector Output capacitance	$V_{ob}$	$V_{CB}=10V, I_E=0, f=1MHz$	---	6	pF

\* Pulse Test: Pulse width  $\leq 300\mu s$ , duty cycle  $\leq 2\%$

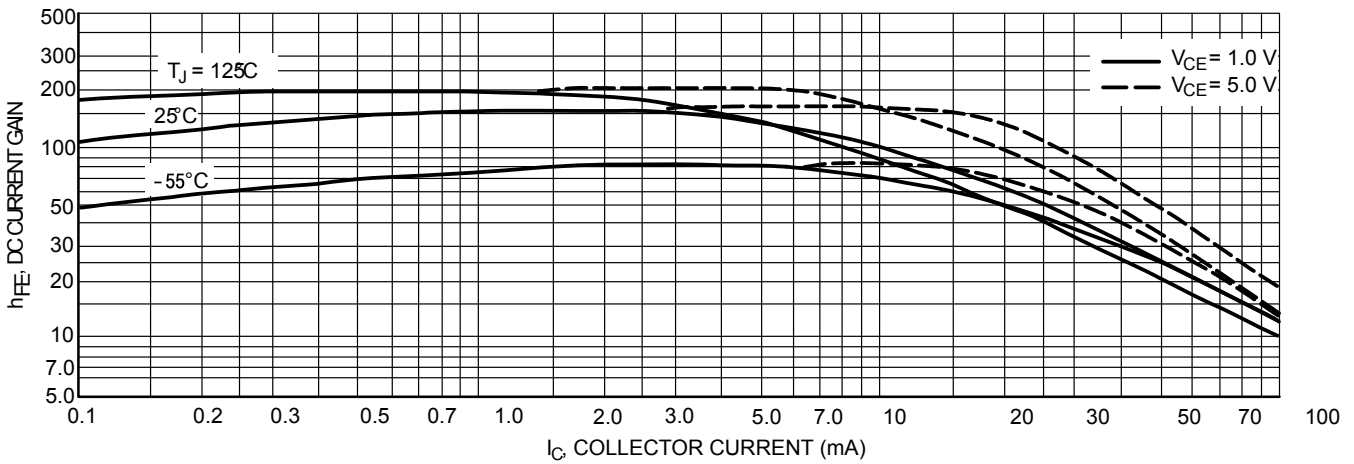


Figure 1. DC Current Gain

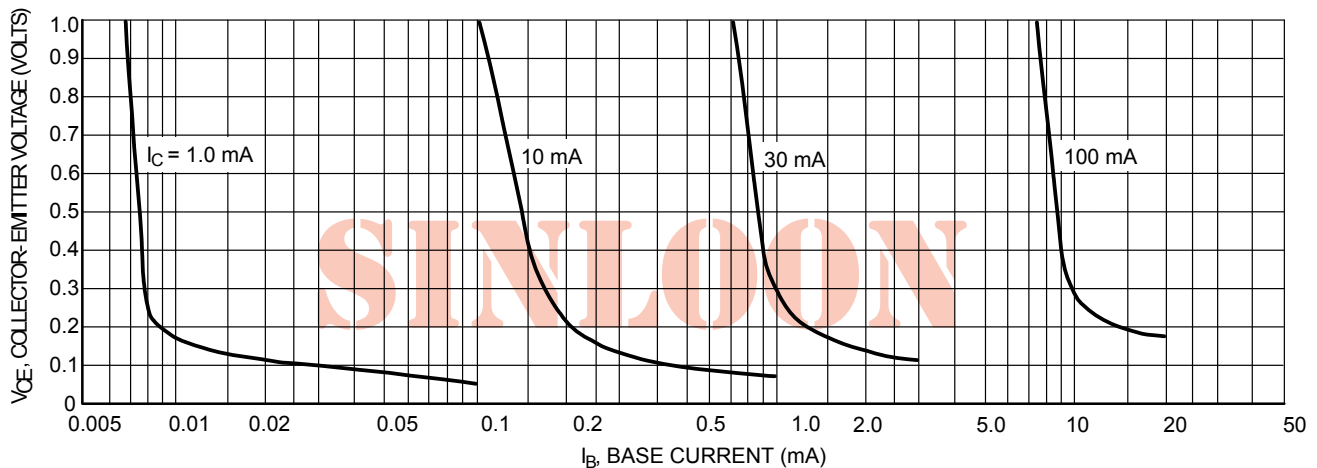


Figure 2. Collector Saturation Region

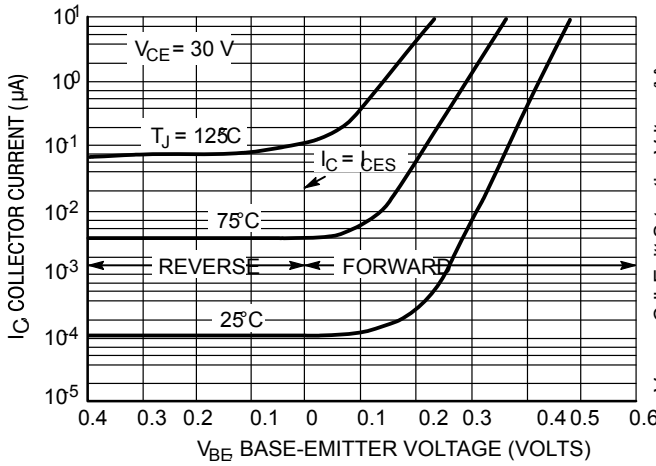


Figure 3. Collector Cut -Off Region

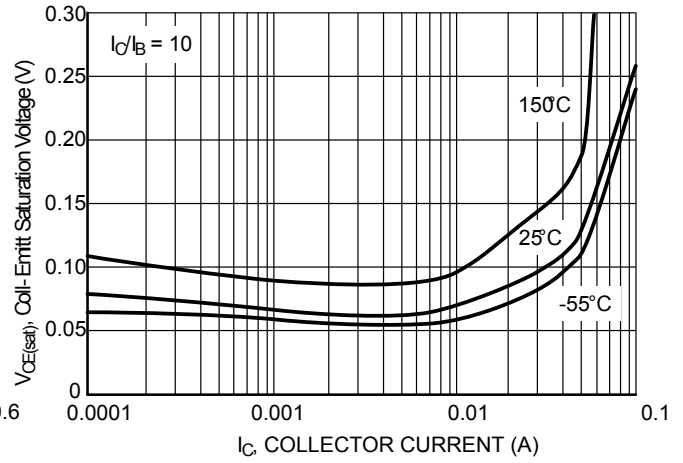


Figure 4.  $V_{CE(sat)}$

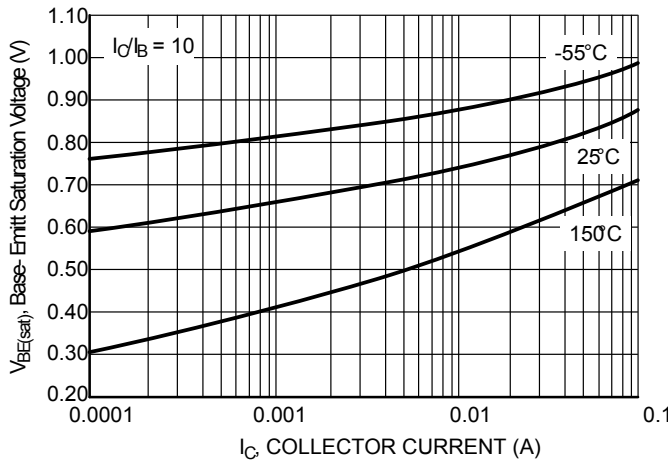


Figure 5.  $V_{BE(sat)}$

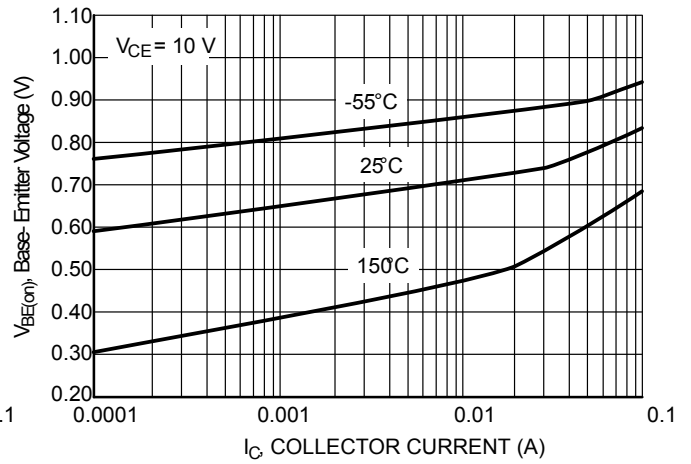


Figure 6.  $V_{BE(on)}$

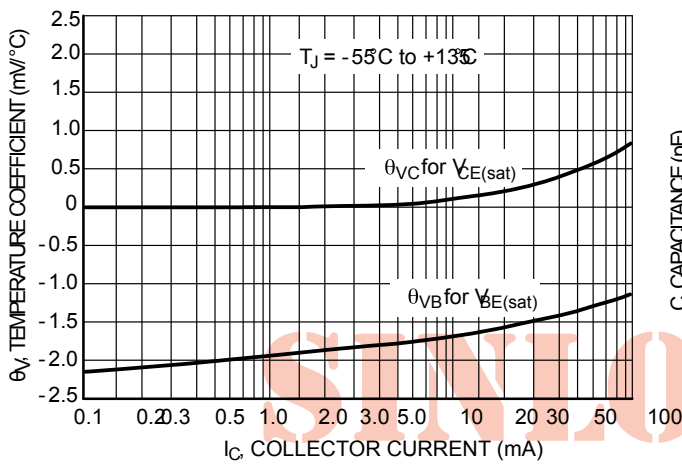


Figure 7. Temperature Coefficients

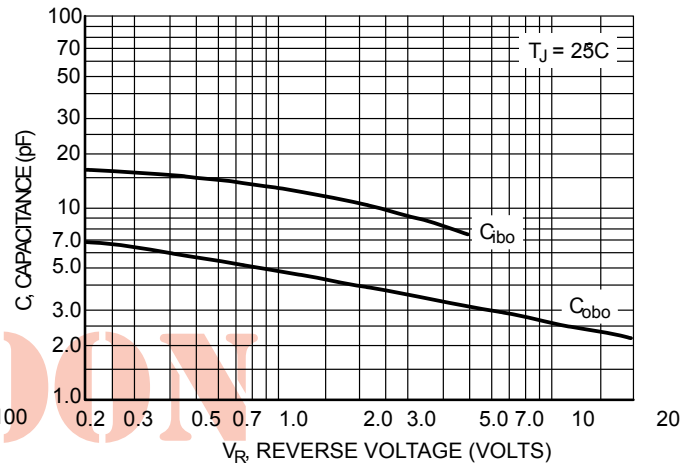


Figure 8. Capacitances

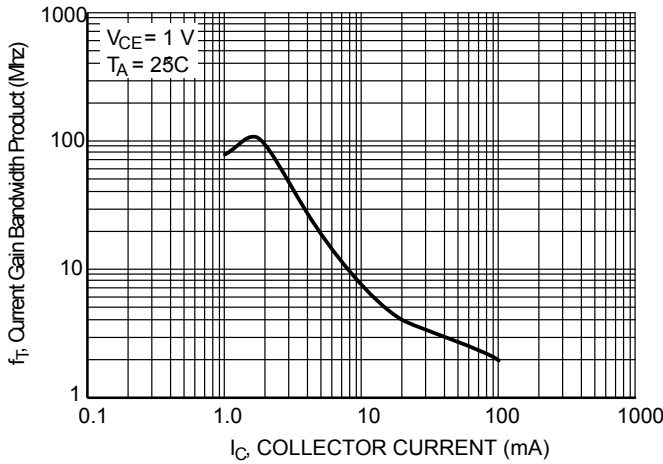


Figure 10. Current Gain Bandwidth Product

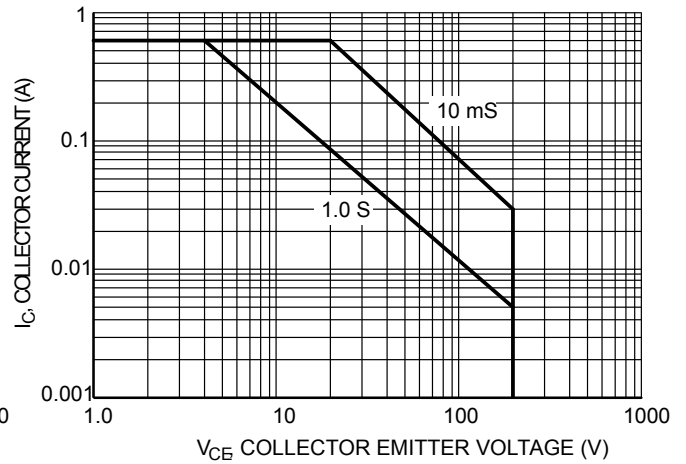


Figure 11. Safe Operating Area

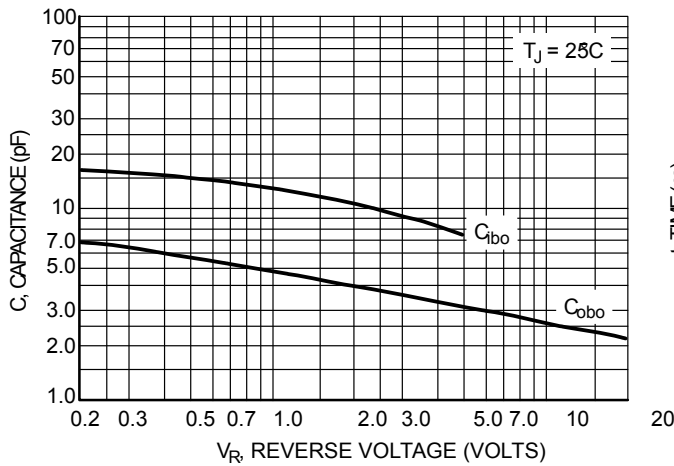


Figure 12. Capacitances

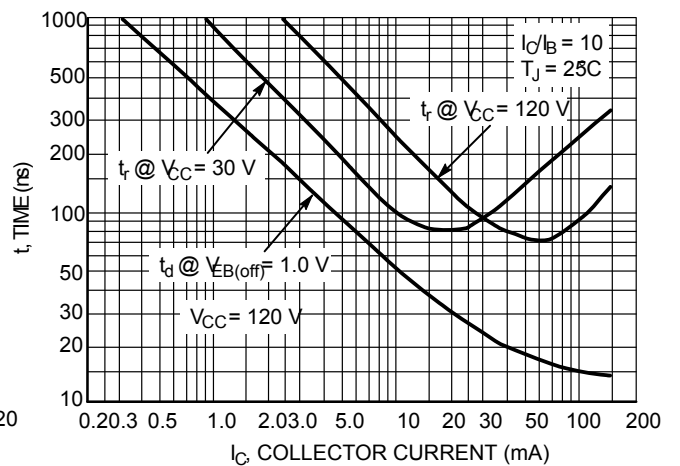


Figure 13. Turn-On Time

**SINLOON**

**SINLOON®**

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**MMBT5551**

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**COMMON PACKING INFORMATION:**

Product Number:	Package Type	Packing Quantity	Carton Quantity	Apporx Gross Weight
MMBT5551	SOT-23	3000 Tape & Reel	180,000 Ctn	12 Kg

Reel Diameter (Inch)	Quantity (Pcs)	Inner Box Size (mm)	Carton Size (mm)
7"	3000	L: 203 x W:203 x H:195	L:439 x W:438 x H:220

**Plastic Reel : Fig-1**



Reel Qty: 3000 Reel

**Inner Box: Fig-2**



Inner Box Qty: 45,000 PCS

**Carton Pack Fig-3**



Carton Qty: 180,000 PCS

**SINLOON**  
Part No. MMBT5551 Rang: 200-300  
PKG: SOT-23 QTY: 180000pcs  
Lot No. X201100 Date: 2011/01

**SINLOON**

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