

RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

SOT-23		
Dim	Min	Max
A	2.800	3.040
B	1.200	1.400
C	0.890	1.110
D	0.370	0.500
G	1.780	2.040
H	0.013	0.100
J	0.085	0.177
K	0.450	0.600
L	0.890	1.020
S	2.100	2.500
V	0.450	0.600
All Dimension in mm		

## FEATURES

Power dissipation

$$P_{CM}: 0.3 \text{ W (Tamb=25°C)}$$

Collector current

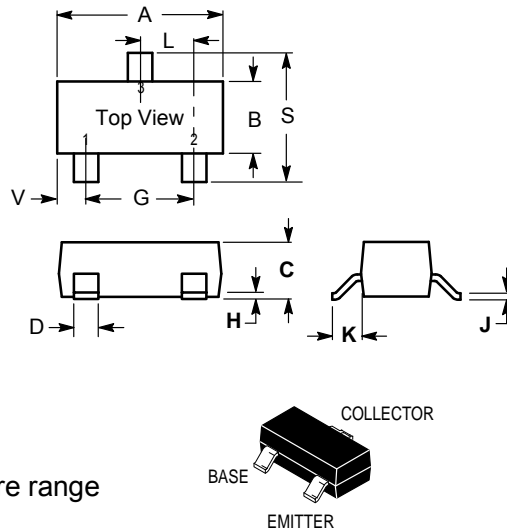
$$I_{CM}: 0.6 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO}: 180 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55 \text{ to } +150^\circ\text{C}$$



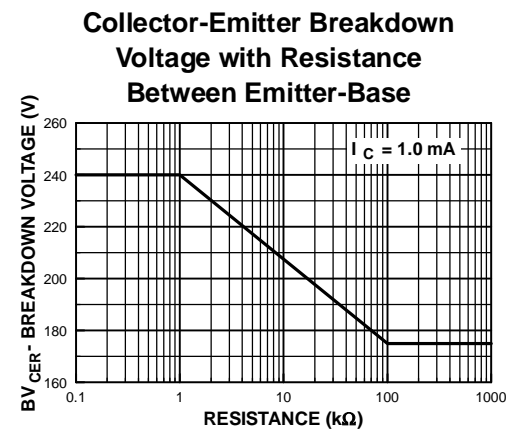
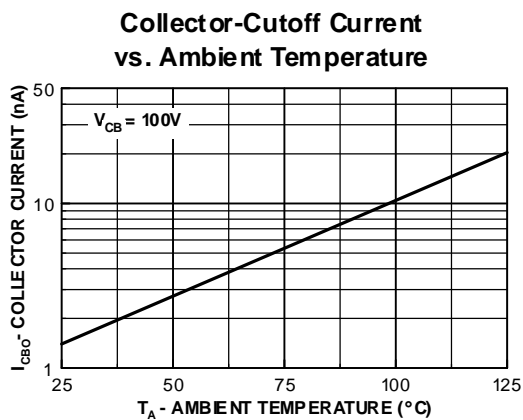
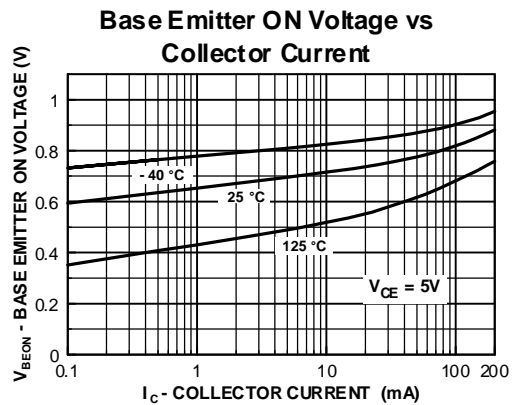
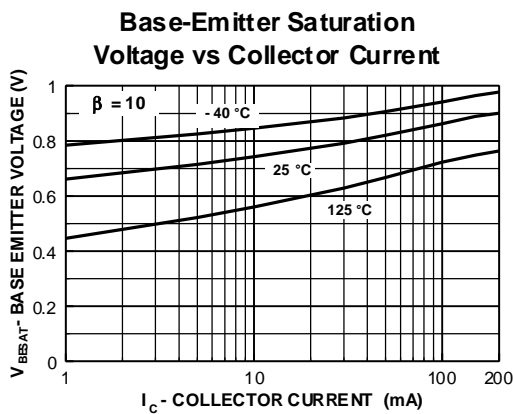
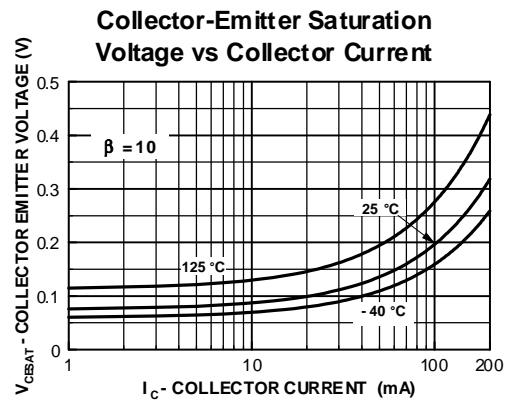
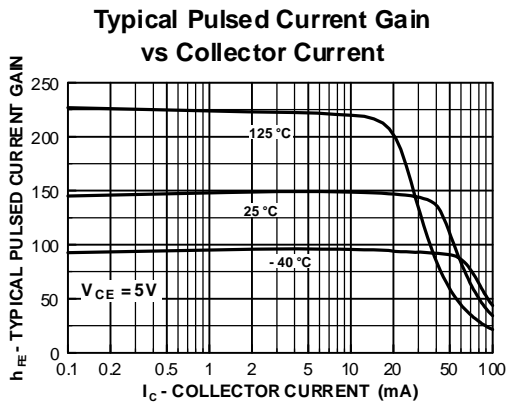
## ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	180		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6		V
Collector cut-off current	$I_{CBO}$	$V_{CB} = 180\text{V}, I_E = 0$		0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 4\text{V}, I_C = 0$		0.1	$\mu\text{A}$
DC current gain	$h_{FE(1)}$	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	80		
	$h_{FE(2)}$	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$	80	250	
	$h_{FE(3)}$	$V_{CE} = 5\text{V}, I_C = 50\text{mA}$	30		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$		0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$		1	V
Transition frequency	$f_T$	$V_{CE} = 10\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$	80		MHz

## DEVICE MARKING

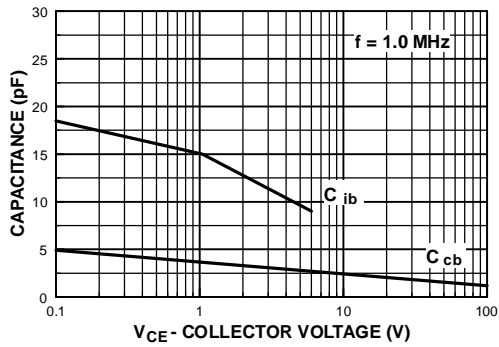
MMBT5551 = G1

**Typical Characteristics**

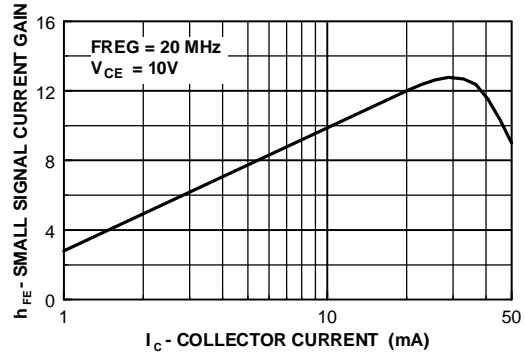


**Typical Characteristics** (continued)

**Input and Output Capacitance vs Reverse Voltage**



**Small Signal Current Gain vs Collector Current**



**Power Dissipation vs Ambient Temperature**

