

SOT-23 Plastic-Encapsulate Transistors

MMBT5551LT1 TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 0.3 W ($T_{amb}=25^{\circ}C$)

Collector current

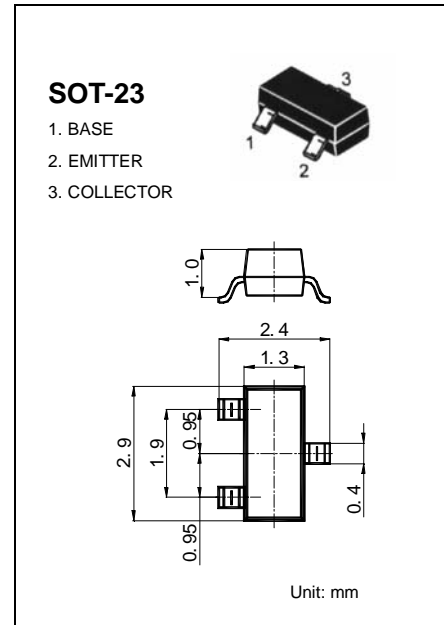
I_{CM} : 0.6 A

Collector-base voltage

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

Operating and storage junction temperature range

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



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

DEVICE MARKING

MMBT5551LT1=G1

Typical Performance Characteristics

Figure 1. Typical Pulsed Current Gain vs Collector Current

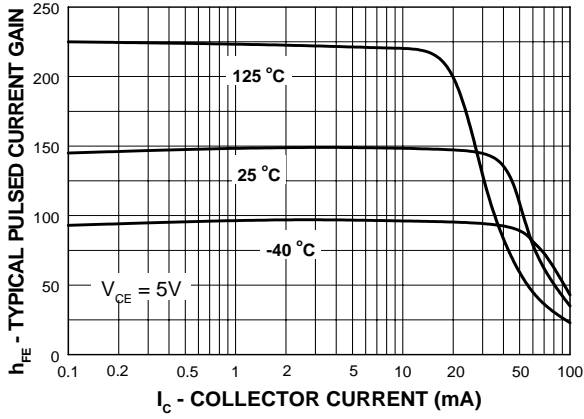


Figure 2. Collector-Emitter Saturation Voltage vs Collector Current

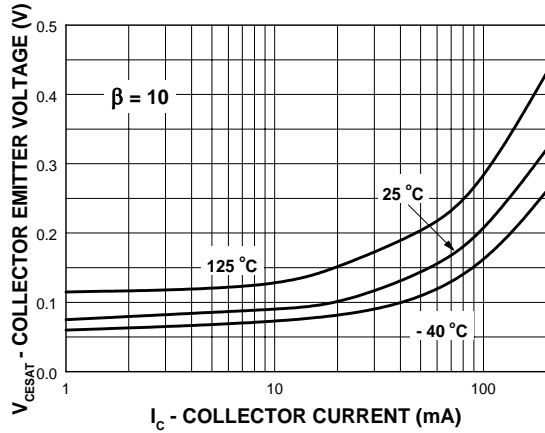


Figure 3. Base-Emitter Saturation Voltage vs Collector Current

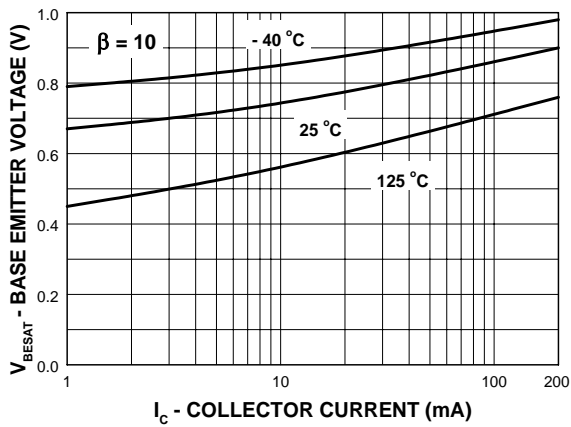


Figure 4. Base-Emitter On Voltage vs Collector Current

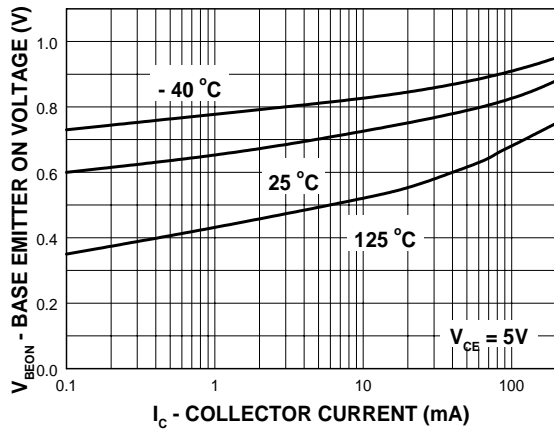


Figure 5. Collector Cutoff Current vs Ambient Temperature

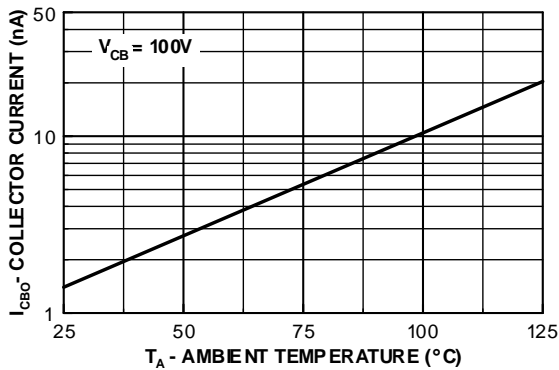
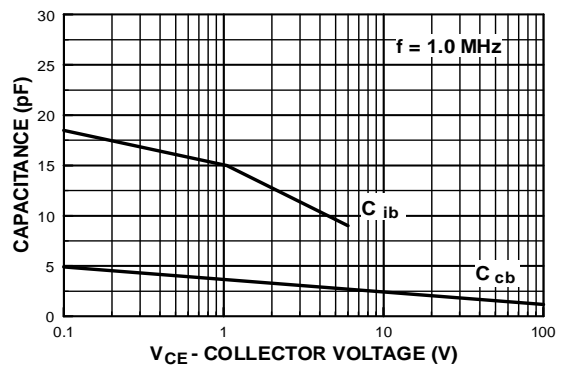


Figure 6. Input and Output Capacitance vs Reverse Voltage



Typical Performance Characteristics (Continued)

Figure 7. Collector- Emitter Breakdown Voltage with Resistance Between Emitter-Base

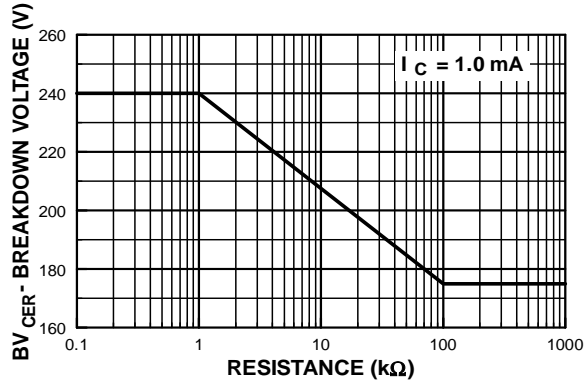


Figure 8. Small Signal Current Gain vs Collector Current

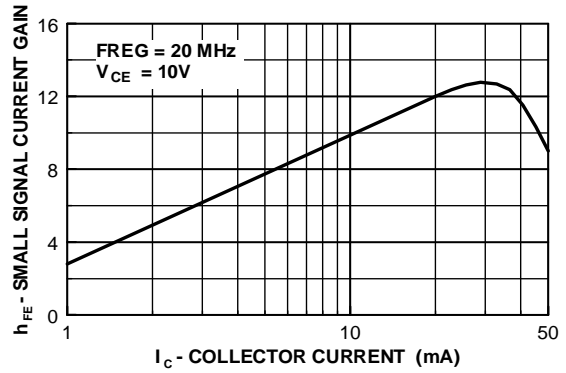


Figure 9. Power Dissipation vs Ambient Temperature

