Elektronische Bauelemente

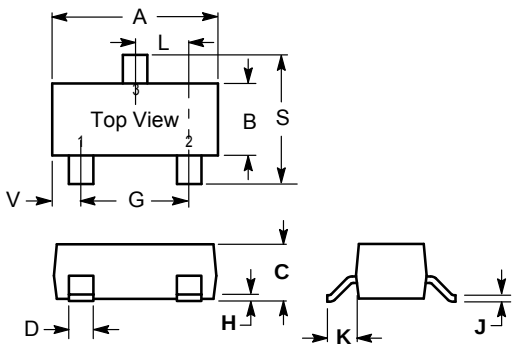
MMBT5551

NPN Silicon

General Purpose Transistor

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 W (Tamb=25℃)

Collector current

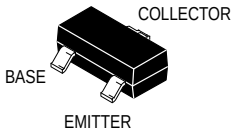
$I_{CM:}$ 0.6 A

Collector-base voltage

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

Operating and storage junction temperature range

T_J, T_{stg}: -55 to +150℃



ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

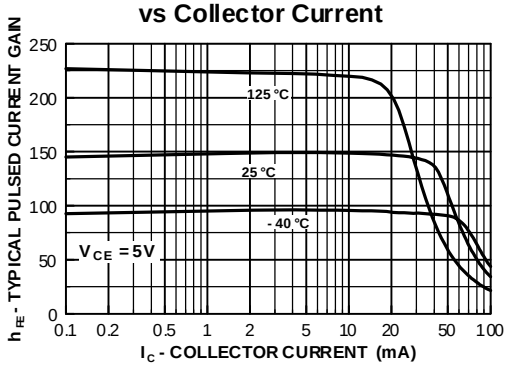
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic= 100μA, I_E=0	180		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic= 0.1mA, I_B=0	160		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 100μA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}=180V, 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=50 mA, I_B= 5mA		0.5	V
Base-emitter saturation voltage	V_{BE}(sat)	I_C= 50 mA, I_B= 5mA		1	V
Transition frequency	f_T	V_{CE}=10V, I_C= 10mA, f=100MHz	80		MHz

DEVICE MARKING

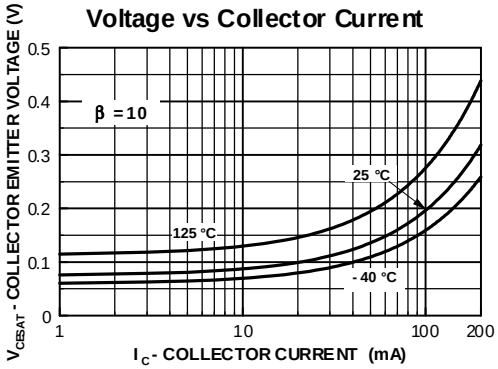
MMBT5551 = G1

Typical Characteristics

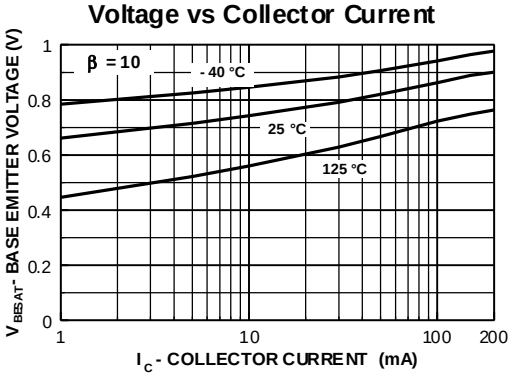
Typical Pulsed Current Gain vs Collector Current



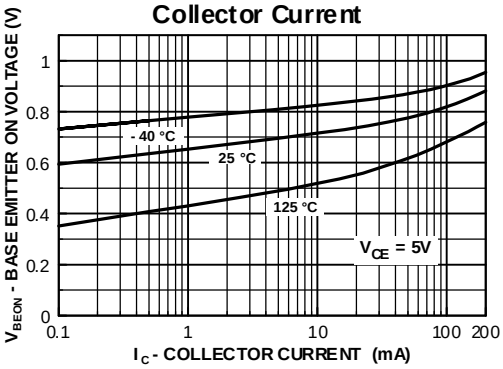
Collector-Emitter Saturation Voltage vs Collector Current



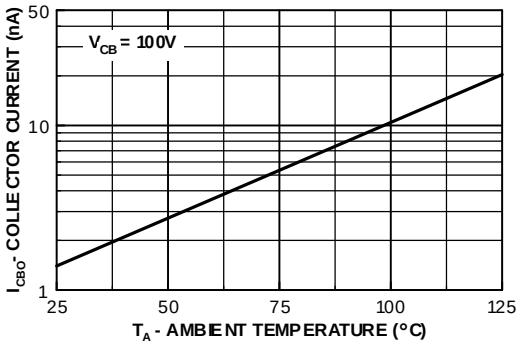
Base-Emitter Saturation Voltage vs Collector Current



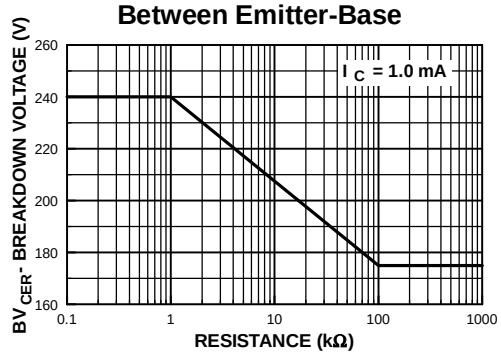
Base Emitter ON Voltage vs Collector Current



Collector-Cutoff Current vs. Ambient Temperature

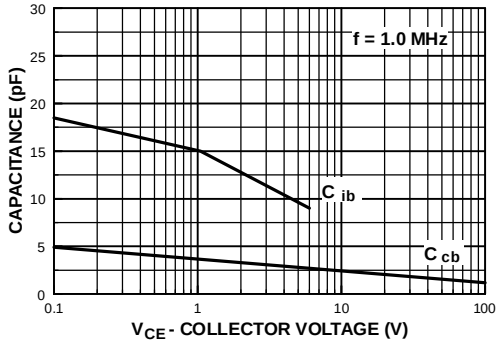


Collector-Emitter Breakdown Voltage with Resistance Between Emitter-Base

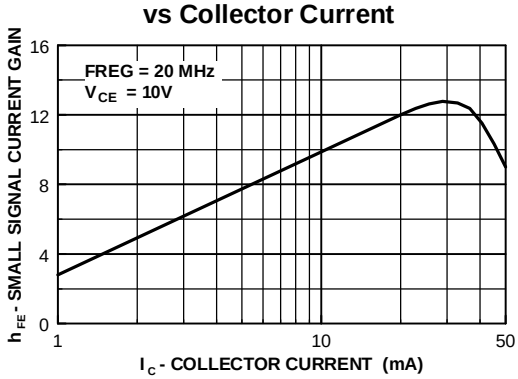


Typical Characteristics (continued)

Input and Output Capacitance vs Reverse Voltage



Small Signal Current Gain vs Collector Current



Power Dissipation vs Ambient Temperature