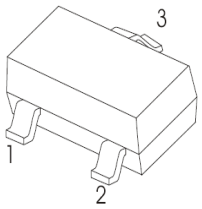
SOT-23 Plastic-Encapsulate Transistors

2SC3052 TRANSISTOR (NPN)



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- Low collector to emitter saturation voltage
  $V_{CE(sat)}$=0.3V max(@I_C=100mA,I_B=10mA)
- Excellent linearity of DC forward current gain

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector- Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.2	A
P_C	Collector Power Dissipation	150	mW
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55-150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

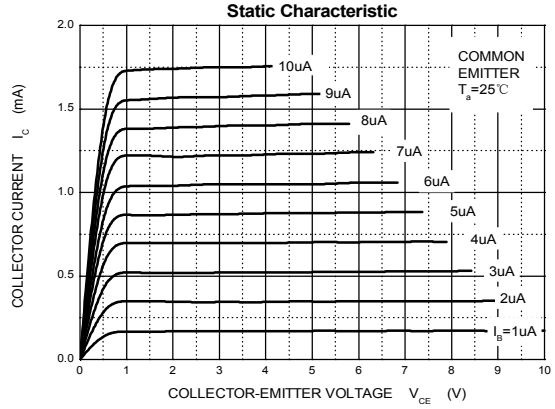
Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	$V_{(BR)\ CBO}$	I_C = 100 μA, I_E=0	50		V
Collector-emitter breakdown voltage	$V_{(BR)\ CEO}$	I_C = 100 μA, I_B=0	50		V
Emitter-base breakdown voltage	$V_{(BR)\ EBO}$	I_E= 100 μA, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}= 50 V , I_E=0		0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= 6V , I_C=0		0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}= 6V, I_C= 1mA	150	800	
	$h_{FE(2)}$	V_{CE}= 6V, I_C= 0.1mA	50		
Collector-emitter saturation voltage	$V_{CE\ (sat)}$	I_C=100mA, I_B= 10mA		0.3	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C= 100mA, I_B= 10mA		1	V
Transition frequency	f_T	V_{CE}= 6V, I_C= 10mA	180		MHz
Collector output capacitance	C_{ob}	V_{CB}=6V, I_E=0, f=1MHz		4	pF
Noise figure	NF	V_{CE}=6V,I_E=-0.1mA, f=1KHz, R_G=2KΩ		15	dB

CLASSIFICATION OF $h_{FE(1)}$

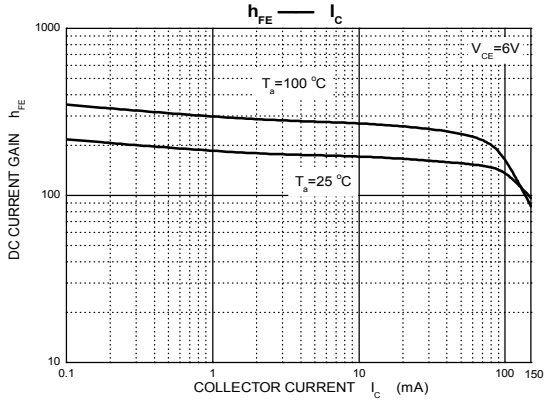
Rank	E	F	G
Range	150~300	250~500	400~800
Marking	LE	LF	LG

Typical Characteristics

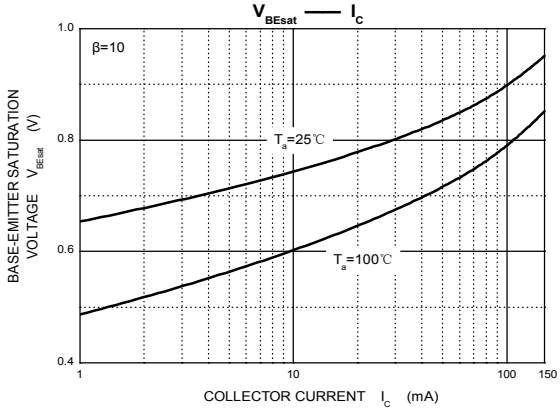
Static Characteristic



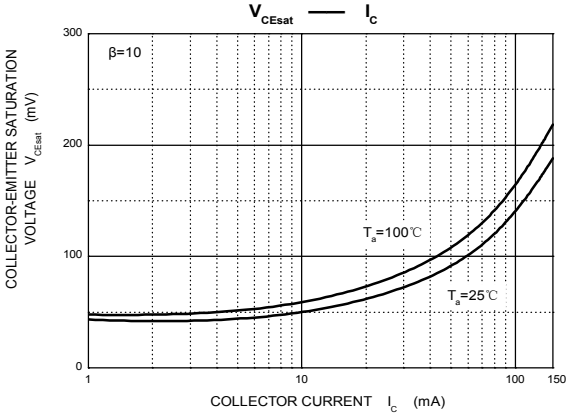
h_{FE} — I_C



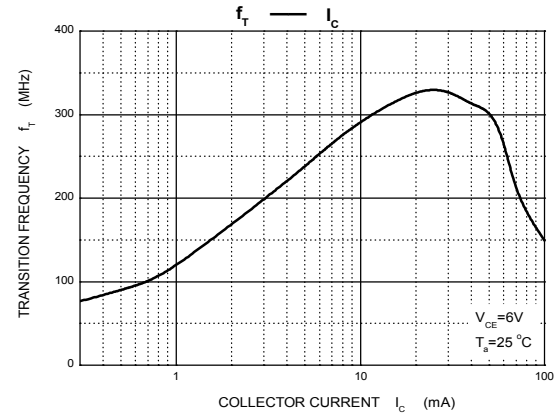
V_{BEsat} — I_C



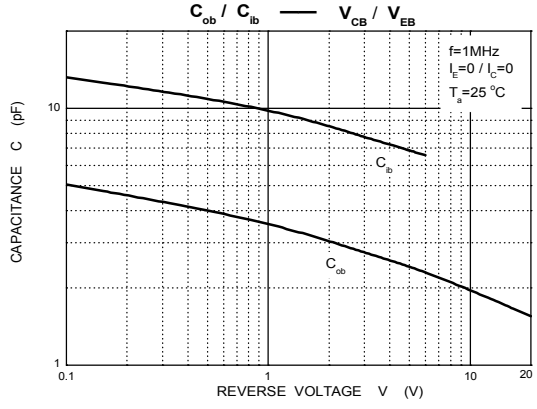
V_{CEsat} — I_C



f_T — I_C



C_{ob} / C_{ib} — V_{CB} / V_{EB}



P_c — T_a