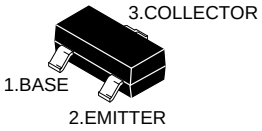
Elektronische Bauelemente

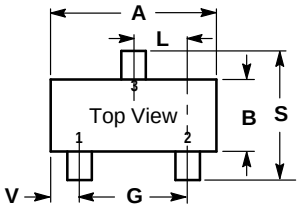
2SC3052

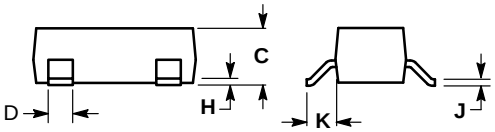
NPN Silicon

Plastic-Encapsulate Transistor

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

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

MAXIMUM RATINGS* T_A=25°C unless otherwise noted

Symbol	Parameter	Value	Units
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 Dissipation	150	mW
T_J, T_{stg}	Junction and Storage Temperature	125,-55~125	°C

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

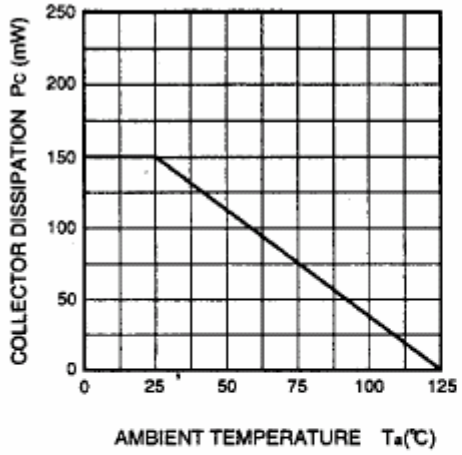
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic=100μA, I_E=0	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	Ic= 100μA, I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 100μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}= 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_{CE}=6V, I_E= 0, f= 1 MHz			4	pF
Noise figure	NF	V_{CE}=6V, I_E= -0.1mA, f = 1KHz R_G=2KΩ			15	dB

CLASSIFICATION OF h_{FE}

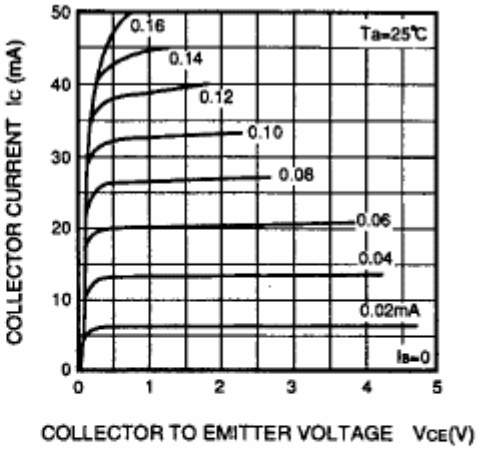
Marking	**LE**	**LF**	**LG**
Rank	**E**	**F**	**G**
Range	150-300	250-500	400-800

TYPICAL CHARACTERISTICS (T_A = 25 °C)

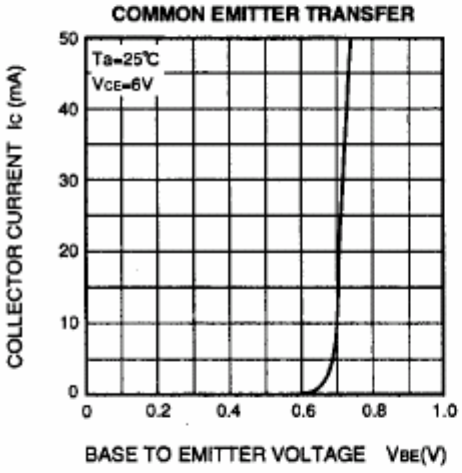
COLLECTOR DISSIPATION VS. AMBIENT TEMPERATURE



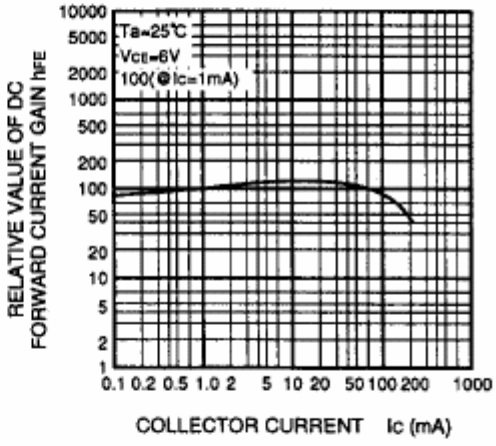
COMMON EMITTER OUTPUT



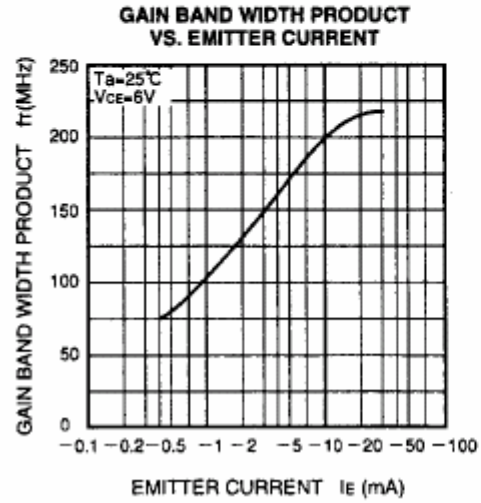
COMMON EMITTER TRANSFER



DC FORWARD CURRENT GAIN VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE VS. COLLECTOR TO BASE VOLTAGE