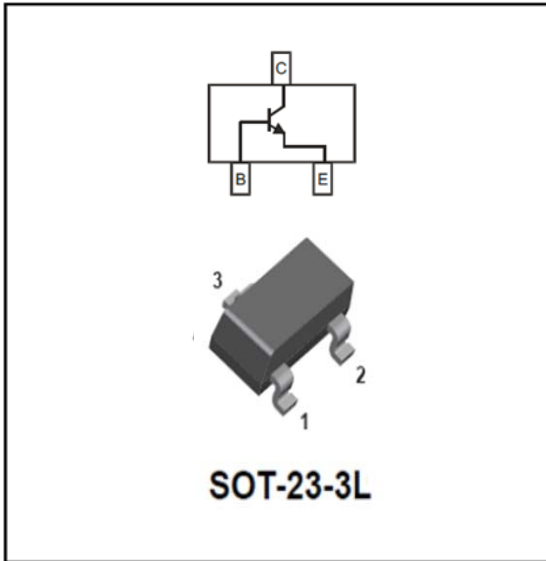


## NPN Transistor



### Features

- Epoxy meets UL-94 V-0 flammability rating
- Halogen free available upon request by adding suffix "HF"
- Moisture Sensitivity Level 1
- Surface mount package ideally Suited for Automatic Insertion
- NPN

### Mechanical Data

- **Package:** SOT-23-3L
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:**

2SC3052K-E	LE
2SC3052K-F	LF
2SC3052K-G	LG

### ■ Maximum Ratings (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	$V_{CBO}$	V	$I_C=100\mu A, I_E=0$	50
Collector-Emitter Voltage	$V_{CEO}$	V	$I_C=100\mu A, I_B=0$	50
Emitter-Base Voltage	$V_{EBO}$	V	$I_E=100\mu A, I_C=0$	6
Collector Current	$I_C$	A		0.2
Collector Power Dissipation	$P_C$	mW		150
Operation Junction Temperature	$T_j$	°C		150
Storage Temperature	$T_{stg}$	°C		-55 to +150

### ■ Electrical Characteristics (Ta=25°C unless otherwise noted)

Item	Symbol	Unit	Conditions	Min	Type	Max
Collector-base breakdown voltage	$V_{CBO}$	V	$I_C=100\mu A, I_E=0$	50		
Collector-emitter breakdown voltage	$V_{CEO}$	V	$I_C=100\mu A, I_B=0$	50		
Emitter-base breakdown voltage	$V_{EBO}$	V	$I_E=100\mu A, I_C=0$	6		
Collector-base cut-off current	$I_{CBO}$	$\mu A$	$V_{CB}=50 V, I_E=0$			0.1
Emitter-base cut-off current	$I_{EBO}$	$\mu A$	$V_{EB}=6 V, I_C=0$			0.1
DC current gain	$h_{FE1}$		$V_{CE}=6V, I_C=1mA$	150		800
	$h_{FE2}$		$V_{CE}=6V, I_C=0.1mA$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=100mA, I_B=10mA$			0.3
Base-emitter saturation voltage	$V_{BE(sat)*}$	V	$I_C=100mA, I_B=10mA$			1
Transition frequency	$f_T$	MHz	$V_{CE}=6V, I_C=10mA$		180	
Collector-base output capacitance	$C_{ob}$	pF	$V_{CB}=6V, I_E=0, f=1MHz$			4



## ■ CLASSIFICATION OF HFE

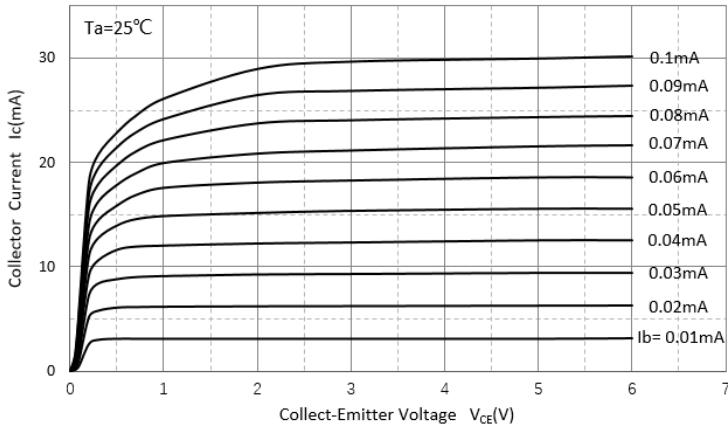
Rank	E	F	G
Range	150-300	250-500	400-800

## ■ Ordering Information (Example)

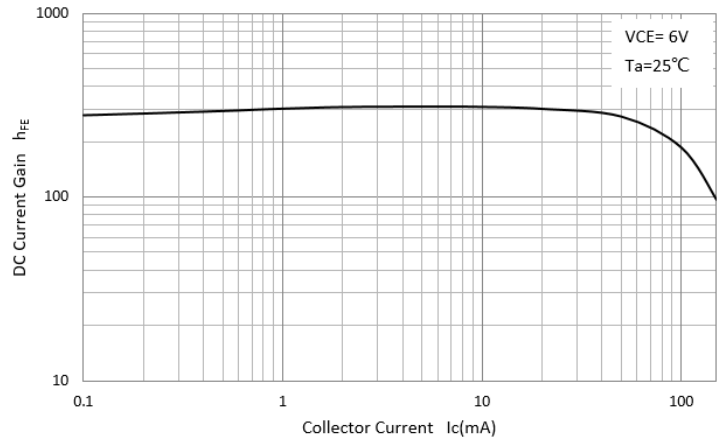
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
2SC3052K	F2	Approximate 0.014	3000	30000	120000	7" reel

## ■ Characteristics(Typical)

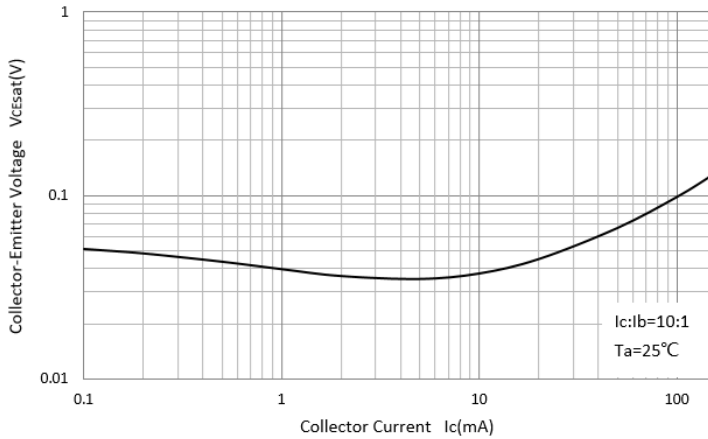
Static Characteristic



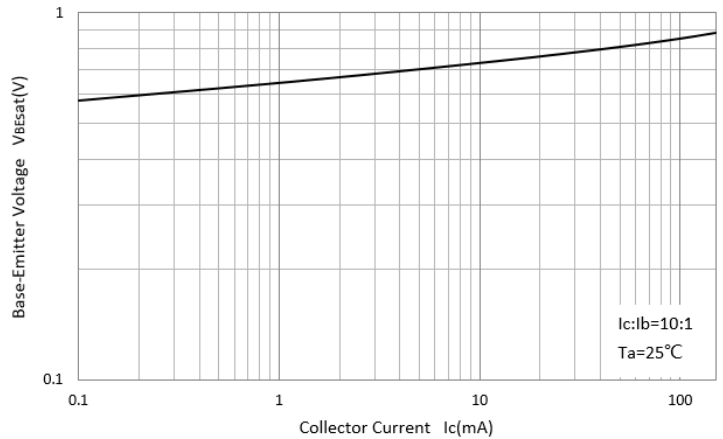
DC Current Gain



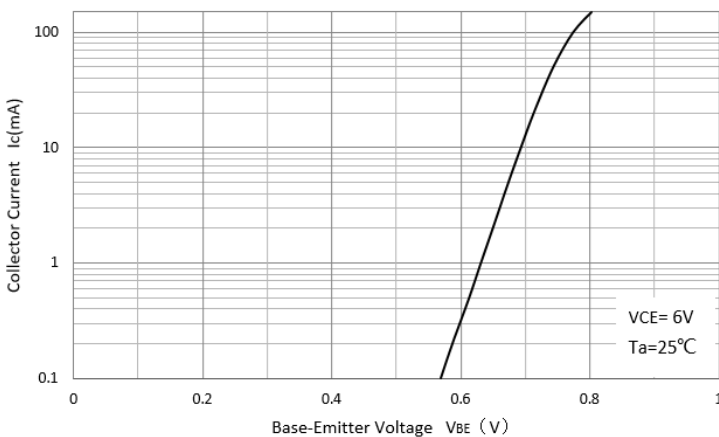
Collector-Emitter Saturation Voltage



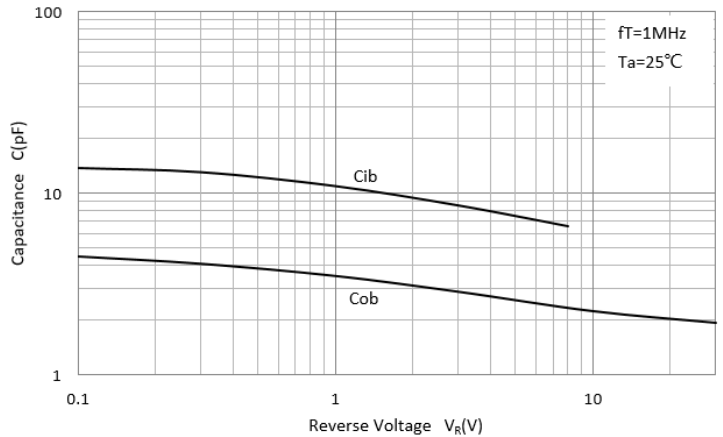
Base-Emitter Saturation Voltage



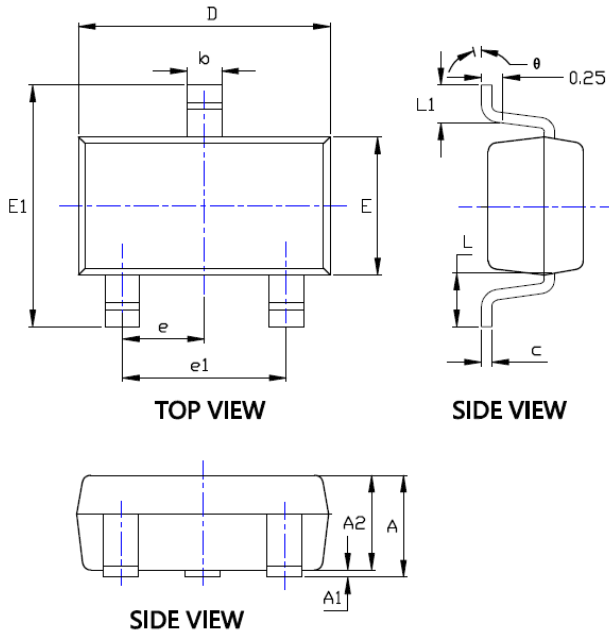
Base-Emitter On Voltage



Cob/Cib-V<sub>CB</sub>/V<sub>EB</sub>

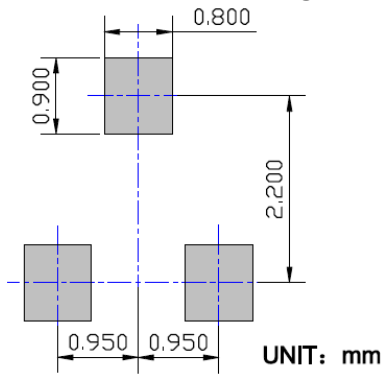


## ■SOT-23-3L Package Outline Dimensions



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.041	0.049	1.050	1.250
A1	0.000	0.008	0.000	0.200
A2	0.041	0.045	1.050	1.150
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.111	0.119	2.820	3.020
E	0.059	0.067	1.500	1.700
E1	0.104	0.116	2.650	2.950
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.024REF		0.600REF	
L1	0.012	0.024	0.300	0.600
∅	0°	8°	0°	8°

## ■SOT-23-3L Soldering Footprint





## Disclaimer

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