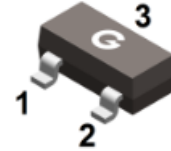
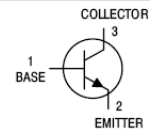


### Features

- Low collector to emitter saturation voltage
- Excellent linearity of DC forward current gain
- Ultra-small surface mount package

HF



SOT-23

### Mechanical Data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminal s: Tin-plated; solderability per MIL-STD-202, Method 208

### Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SC3052	SOT-23	3000 pcs / Tape & Reel	LE/LF/LG

### Maximum Ratings (@ T<sub>A</sub> = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Collector Current (Continuous)	I <sub>C</sub>	200	mA

### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P <sub>D</sub>	125	mW
Operating junction Temperature	T <sub>J</sub>	-55 ~ +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 ~ +150	°C

**Electrical Characteristics** (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 0.1\text{mA}, I_B = 0$	50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	6	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 50\text{V}, I_E = 0$	-	-	100	nA
Emitter-base Cut-off Current	$I_{EBO}$	$V_{EB} = 6\text{V}, I_C = 0$	-	-	100	nA
DC Current Gain	$h_{FE}$	$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	150	-	800	-
		$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}$	90	-	-	-
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 100\text{mA}, I_B = 10\text{mA}$	-	-	0.3	V
Transition Frequency	$f_T$	$V_{CE} = 6\text{V}, I_C = 10\text{mA}$	-	200	-	MHZ
Collector Output Capacitance	$C_{ob}$	$V_{CB} = 6\text{V}, I_E = 0$ $f = 1\text{MHz}$	-	2.5	-	pF
Noise Figure	$N_F$	$V_{CE} = 6\text{V}, I_E = 0.1\text{mA}$ $f = 1\text{kHz}, R_G = 2\text{k}\Omega$	-	-	20	dB

**Classification of  $h_{FE}$** 

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

Ratings and Characteristic Curves (@  $T_A = 25^\circ\text{C}$  unless otherwise specified)

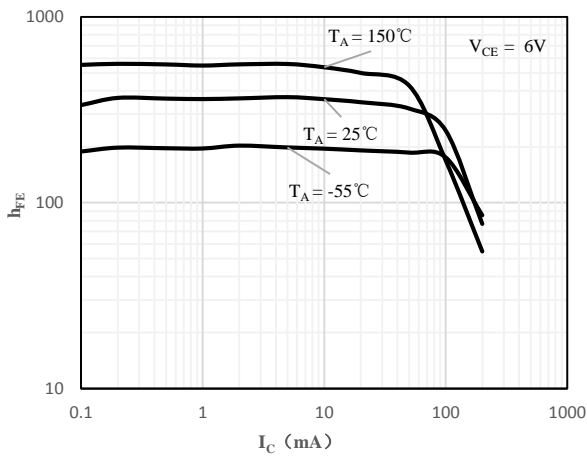


Fig 1  $h_{FE}$  vs.  $I_C$

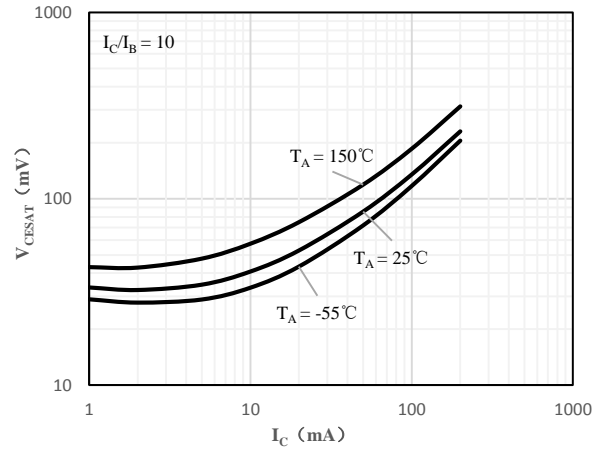


Fig 2  $V_{CE(sat)}$  vs.  $I_C$

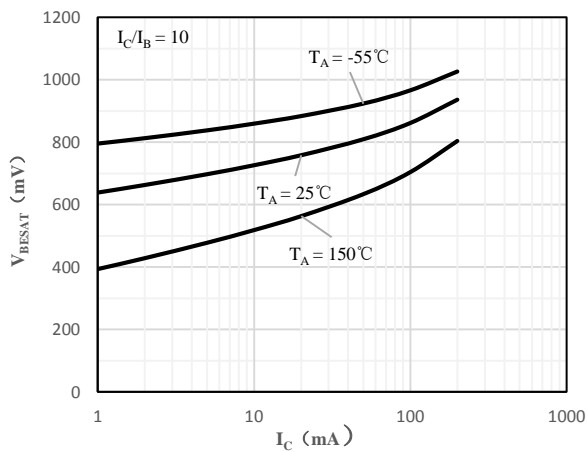


Fig 3  $V_{BE(sat)}$  vs.  $I_C$

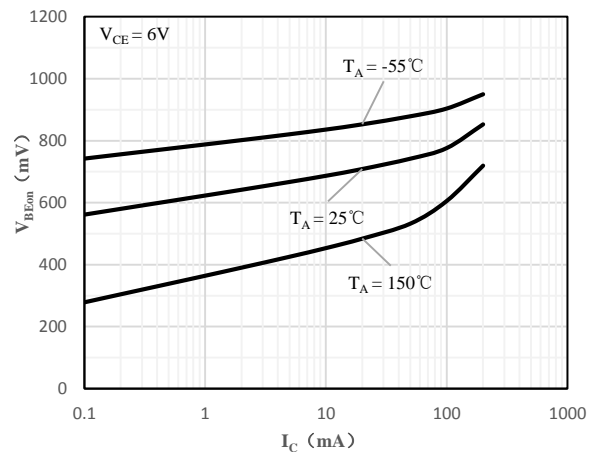


Fig 4  $V_{BE(on)}$  vs.  $I_C$

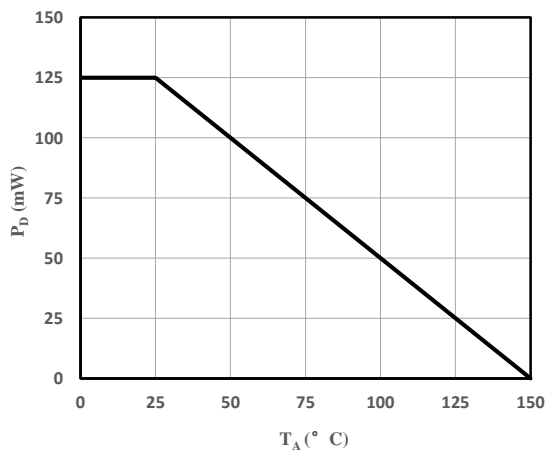
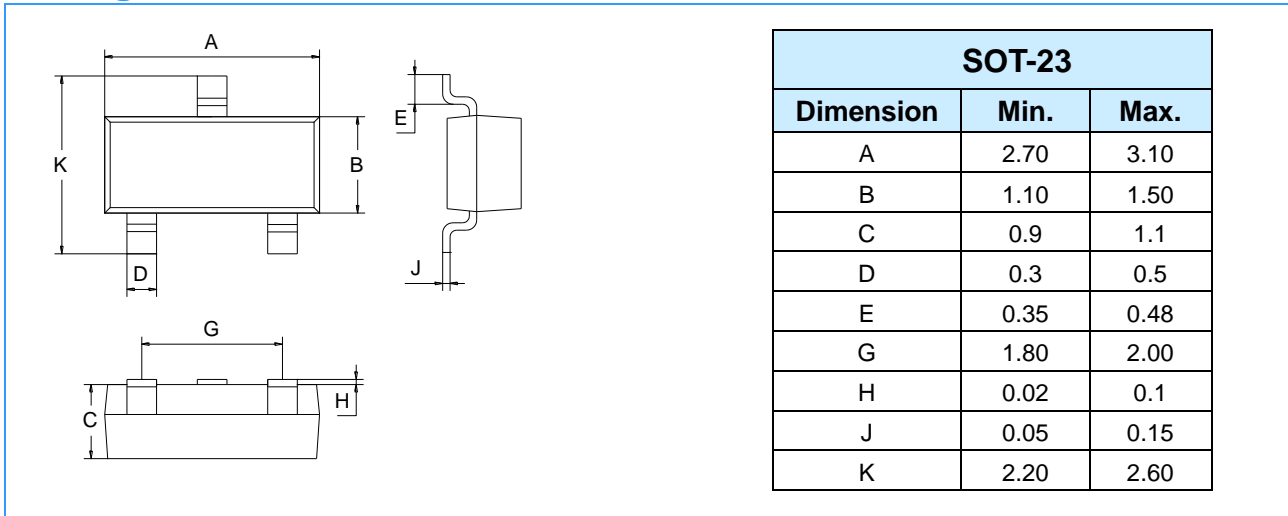
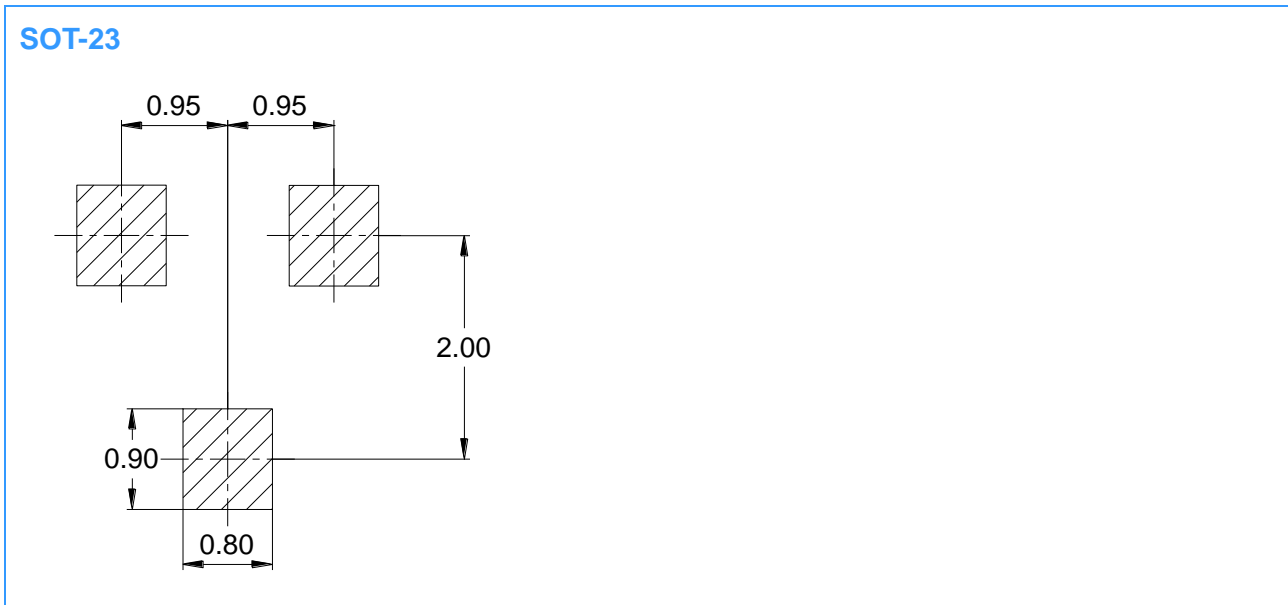


Fig 5 Steady State Power Derating

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)



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