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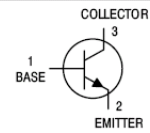
NPN Small Signal Surface Mount Transistor

2SC3052

Features

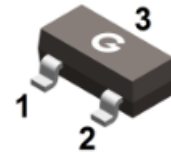
- Low collector to emitter saturation voltage
- Excellent linearity of DC forward current gain
- Ultra-small surface mount package
- RoHS compliant with Halogen-free

HF



Mechanical Data

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



SOT-23

Ordering Information

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

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	50	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current (Continuous)	I _C	200	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	125	mW
Operating junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

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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

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

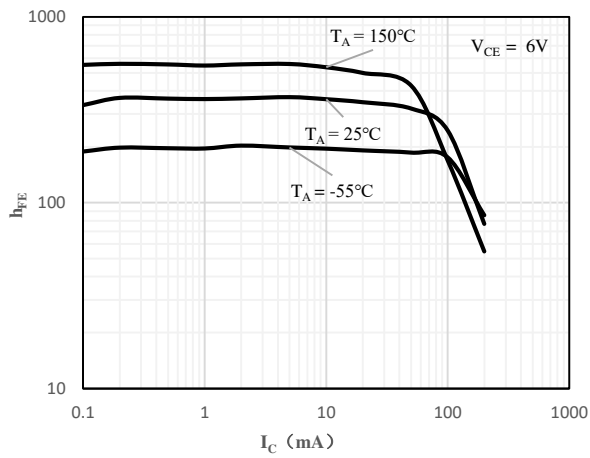


Fig 1 h_{FE} vs. I_C

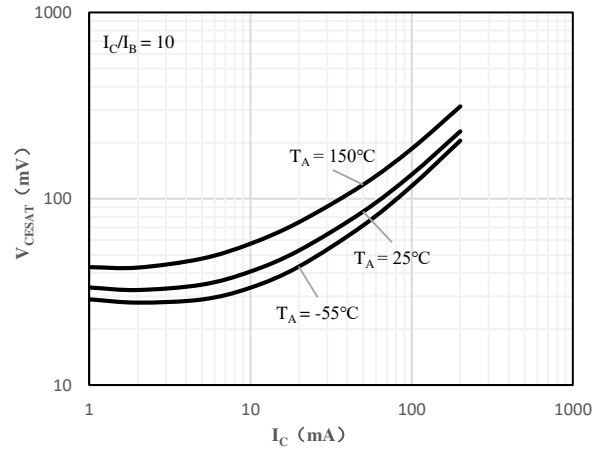


Fig 2 $V_{CE(sat)}$ vs. I_C

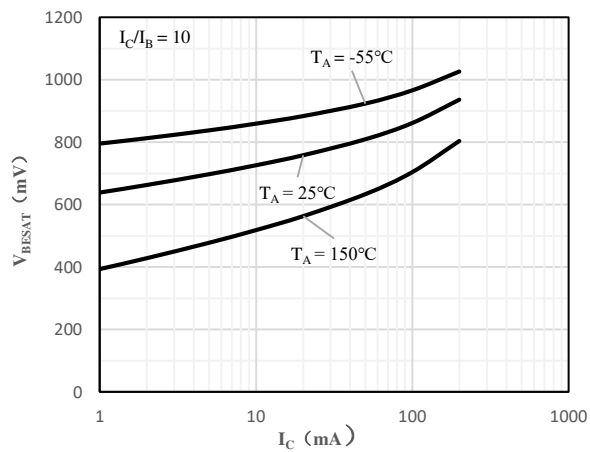


Fig 3 $V_{BE(sat)}$ vs. I_C

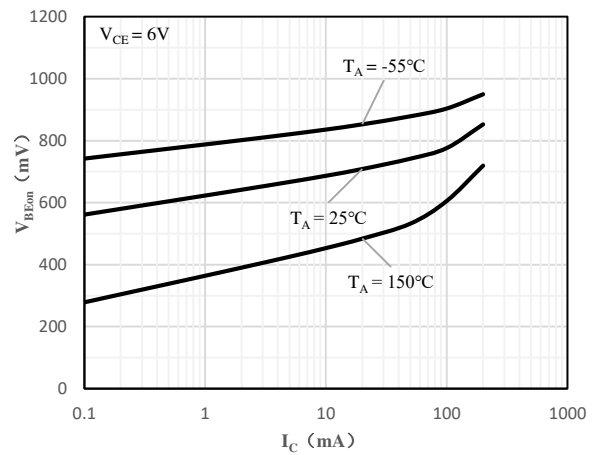


Fig 4 $V_{BE(on)}$ vs. I_C

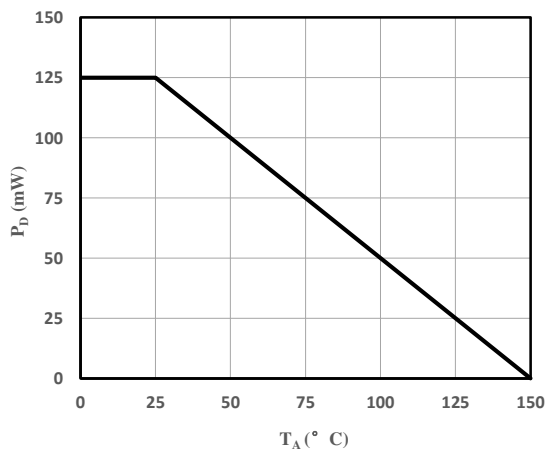
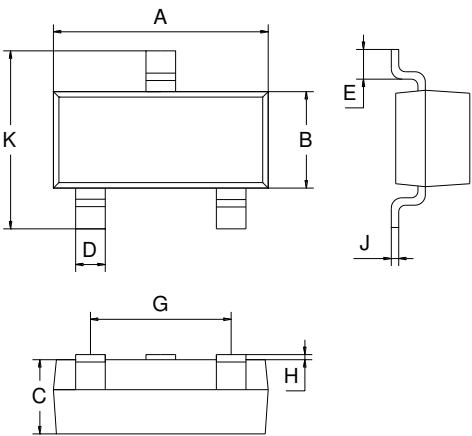


Fig 5 Steady State Power Derating

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Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.9	1.1
D	0.3	0.5
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

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