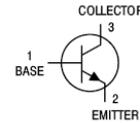


Features

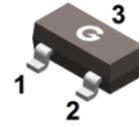
- High DC current
- High voltage
- RoHS compliant with Halogen-free

HF



Mechanical Data

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



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SC1654-A	SOT-23	3000 pcs / Tape & Reel	N5
2SC1654-B	SOT-23	3000 pcs / Tape & Reel	N6
2SC1654-C	SOT-23	3000 pcs / Tape & Reel	N7

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	180	V
Collector-Emitter Breakdown Voltage	V _{CEO}	160	V
Emitter-Base Breakdown Voltage	V _{EBO}	5	V
Collector Current (Continuous)	I _C	50	mA
Collector Current (Peak)	I _{CM}	100	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P _D	0.15	W
Thermal Resistance Junction-to-Air ^{*1}	R _{θJA}	396	°C/W
Thermal Resistance Junction-to-Case ^{*1}	R _{θJC}	213	°C/W
Thermal Resistance Junction-to-Lead ^{*1}	R _{θJL}	186	°C/W
Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	180	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	160	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 130\text{V}, I_E = 0$	-	-	100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 5\text{V}, I_C = 0$	-	-	100	nA
DC Current Gain	h_{FE}	$V_{CE} = 3\text{V}, I_C = 15\text{mA}$	90	-	400	-
		$V_{CE} = 3\text{V}, I_C = 1\text{mA}$	70	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	0.1	0.3	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	0.73	1	V
Collector-base Output Capacitance	C_{cbo}	$V_{CB} = 10\text{V}, f = 1\text{MHz}, I_E = 0$	-	2.3	-	pF
Current-Gain— Bandwidth Product	f_T	$I_C = 10\text{mA}, V_{CE} = 10\text{V}$	-	120	-	MHz

Classification of h_{FE}

Rank	A	B	C
Range	90-180	135-270	200-400
Marking	N5	N6	N7

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

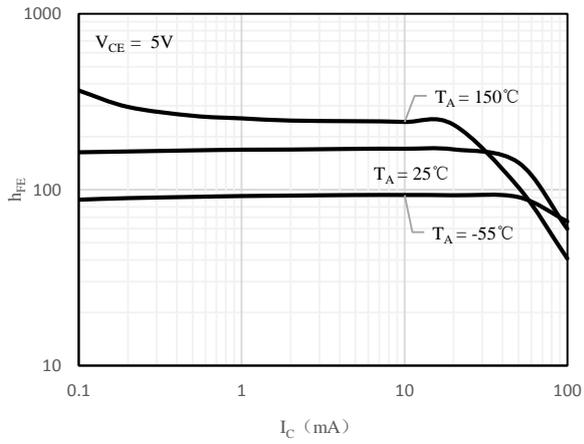


Fig 1 h_{FE} vs. I_C

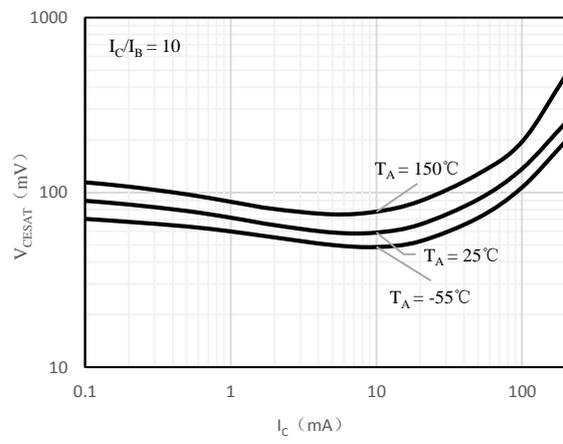


Fig 2 $V_{CE(sat)}$ vs. I_C

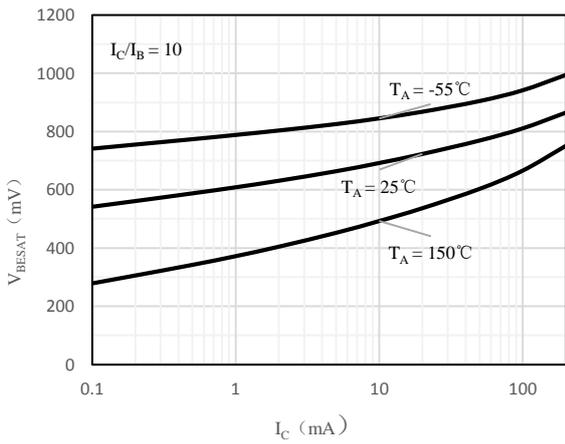


Fig 3 $V_{BE(sat)}$ vs. I_C

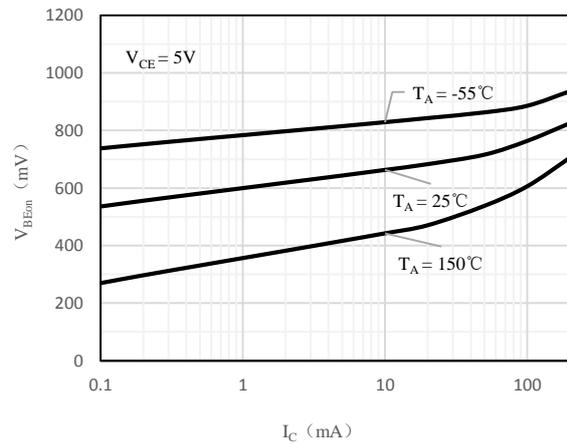
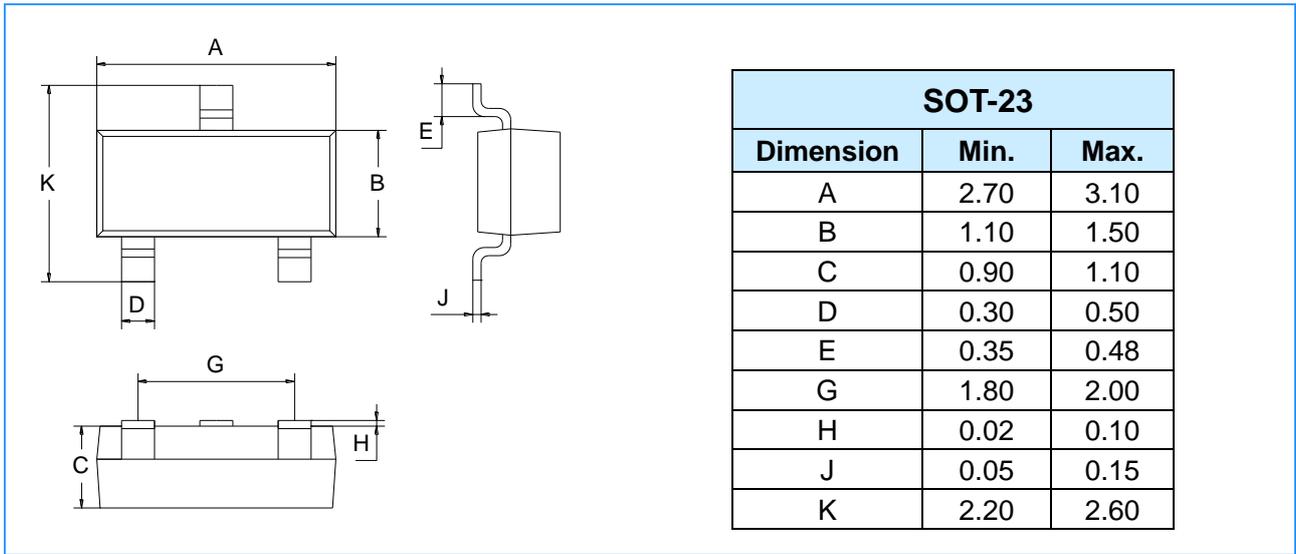


Fig 4 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



Package Outline Dimensions (Unit: mm)

