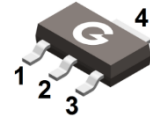
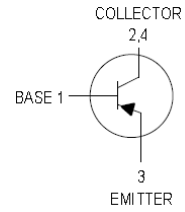


Features

- Epitaxial planar die construction
- High h_{FE}
- Low $V_{CE(sat)}$
- RoHS compliant with Halogen-free

HF



SOT-223

Mechanical Data

- Case: SOT-223
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SB1261R-M	SOT-223	4000 pcs / Tape & Reel	B1261
2SB1261R-L	SOT-223	4000 pcs / Tape & Reel	B1261
2SB1261R-K	SOT-223	4000 pcs / Tape & Reel	B1261

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-60	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-60	V
Emitter-Base Breakdown Voltage	V_{EBO}	-7	V
Collector Current (Continuous)	I_C	-3	A
Collector Current (Peak)	I_{CM}	-5	A
Base Current	I_B	-0.5	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	1.1	W
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	58	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	21	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	10	$^\circ\text{C/W}$
Junction Temperature	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Note 1: The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu\text{A}, I_E = 0$	-60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -1\text{mA}, I_B = 0$	-60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu\text{A}, I_C = 0$	-7	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -60\text{V}, I_E = 0$	-	-	-10	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -7\text{V}, I_C = 0$	-	-	-10	μA
DC Current Gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -0.2\text{A}$	60	-	-	-
		$V_{CE} = -2\text{V}, I_C = -0.6\text{A}$	100	-	400	-
		$V_{CE} = -2\text{V}, I_C = -2\text{A}$	50	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1.5\text{A}, I_B = -0.15\text{A}$	-	-	-0.3	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1.5\text{A}, I_B = -0.15\text{A}$	-	-	-1.2	V
Output Capacitance	C_{OBO}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	40	-	pF
Transition Frequency	f_T	$I_C = -1.5\text{A}, V_{CE} = -5\text{V}$	-	50	-	MHZ
Turn-on Time	t_{on}	$V_{CC} = -10\text{V}, R_L = 10\Omega$ $I_C = -1\text{A}, I_{B1} = -I_{B2} = -0.1\text{A}$	-	-	0.5	μs
Storage Time	t_{stg}		-	-	2	μs
Fall Time	t_f		-	-	0.5	μs

Classification of h_{FE}

Rank	M	L	K
Range	100-200	160-320	200-400

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

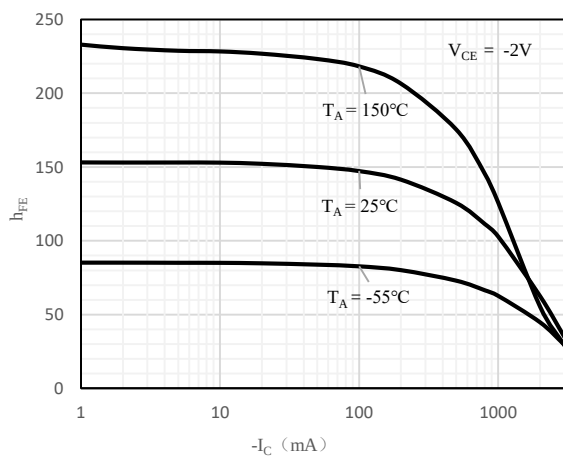


Fig 1 h_{FE} vs. I_C

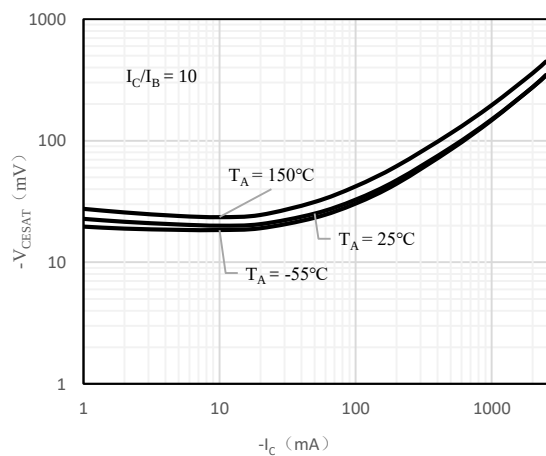


Fig 2 $V_{CE(sat)}$ vs. I_C

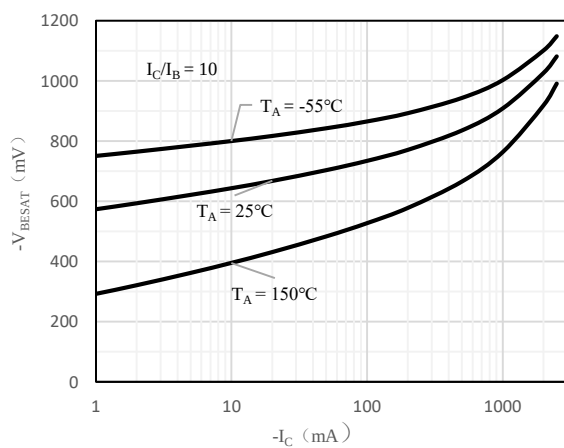


Fig 3 $V_{BE(sat)}$ vs. I_C

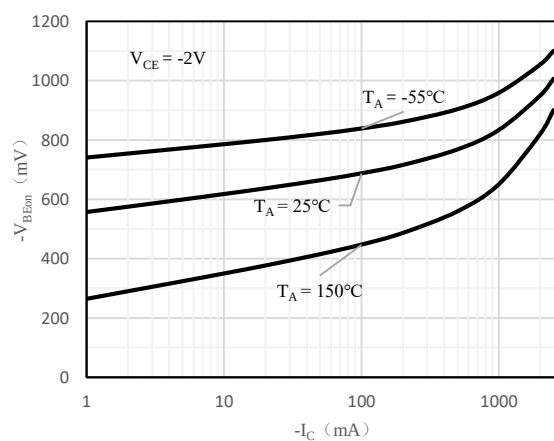
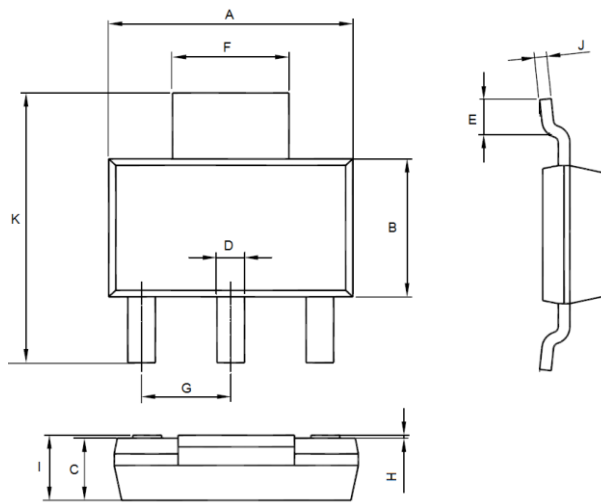


Fig 4 $V_{BE(on)}$ vs. I_C

Package Outline Dimensions (Unit: mm)



SOT-223		
Dimension	Min.	Max.
A	6.10	6.50
B	3.30	3.70
C	1.50	1.70
D	0.66	0.82
E	0.90	1.15
F	2.90	3.10
G	2.20	2.40
H	0.02	0.10
I	1.52	1.80
J	0.20	0.40
K	6.70	7.30

Mounting Pad Layout (Unit: mm)

SOT-223

