

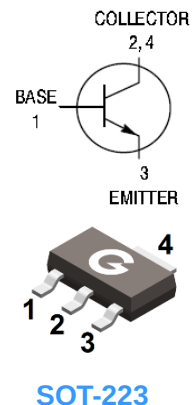
Features

- Epitaxial planar die construction
- High breakdown voltage
- Excellent h_{FE} linearity
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-223
- 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
2SC4548R-D	SOT-223	4000 pcs / Tape & Reel	CN
2SC4548R-E	SOT-223	4000 pcs / Tape & Reel	CN

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

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	400	V
Collector-Emitter Breakdown Voltage	V_{CEO}	400	V
Emitter-Base Breakdown Voltage	V_{EBO}	5	V
Collector Current (Continuous)	I_C	0.2	A
Collector Current (Pulse)	I_{CM}	0.4	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	1	W
Thermal Resistance (Junction-to-Ambient) ^{*1}	$R_{\theta JA}$	108	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Case) ^{*1}	$R_{\theta JC}$	37	$^\circ\text{C/W}$
Thermal Resistance (Junction-to-Lead) ^{*1}	$R_{\theta JL}$	18	$^\circ\text{C/W}$
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 20mm * 15mm * 1mm FR4-epoxy P.C.B

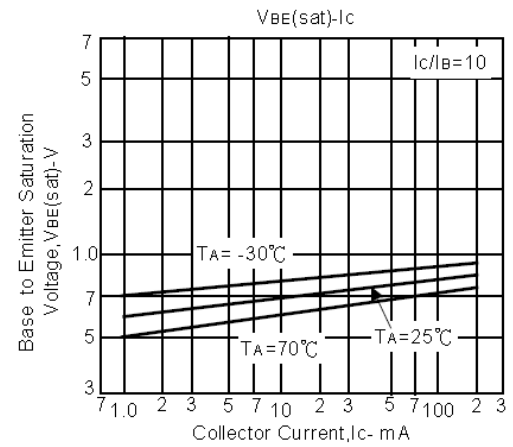
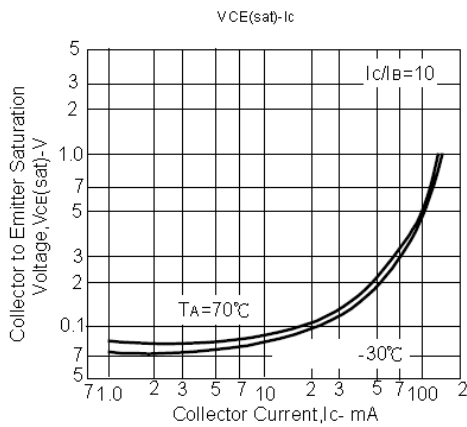
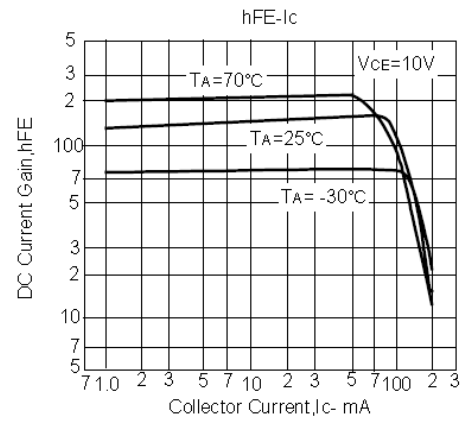
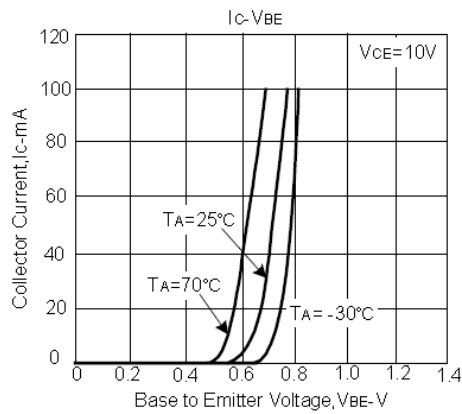
Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}$, $I_E = 0$	400	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}$, $I_B = 0$	400	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}$, $I_C = 0$	5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 300\text{V}$, $I_E = 0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 4\text{V}$, $I_C = 0$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}$, $I_C = 50\text{mA}$	60	-	200	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}$, $I_B = 5\text{mA}$	-	-	0.6	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}$, $I_B = 5\text{mA}$	-	-	1	V
Output Capacitance	C_{OBO}	$V_{CB} = 30\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	4	-	pF
Reverse Transfer Capacitance	C_{RE}	$V_{CB} = 30\text{V}$, $I_E = 0$, $f = 1\text{MHz}$	-	3	-	pF
Transition Frequency	f_T	$I_C = 10\text{mA}$, $V_{CE} = 30\text{V}$	-	70	-	MHZ
Turn-on Time	t_{on}	$V_{CC} = 150\text{V}$, $I_C = 50\text{mA}$, $I_{B1} = I_{B2} = 5\text{mA}$	-	0.25	-	μs
Turn-off Time	t_{off}		-	5	-	μs

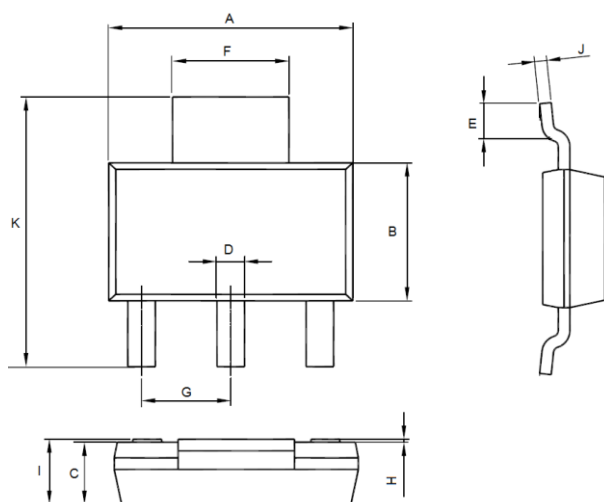
Classification of h_{FE}

Rank	D	E
Range	60-120	100-200

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



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

