

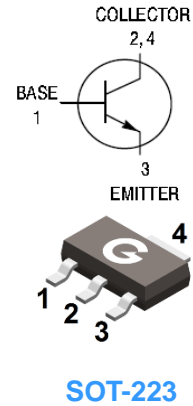
### Features

- Epitaxial planar die construction
- Low collector to emitter saturation voltage  $V_{CE(sat)}$
- 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
2SD2413R□	SOT-223	4000pcs / Tape & Reel	1S

Note for □: none is for Lead-free package  
"G" is for Halogen Free package

### 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)	$I_C$	0.1	A
Collector Current (Pulse)	$I_{CM}$	0.2	A

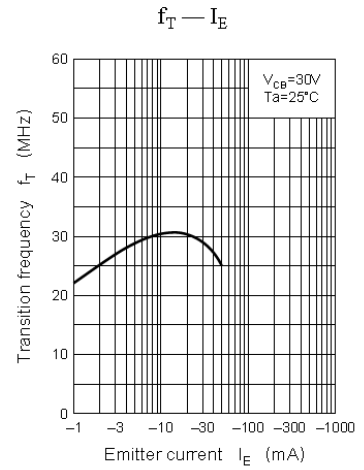
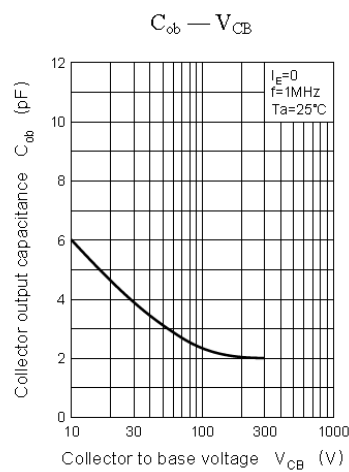
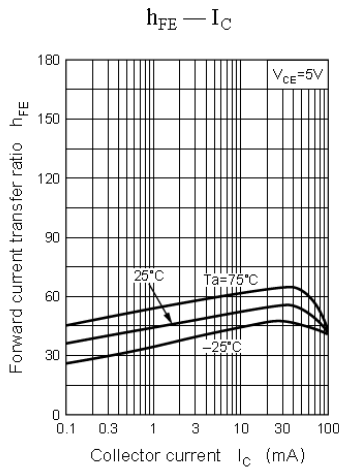
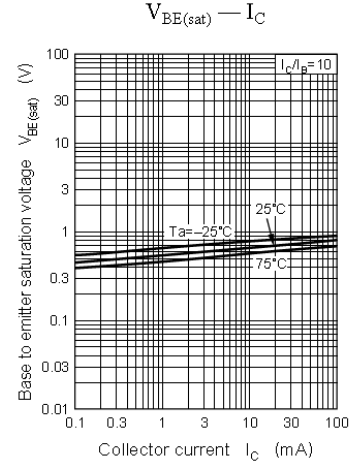
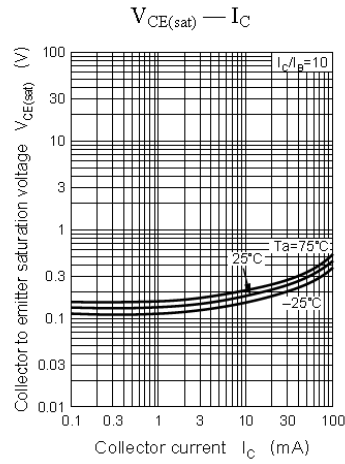
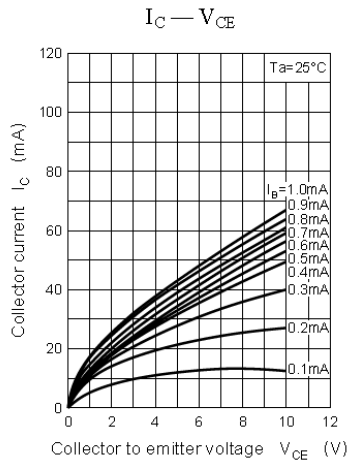
### Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation (Collector)	$P_D$	1	W
Thermal Resistance (Junction-to-Ambient)	$R_{\theta JA}$	125	$^\circ\text{C/W}$
Junction Temperature	$T_J$	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

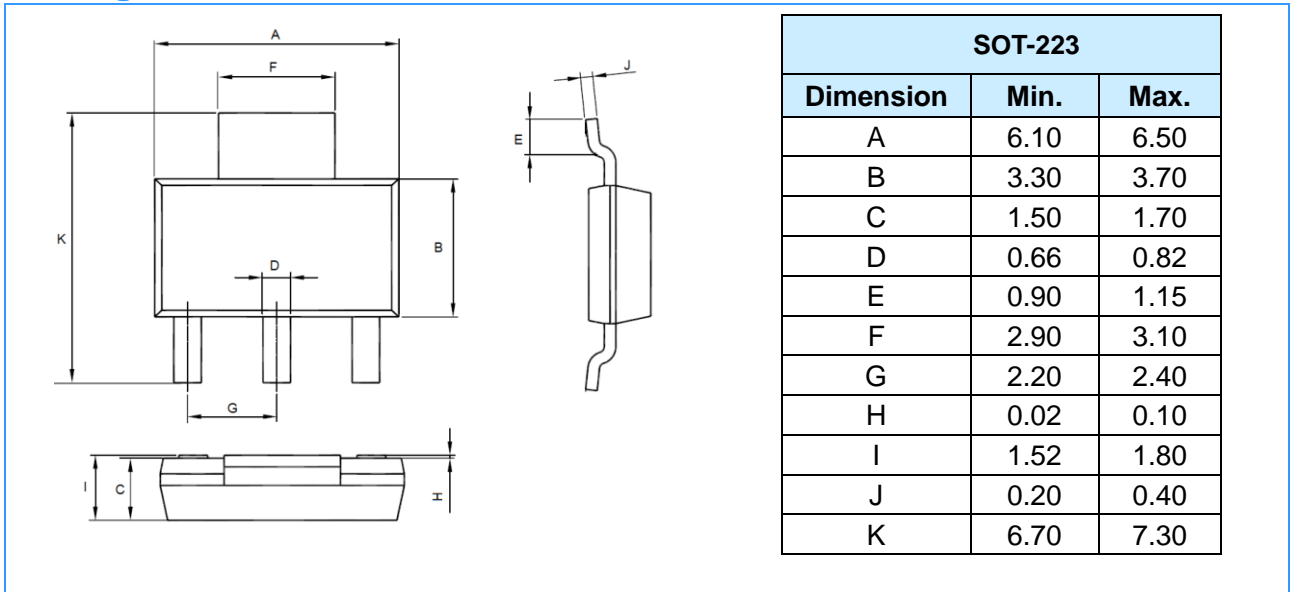
### Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu\text{A}, I_E = 0$	400	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 0.5\text{A}, I_B = 0$	400	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_C = 0$	5	-	-	V
DC Current Gain	$h_{FE}$	$V_{CE} = 5\text{V}, I_C = 30\text{mA}$	30	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	1.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$	-	-	1.5	V
Output Capacitance	$C_{OBO}$	$V_{CB} = 30\text{V}, I_E = 0, f = 1\text{MHz}$	-	-	7	pF
Transition Frequency	$f_T$	$I_C = 20\text{mA}, V_{CE} = 30\text{V}$ $f = 200\text{MHz}$	-	40	-	MHZ

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



**Package Outline Dimensions** (Unit: mm)



**Mounting Pad Layout** (Unit: mm)

