

Product Summary

- $BVCBO \geq 60V(I_C=0.1mA)$
- $BVCEO \geq 60V(I_C=10mA)$
- $I_C = 5.2A$

Features

- Consumer electronics
- Voltage switching
- High Speed Switching

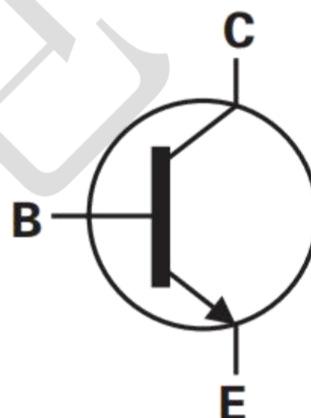
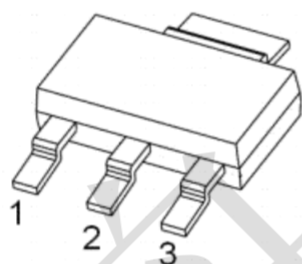
Circuit diagram and pin information

SOT-223

1. BASE

2. COLLECTOR

3. EMITTER



Absolute Maximum Ratings

($T_A=25^\circ C$ unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	5.2	A
Collector Peak Current (Pulse) Single pulse, $P_w \leq 380\mu s$, Duty $\leq 2\%$	I_{CM}	10	A
Power Total Dissipation @ $T_A=25^\circ C$	P_D	700	mW
Maximum Operating Junction Temperature	T_J	+150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$

Electrical Characteristics

(TA=25°C unless otherwise specified)

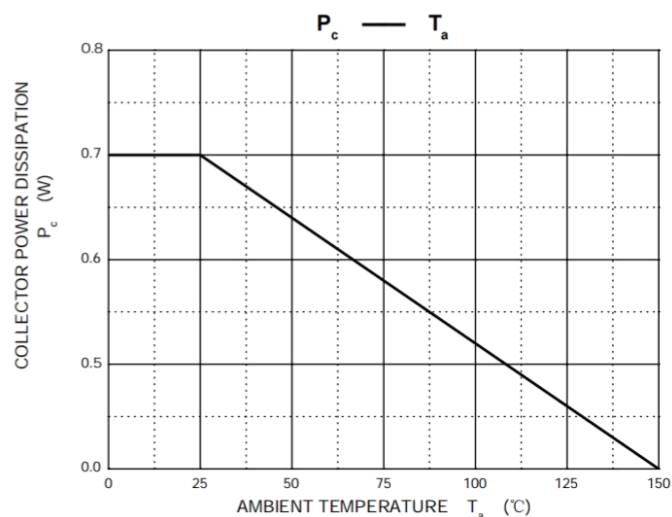
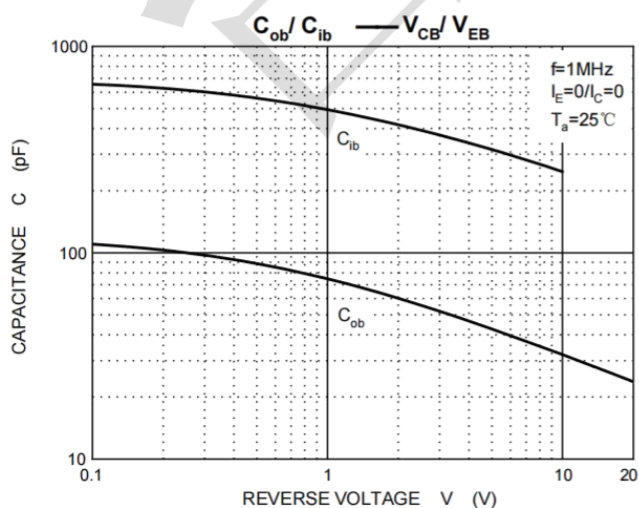
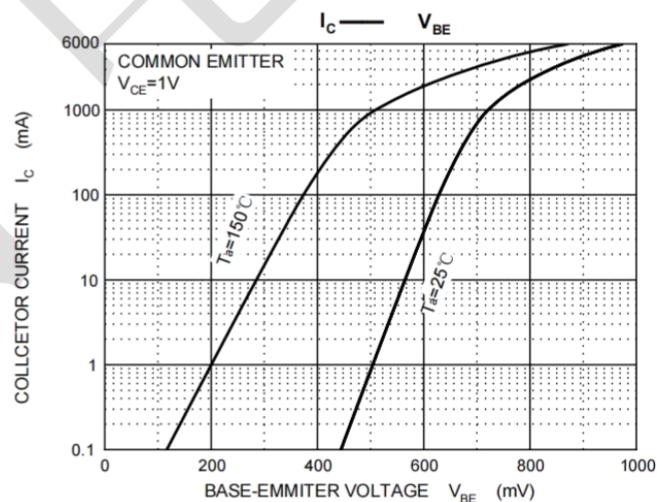
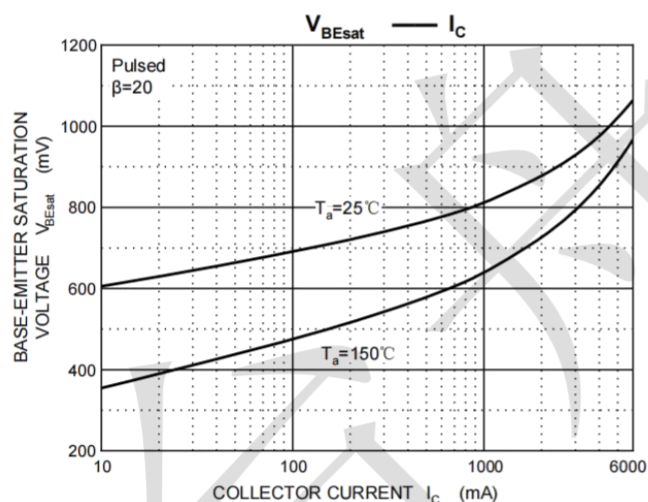
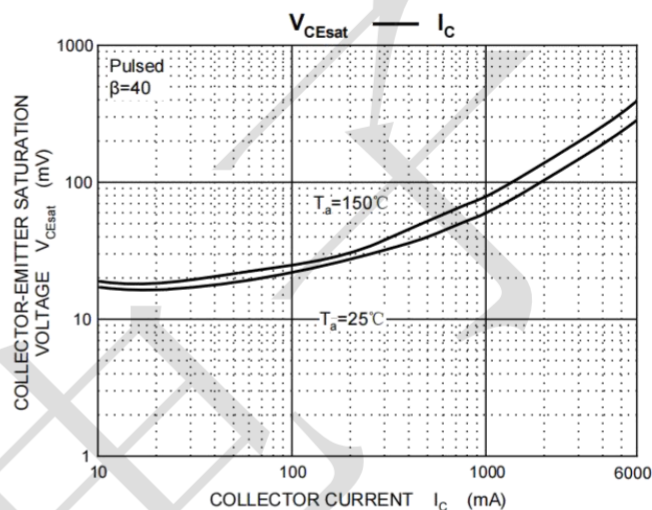
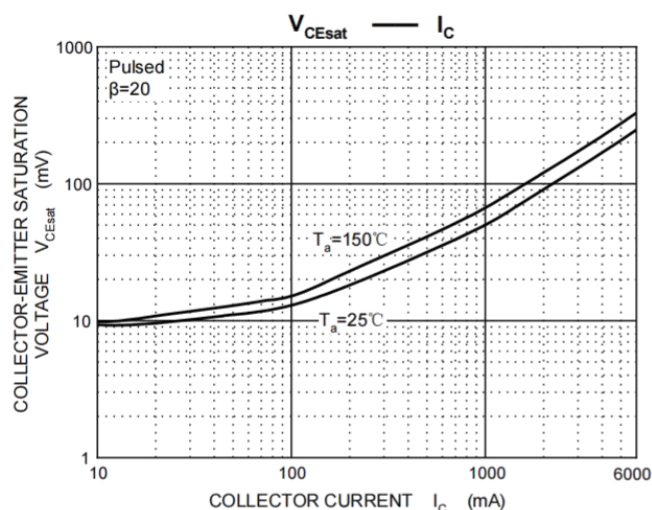
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static (Note 1)						
Collector-Base Breakdown Voltage	$I_C = 0.1\text{mA}, I_E = 0$	BV_{CBO}	60	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = 10\text{mA}, I_B = 0$	BV_{CEO}	60	--	--	V
Emitter-Base Breakdown Voltage	$I_E = 0.1\text{mA}, I_C = 0$	BV_{EBO}	5	--	--	V
Collector Cutoff Current	$V_{CB} = 60\text{V}, I_E = 0$	I_{CBO}	--	--	100	nA
Emitter Cutoff Current	$V_{EB} = 5\text{V}, I_C = 0$	I_{EBO}	--	--	100	nA
Collector-Emitter Saturation Voltage	$I_C = 0.5\text{A}, I_B = 0.05\text{A}$	$V_{CE(SAT)}$	--	--	0.035	V
Base-Emitter Saturation Voltage	$I_C = 1\text{A}, I_B = 0.05\text{A}$	$V_{BE(SAT)}$	--	--	0.07	V
DC Current Transfer Ratio	$V_{CE} = 2\text{V}, I_C = 0.5\text{A}$	h_{FE1}	300	520	--	
	$V_{CE} = 2\text{V}, I_C = 1\text{A}$	h_{FE2}	300	500	--	
	$V_{CE} = 2\text{V}, I_C = 2\text{A}$	h_{FE3}	250	470	--	
	$V_{CE} = 2\text{V}, I_C = 4\text{A}$	h_{FE4}	150	250	--	
	$V_{CE} = 2\text{V}, I_C = 5\text{A}$	h_{FE5}	80	120	--	
Dynamic (Note 2)						
Transition Frequency	$V_{CE} = 10\text{V}, I_C = 100\text{mA}, f = 50\text{MHz}$	f_T	30	--	--	MHz
Collector Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0\text{A}, f = 10\text{MHz}$	C_{ob}	--	25	--	pF

Note:

1. Pulse test: $\leq 380\mu\text{s}$, duty cycle $\leq 2\%$

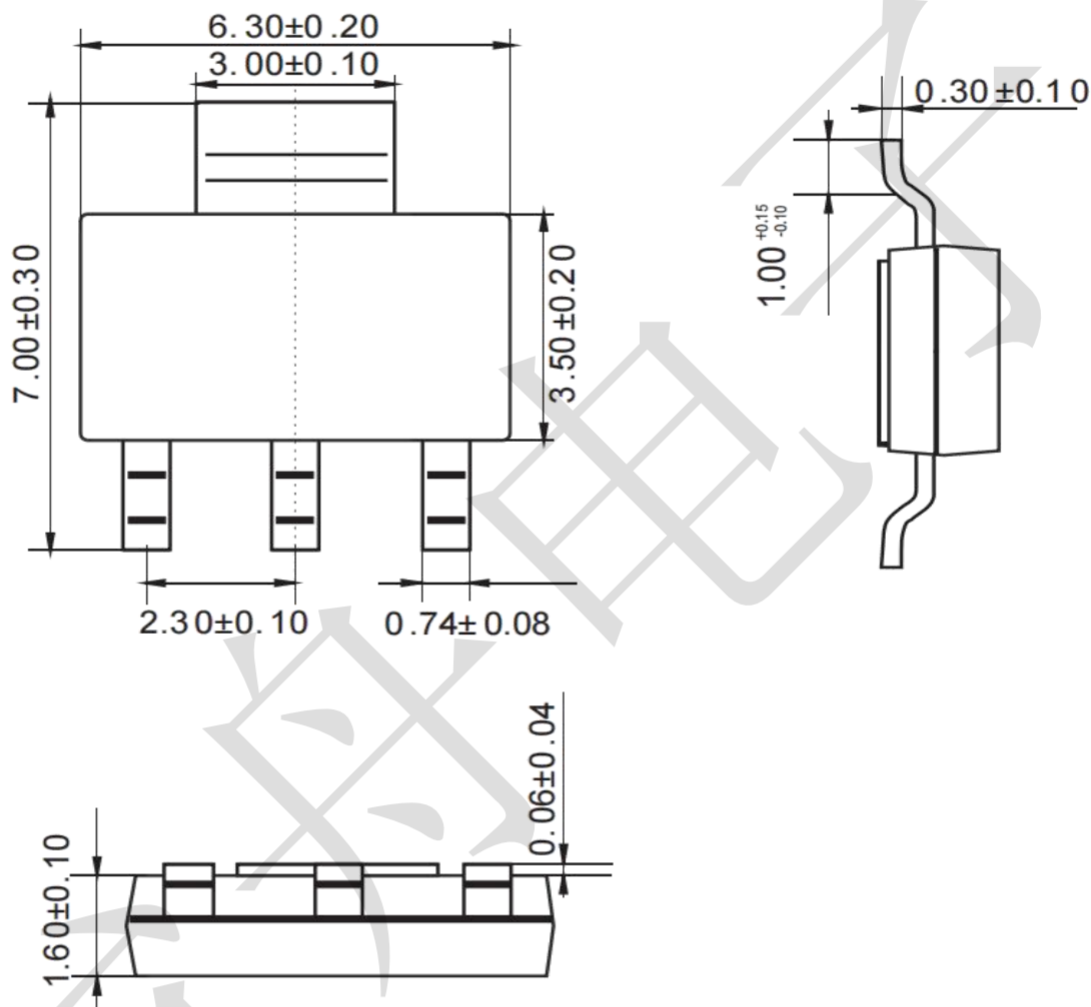
2. For DESIGN AID ONLY, not subject to production testing

Typical Performance Characteristics ($T_A=25^\circ\text{C}$)



Package Outline Dimensions (unit: mm)

SOT-223



Mounting Pad Layout (unit: mm)

