

NPN Silicon Epitaxial Planar Transistor

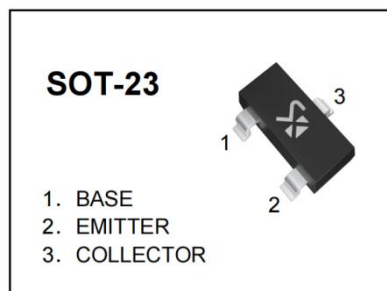
Features

- For switching and AF amplifier applications

Marking:G1

Maximum Ratings($T_A=25^{\circ}\text{C}$, unless otherwise noted.)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	180	V
Collector-Emitter Voltage	V_{CEO}	160	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current Continuous	I_C	600	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Operation Junction and Storage Temperature Range	T_{STG}	-55~+150	$^{\circ}\text{C}$
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	417	$^{\circ}\text{C}/\text{W}$



Electrical Characteristics($T_A=25^{\circ}\text{C}$, unless otherwise noted.)

Parameter	Symbol	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	$V_{(BR)EBO}$	$I_E=100\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=120\text{V}, I_E=0$			50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			50	nA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80			
	h_{FE}	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100		300	
	h_{FE}	$V_{CE}=5\text{V}, I_C=50\text{mA}$	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			0.50	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$			1.0	V
Transition frequency	f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		300	MHz

Typical Characteristics

Figure 1. Static Characteristic

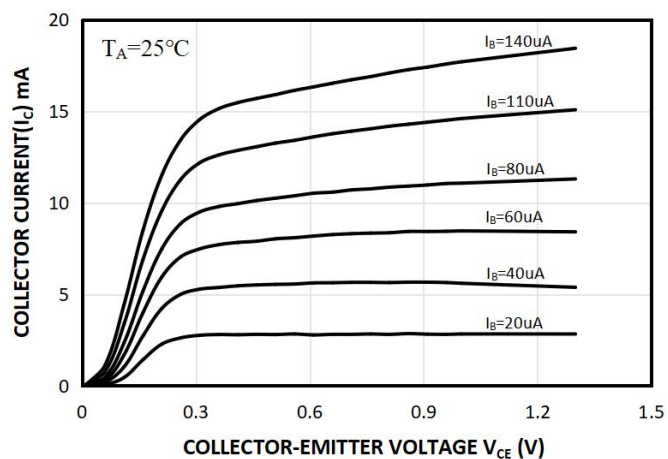


Figure 2. DC Current Gain Characteristics

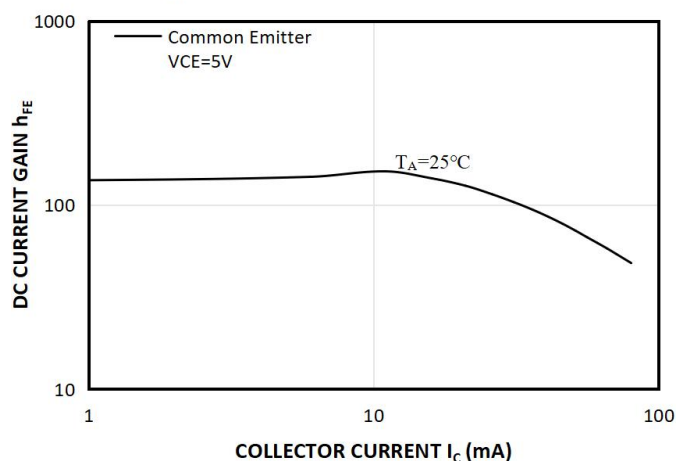


Figure 3. Base-Emitter Saturation Voltage Characteristics

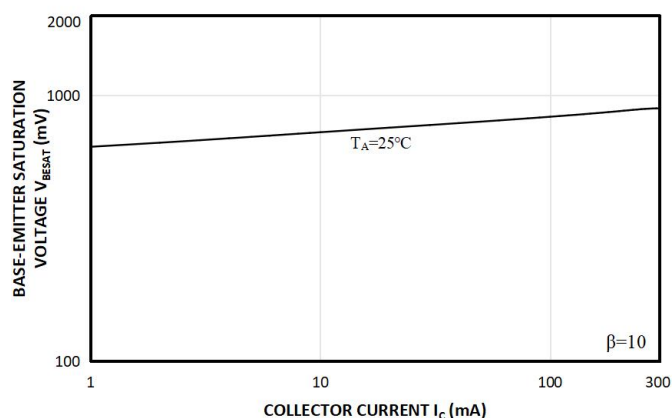
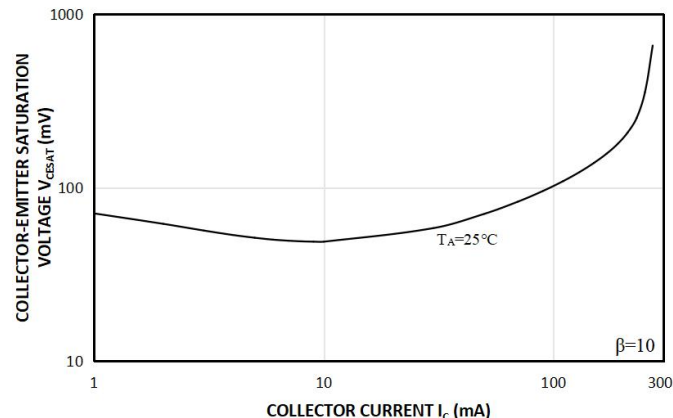


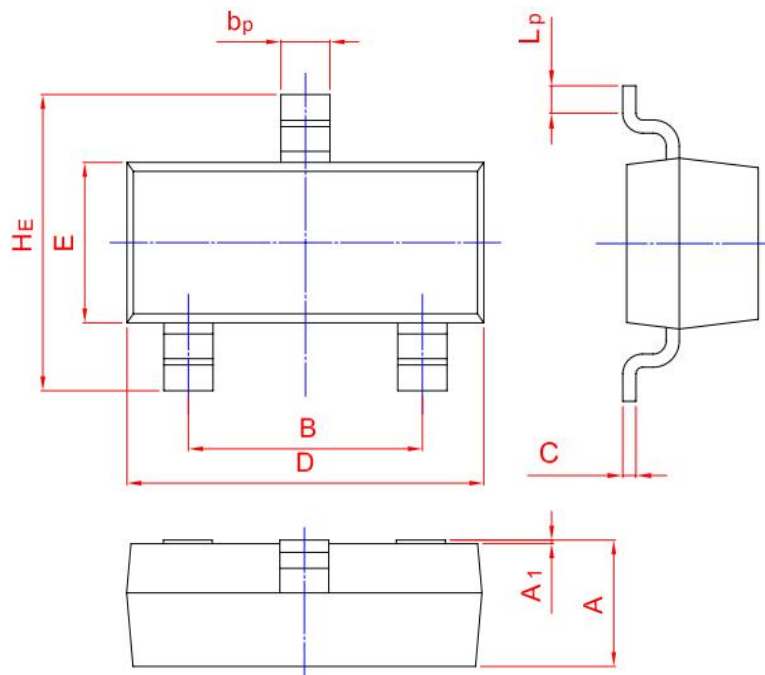
Figure 4. Collector-Emitter Saturation Voltage Characteristics



Package Information

SOT-23

Dimensions in mm



Unit	A	B	b_p	C	D	E	H_E	A_1	L_p
mm	1.40 0.95	2.04 1.78	0.50 0.35	0.19 0.08	3.10 2.70	1.65 1.20	3.00 2.20	0.100 0.013	0.50 0.20

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