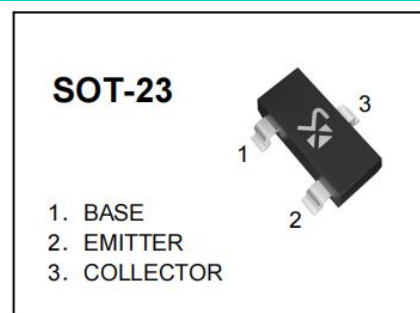


NPN Silicon Epitaxial Planar Transistor

Applications

- AM/FM Amplifier, Local Oscillator of FM/VHF Tuner High Current Gain Bandwidth Product $f_T=550$ MHz (Typ)

Marking:J8



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

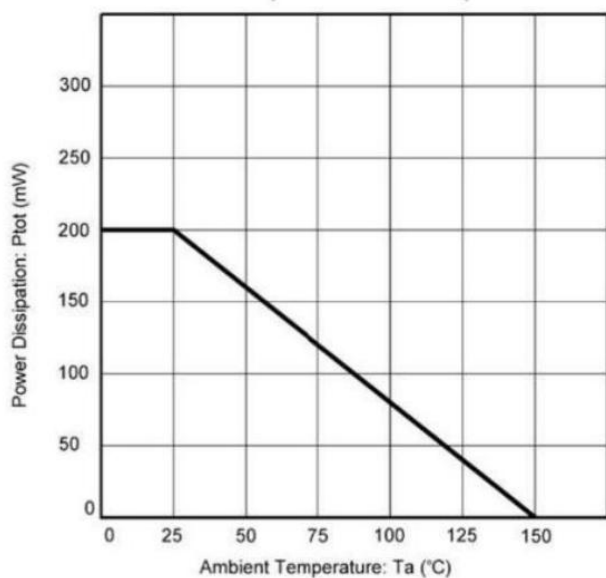
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CB0}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{CBO}	5	V
Collector Current -Continuous	I_C	50	mA
Total power dissipation($T_A=25^\circ\text{C}$)	P_{tot}	200	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55~150	$^\circ\text{C}$

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

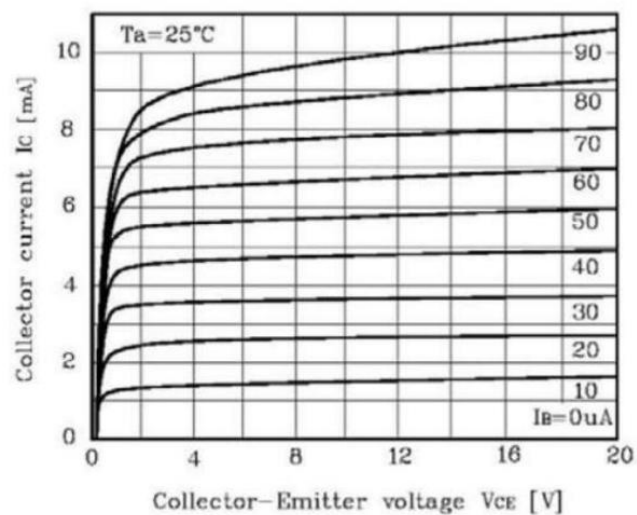
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Collector- base breakdown voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	30			V
Collector-emitter breakdown voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	15			V
Emitter - base breakdown voltage	BV_{EBO}	$I_E=10\mu\text{A}$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=12\text{V}$, $I_E=0$			0.05	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3\text{V}$, $I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=5\text{V}$, $I_C=1\text{mA}$	100		200	
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$I_C=10\text{mA}$, $I_B=1\text{mA}$			0.5	V
Transition frequency	f_T	$V_{CE}=5\text{V}$, $I_E=5\text{mA}$	700	1100		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$		1.3	1.7	pF

Typical Characteristics

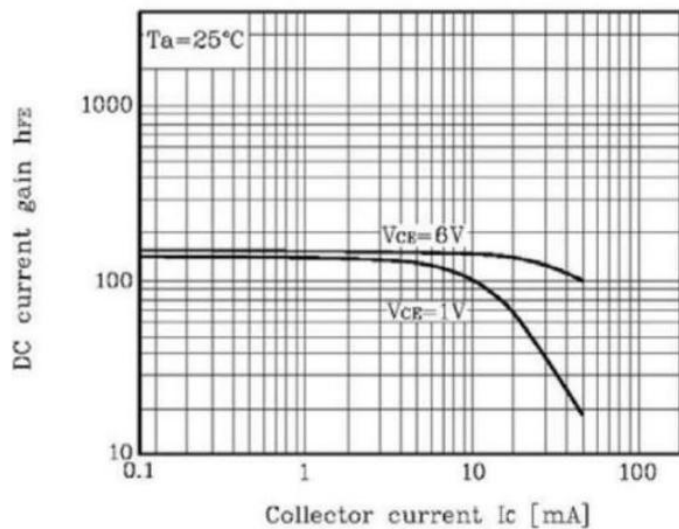
$P_c - T_a$



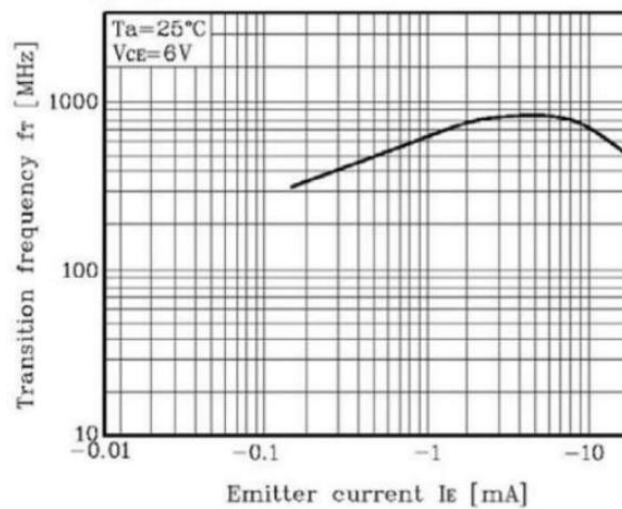
$I_C - V_{CE}$



$h_{FE} - I_C$



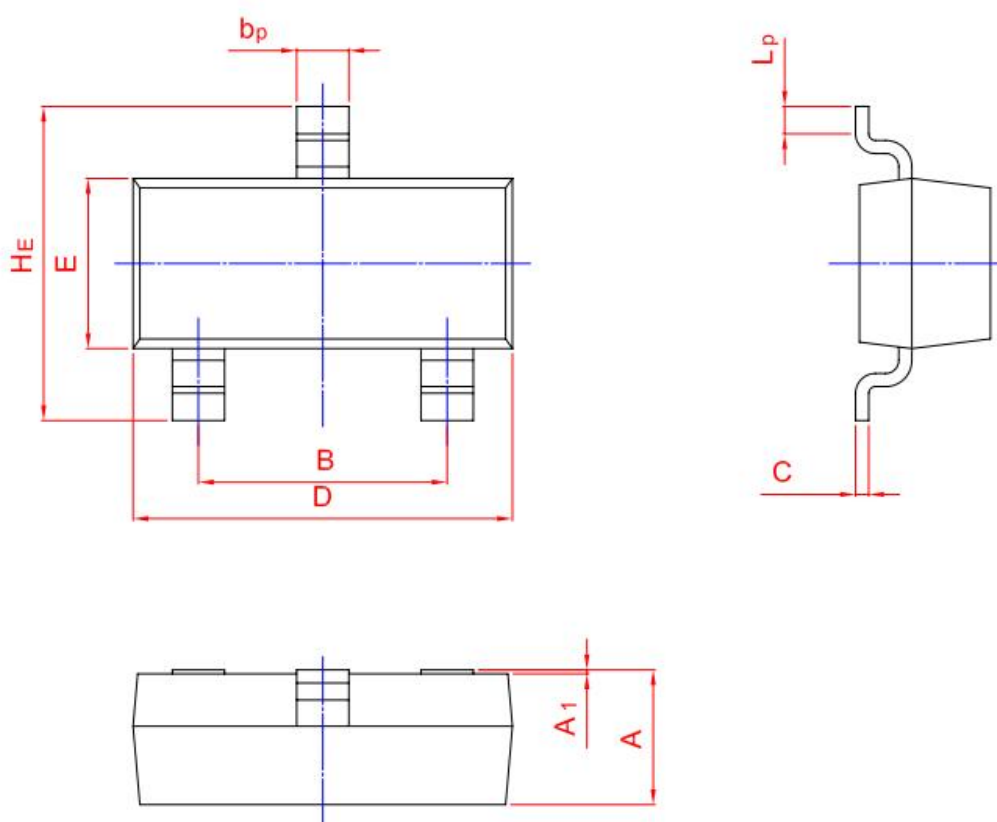
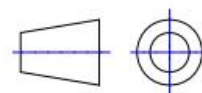
$f_T - I_E$



Package Information

SOT-23

Dimensions in mm



UNIT	A	B	bp	C	D	E	HE	A1	Lp
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