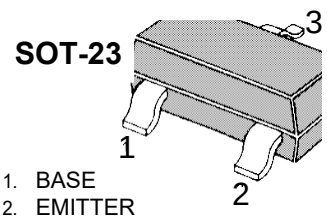
SOT-23 Plastic-Encapsulate Transistors

2SC3198 Silicon NPN



1. BASE
2. EMITTER
3. COLLECTOR

DESCRIPTION

- High DC Current Gain-h_{FE}=70-700@I_C = 2mA
- Excellent hFE Linearity
- Excellent Safe Operating Area
- Low Noise
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

APPLICATIONS

- Low Frequency Amplifiers.
- Low Noise Amplifiers.

ABSOLUTE MAXIMUM RATINGS(T_a=25℃)

SYMBOL	PARAMETER	VALUE	UNIT
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Curren	150	mA
P_C	Collector Power Dissipation @T_C=25℃	400	mW
T_J	Junction Temperature	125	℃
T_{stg}	Storage Temperature Range	-55~125	℃

ELECTRICAL CHARACTERISTICS T_C=25℃ unless otherwise specified

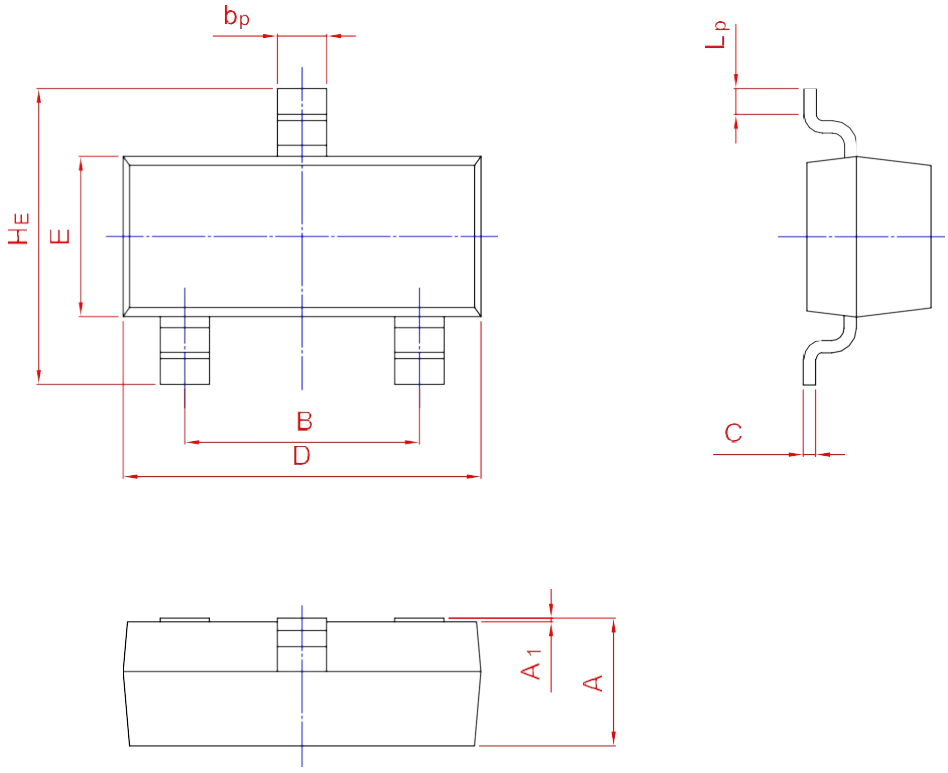
SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C= 100mA ; I_B= 10mA			0.25	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C= 100mA ; I_B= 10mA			1.0	V
I_{CBO}	Emitter Cutoff Current	V_{CB}= 60V; I_E= 0			0.1	μA
I_{EBO}	Collector Cutoff Current	V_{EB}= 5V; I_C= 0			0.1	μA
h_{FE-1}	DC Current Gain	I_C= 2mA ; V_{CE}= 6V	70		700	
h_{FE-2}	DC Current Gain	I_C= 150mA ; V_{CE}= 6V	25			
f_T	Current-Gain—Bandwidth Product	I_C= 1mA; V_{CE}= 10V;	80			MHz
Cob	Collector Output Capacitance	V_{CB}=10V; I_E=0; f=1MHz			3.0	pF
Rbb'	Base Intrinsic Resistance	V_{CE}=10V,I_E=-1mA;f=30MHz		50		Ω
NF	Noise Figure	V_{CE}=6V,I_C=0.1mA;f=1KHz, R_G=10KΩ			10	dB

h_{FE-1}Classifications

O	Y	GR	BL
70-140	120-400	200-400	350-700

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-23**



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