

SOT-23 Plastic-Encapsulate Transistors

Features

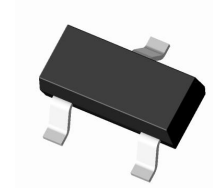
- Excellent hFE Linearity
- 200 mW Power Dissipation of 200mW
- High Stability and High Reliability

Mechanical Data

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any



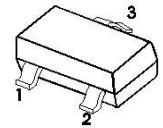
RoHS
COMPLIANT



Marking: CR

SOT-23

Pin definition



1. BASE
2. EMITTER
3. COLLECTOR

Maximum Ratings & Electrical Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter -Base Voltage	V _{EBO}	5	V
Collector Current-Continuous	I _C	150	mA
Collector Power Dissipation	P _C	200	mW
Operating junction temperature range	T _J	150	°C
Storage temperature range	T _{STG}	-55-+150	°C
Thermal Resistance from Junction to Ambient	R _{θJA}	625	°C/W

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

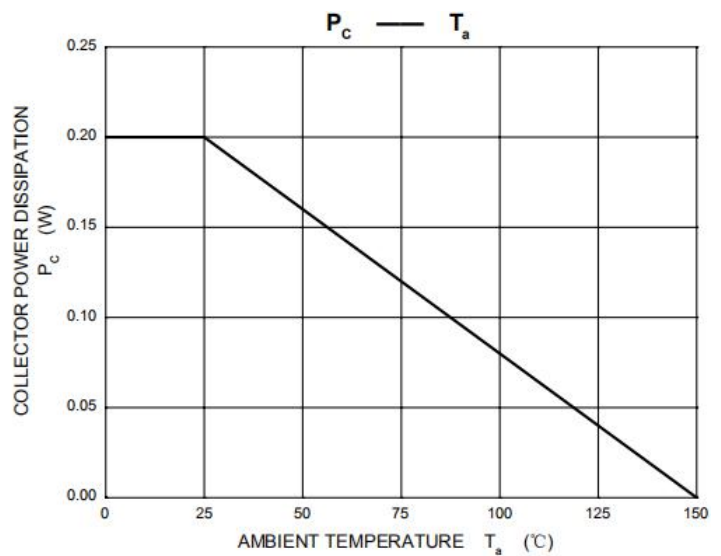
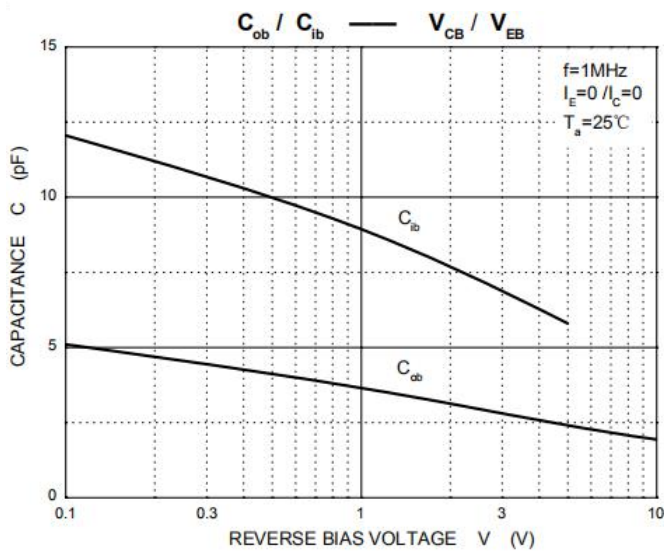
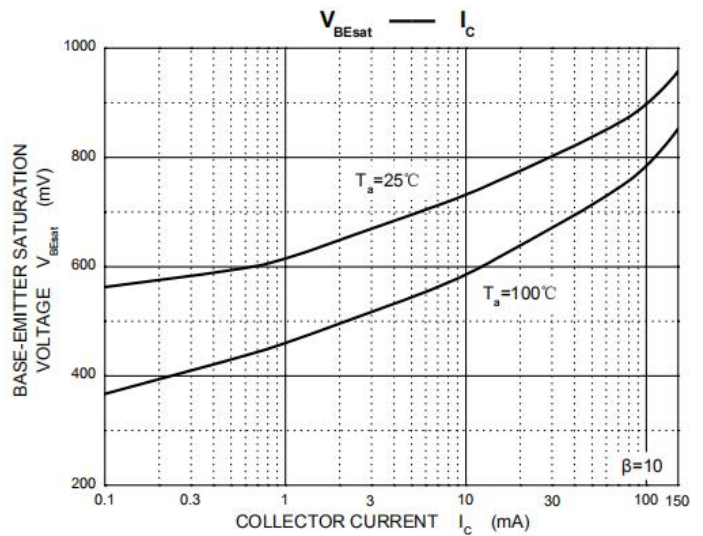
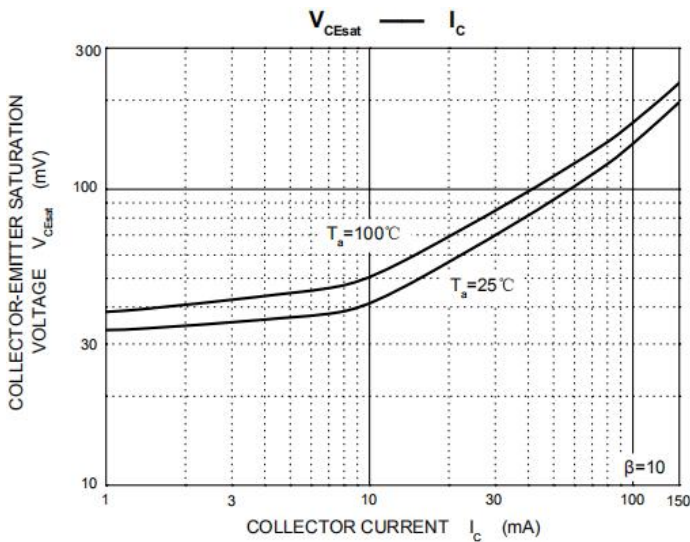
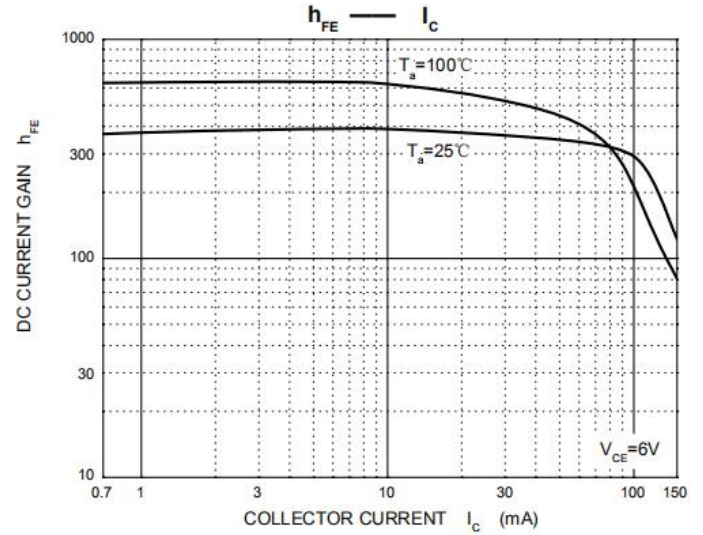
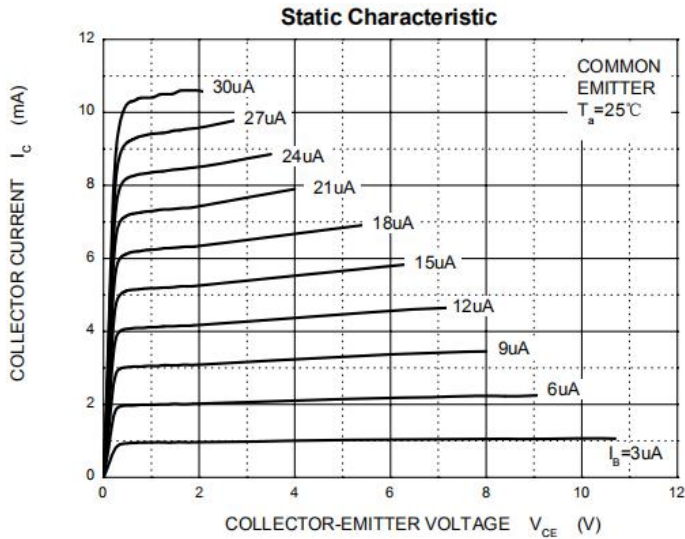
Parameter	Symbol	Test Conditions	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}, I_E=0$	60		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=0.1\text{mA}, I_C=0$	5		
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$		100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$		100	
Collector cut-off current	I_{CER}	$V_{CE}=55\text{V}, R=10\text{M}\Omega$		100	
DC current gain	$h_{FE(1)}$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	130	400	
	$h_{FE(2)}$	$V_{CE}=6\text{V}, I_C=0.1\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$		1	
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=10\text{mA}, f=30\text{MHz}$	150		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		3	pF
Noise figure	NF	$V_{CE}=6\text{V}, I_C=0.1\text{mA}, R_g=10\text{k}\Omega, f=1\text{kHz}$		10	dB

Classification OF $h_{FE(1)}$

HFE	130-400	
RANK	L	H
RANGE	130-200	200-400

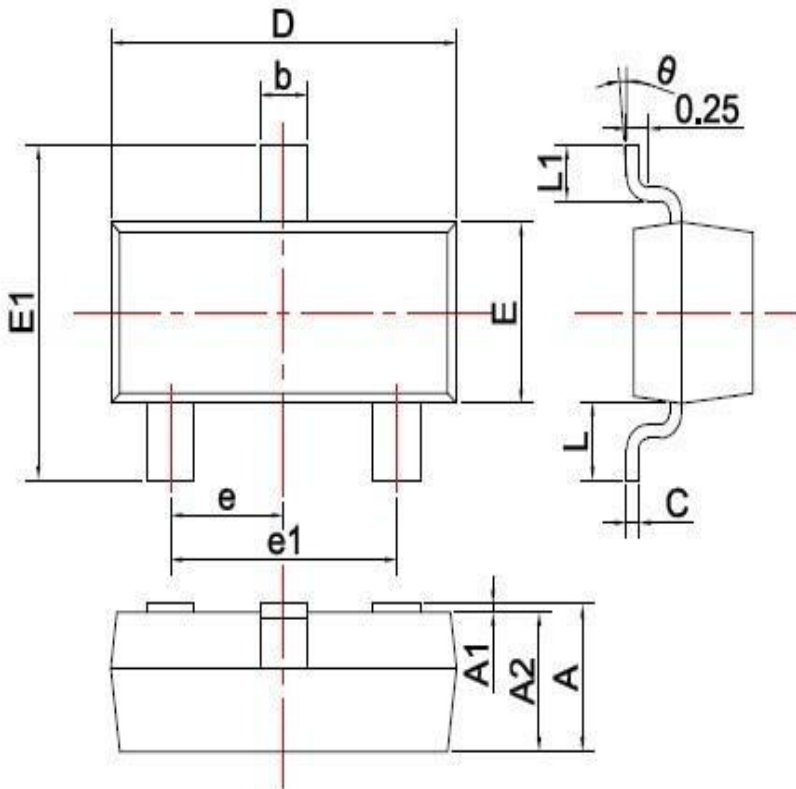
Ratings and Characteristics Curves

($T_a = 25^\circ\text{C}$ unless otherwise noted)



Package Outline Dimensions

millimeters



SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

Revision History

Document Version	Date of release	Description of changes
Rev.A	2019.04.04	First issue

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