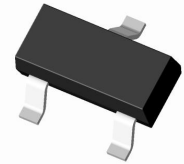


SOT-23 Plastic-Encapsulate Transistors

Features

- Low Noise and High Gain
- High Power Gain
- High Stability and High Reliability

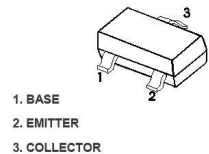


Marking: SOT-23
According to hFE

Mechanical Data

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

Pin definition



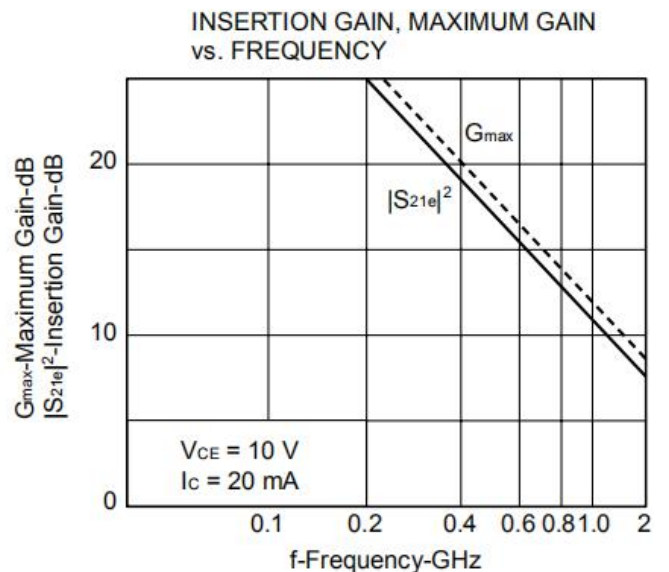
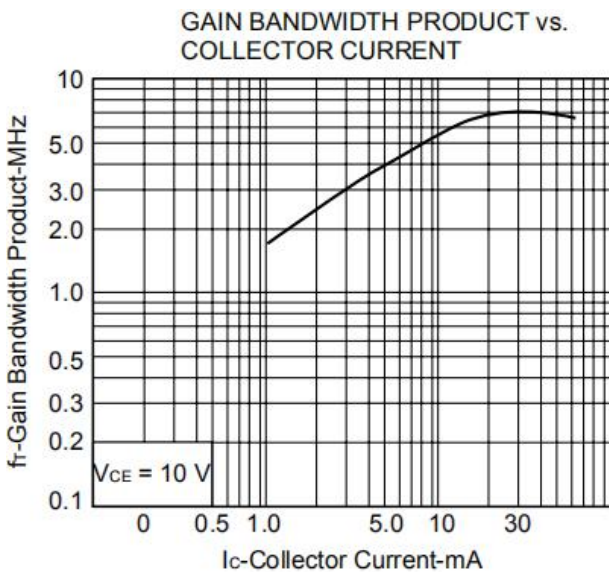
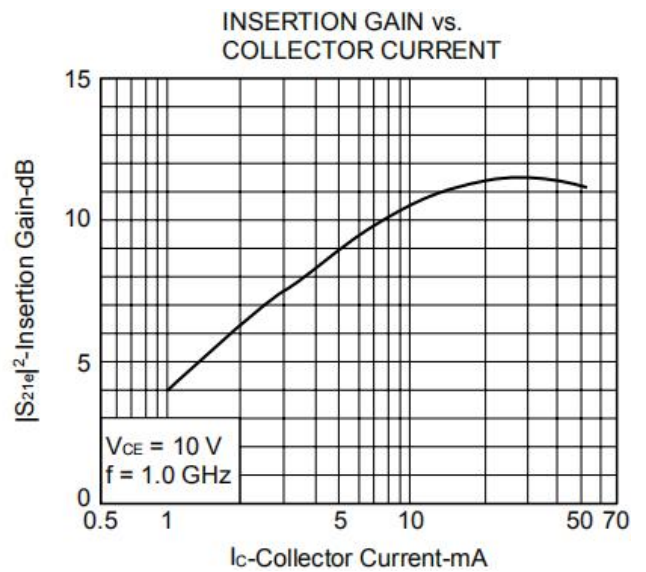
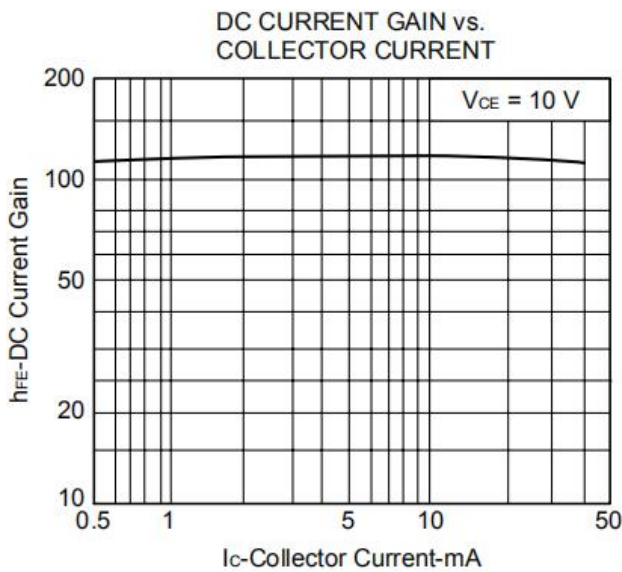
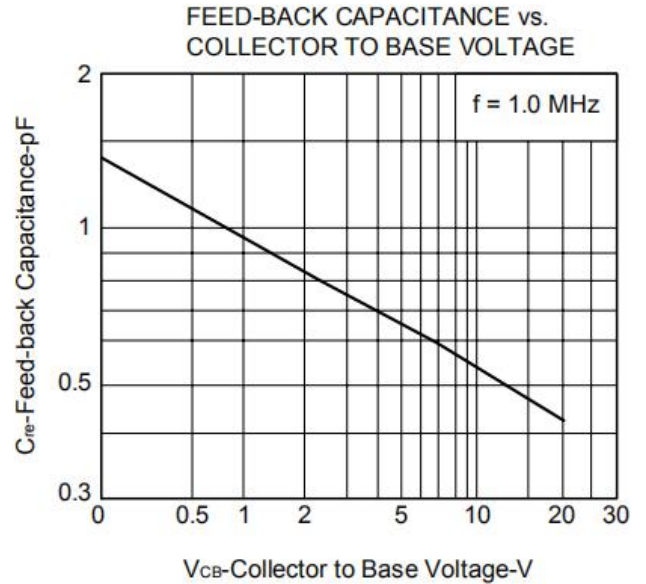
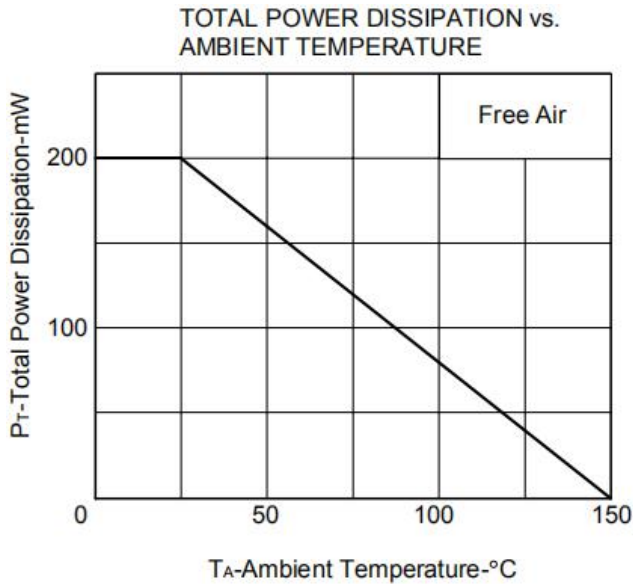
Maximum Ratings & Electrical Characteristics (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	20	V
Collector-Emitter Voltage	V _{CEO}	12	V
Emitter -Base Voltage	V _{EBO}	3	V
Collector Current-Continuous	I _C	100	mA
Collector Power Dissipation	P _C	200	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°C unless otherwise noted)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =100uA, I _E =0	20			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =1mA, I _B =0	12			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100uA, I _C =0	3			V
Collector cut-off current	I _{CBO}	V _{CB} =10V, I _E =0			1	uA
Emitter cut-off current	I _{EBO}	V _{EB} =1V, I _C =0			1	uA
DC current gain	h _{FE(1)}	V _{CE} =10V, I _C =20mA	50		250	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =50mA, I _B =5mA			0.3	V
Base -emitter saturation voltage	V _{BE(sat)}	I _C =50mA, I _B =5mA			1.15	V
Transition frequency	f _T	V _{CE} =10V, I _C =20mA		7		MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz		0.8	1	pF
Noise figure	NF	V _{CE} =10V, I _C =7mA, R _g =10kΩ, f=1GHz		1.65	2	dB

Classification OF h _{FE(1)}			
RANGE	50-100	80-160	125-250
MARKING	R23	R24	R25

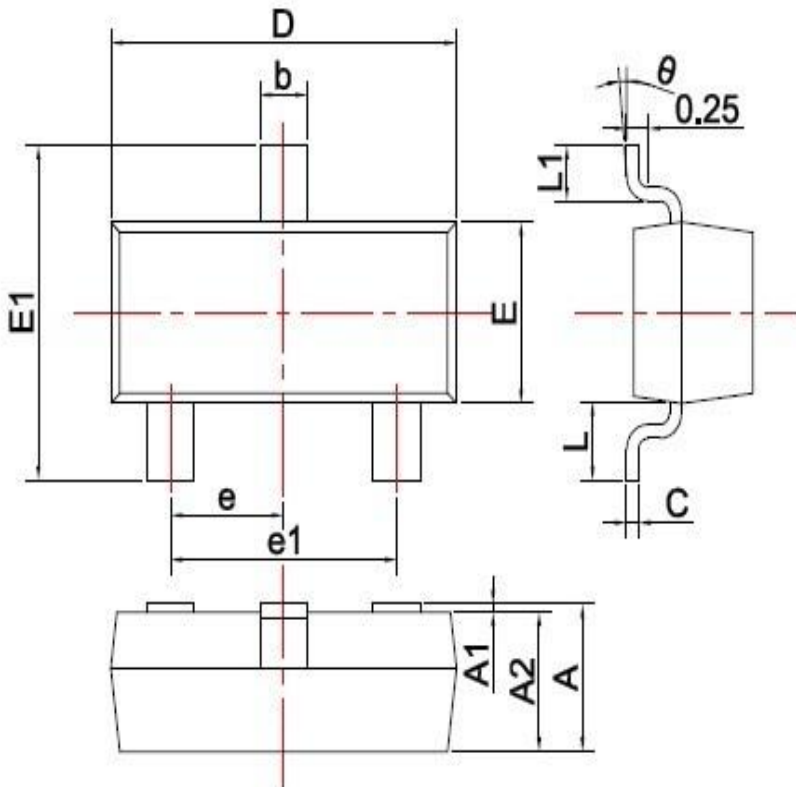
Ratings and Characteristics Curves

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



Package Outline Dimensions

in inches (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°

Unit: mm

Revision History

Document Version	Date of release	Description of changes
Rev.A	2020.02.16	First issue

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