

Plastic-Encapsulate Transistors

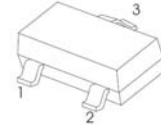
TRANSISTOR (NPN)

FEATURES

- Low voltage

MARKING : U1

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

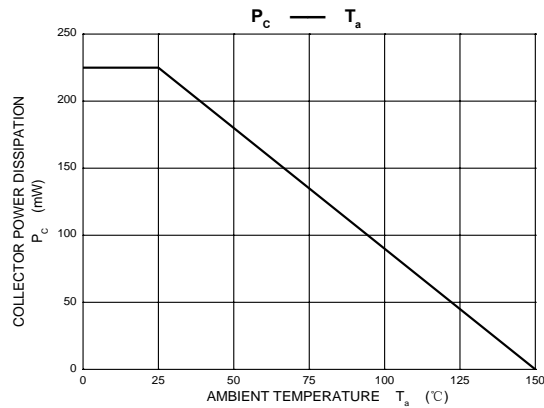
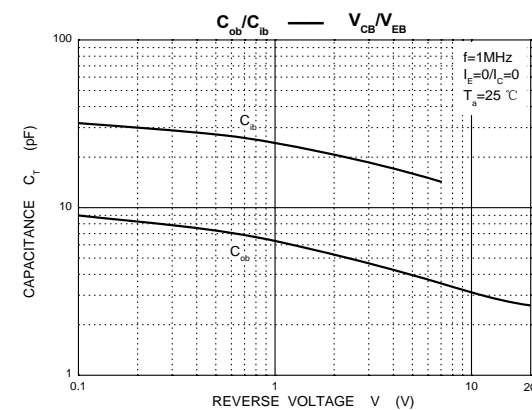
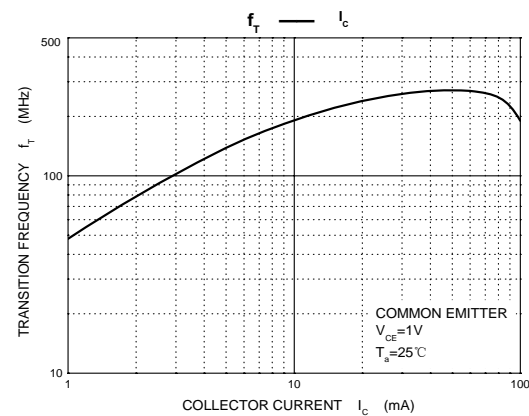
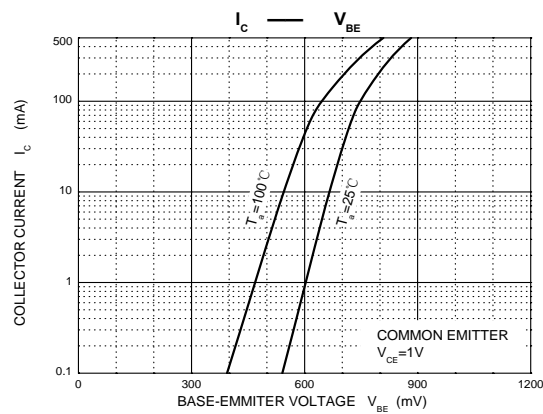
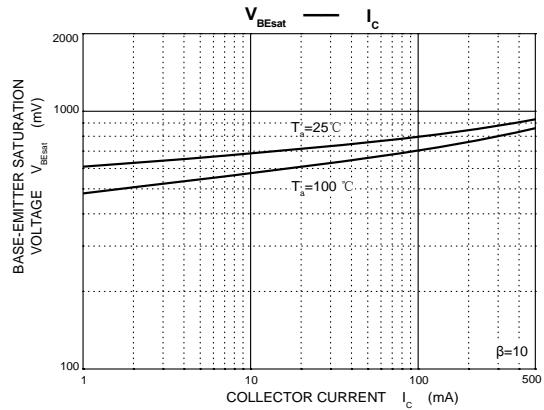
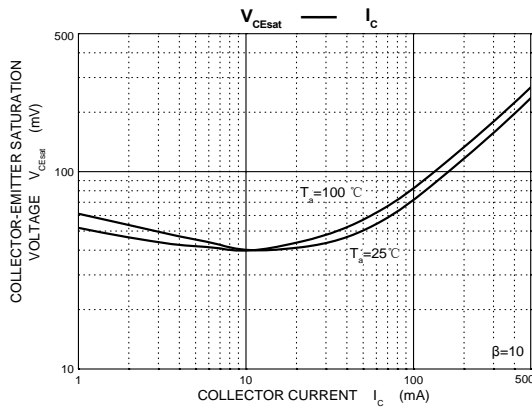
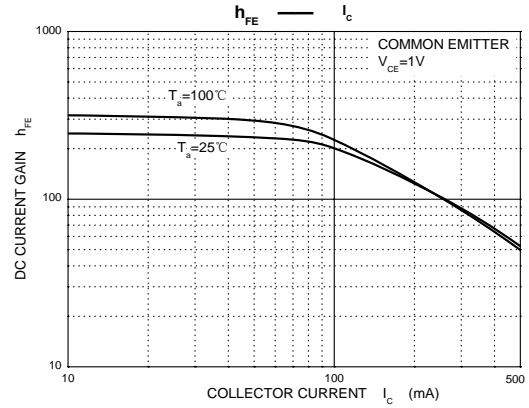
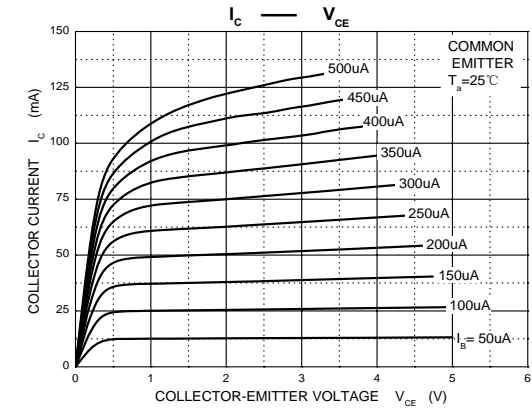
MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	50	V
V _{CEO}	Collector-Emitter Voltage	45	V
V _{EBO}	Emitter-Base Voltage	5	V
I _C	Collector Current	500	mA
P _C	Collector Power Dissipation	225	mW
R _{θJA}	Thermal Resistance From Junction To Ambient	556	°C/W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-emitter breakdown voltage	V _{(BR)CBO}	I _C =100μA, I _E =0	50			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	45			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =100μA, I _C =0	5			V
Collector cut-off current	I _{CBO}	V _{CB} =20V, I _E =0			0.1	μA
Collector cut-off current	I _{EBO}	V _{EB} =5V, I _C =0			10	μA
DC current gain	h _{FE1}	V _{CE} =1V, I _C =100mA	100		600	
	h _{FE2}	V _{CE} =1V, I _C =300mA	70			
	h _{FE3}	V _{CE} =1V, I _C =500mA	40			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =500mA, I _B =50mA			0.62	V
Base-emitter voltage	V _{BE(on)}	I _C =500mA, V _{CE} =1V			1.2	V

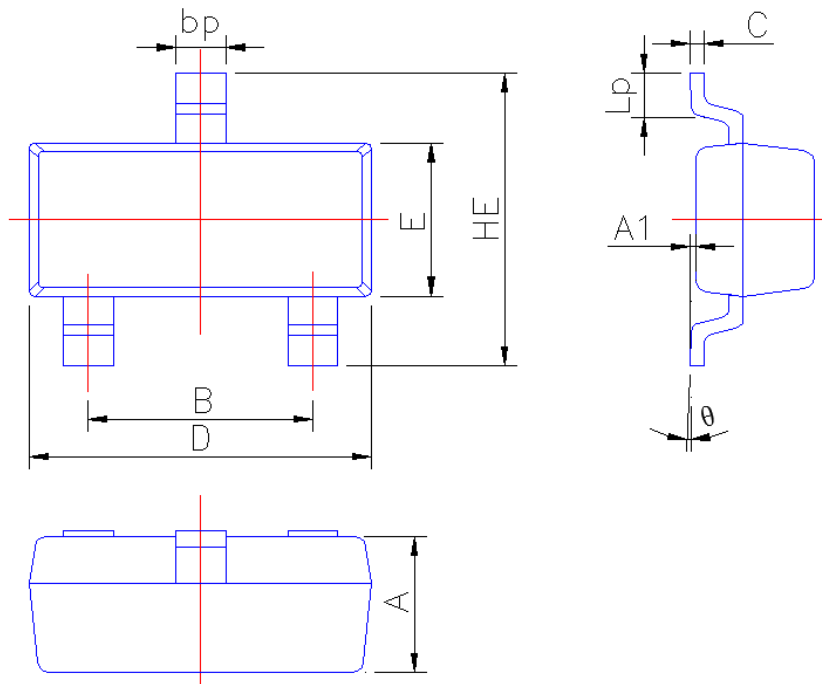
Typical Characteristics



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.10
A1	0.013	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.150
D	2.80	3.00
E	1.20	1.40
HE	2.20	2.80
Lp	0.20	0.50
θ	0°	5°