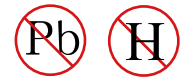




General Purpose Transistors
PNP Silicon



Features

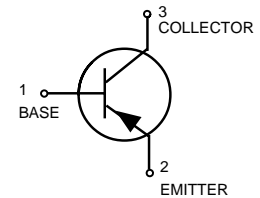
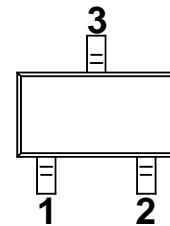
- Complementary to S9013
- Power Dissipation of 300mW
- High Stability and High Reliability

Mechanical Data

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

Marking: 2T1

SOT-23



Maximum Ratings & Thermal Characteristics (Ratings at 25°C ambient temperature unless otherwise specified.)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	-40	V
Collector-Emitter Voltage	V _{CEO}	-25	V
Emitter -Base Voltage	V _{EBO}	-5	V
Collector Current-Continuous	I _c	-500	mA
Collector Power Dissipation	P _c	300	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	416	°C/W

Electrical Characteristics (Ratings at 25°C ambient temperature unless otherwise specified).

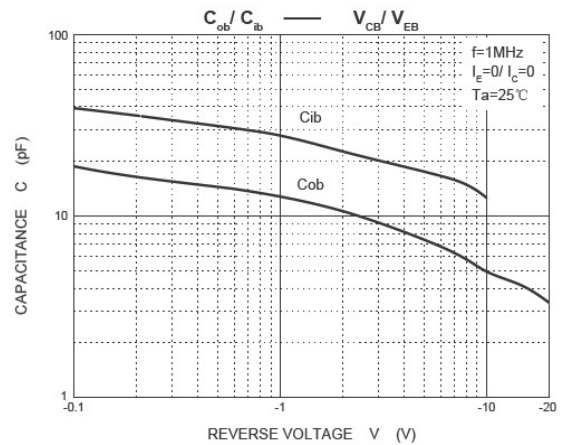
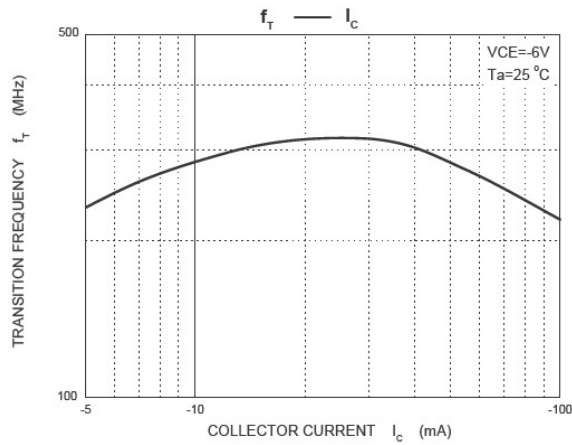
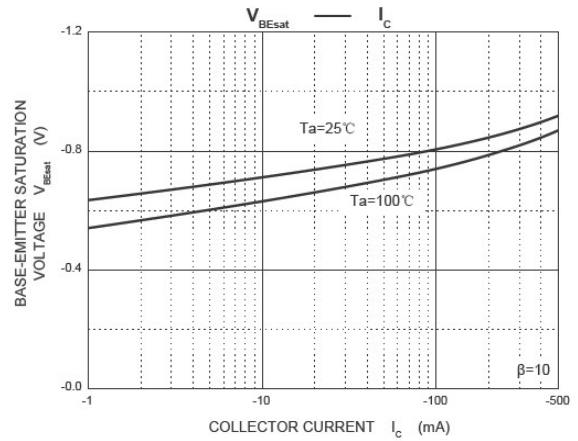
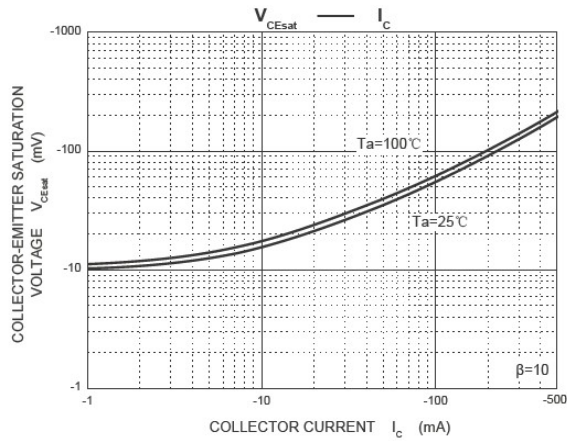
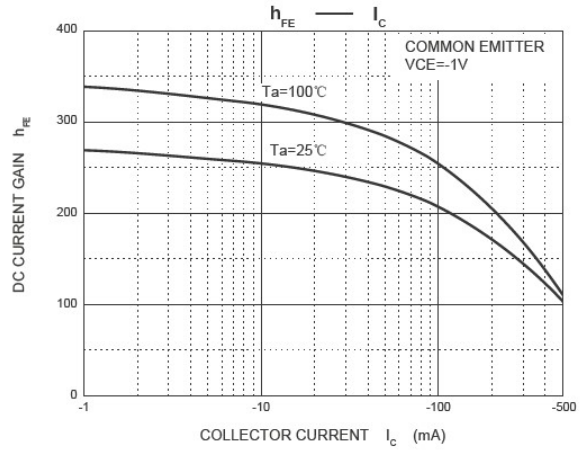
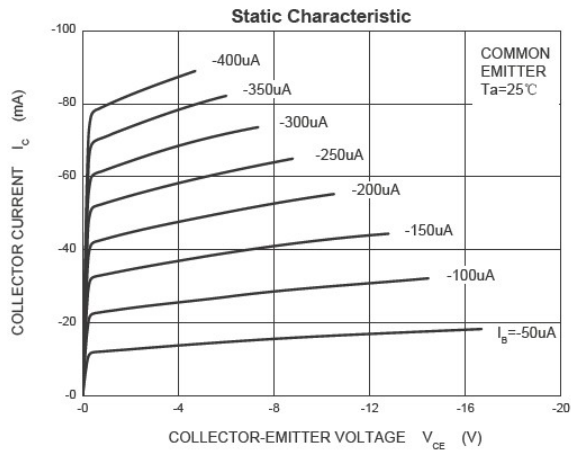
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =-100μA, I _E =0	-40		V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =-1mA, I _B =0	-25		V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =-100μA, I _C =0	-5		V
Collector cut-off current	I _{CEO}	V _{CE} =-20V, I _B =0		-100	nA
Collector cut-off current	I _{CBO}	V _{CB} =-40V, I _E =0		-100	nA
Emitter cut-off current	I _{EBO}	V _{EB} =-5V, I _C =0		-100	nA
DC current gain	h _{FE}	V _{CE} =-1V, I _C =-50mA	120	400	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =-500mA, I _B =-50mA		-0.60	V
Base -emitter saturation voltage	V _{BE(sat)}	I _C =-500mA, I _B =-50mA		-1.20	V
Transition frequency	f _T	V _{CE} =-6V, I _C =-20mA, f=30MHz	150		MHz
Collector output capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz		5	pF

CLASSIFICATION OF h_{FE}(1)

RANK	L	H	J
RANGE	120-200	200-350	300-400

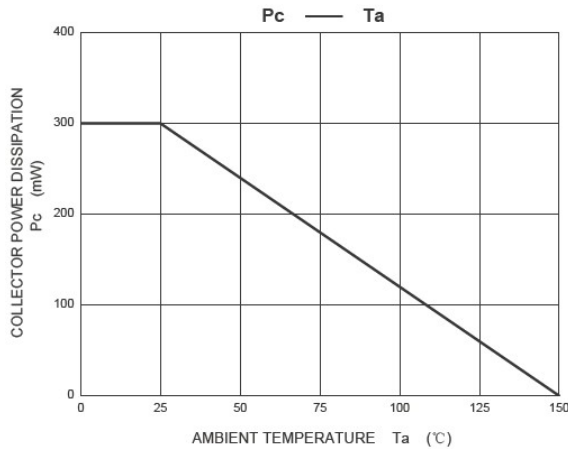
DEVICE CHARACTERISTICS

S9012

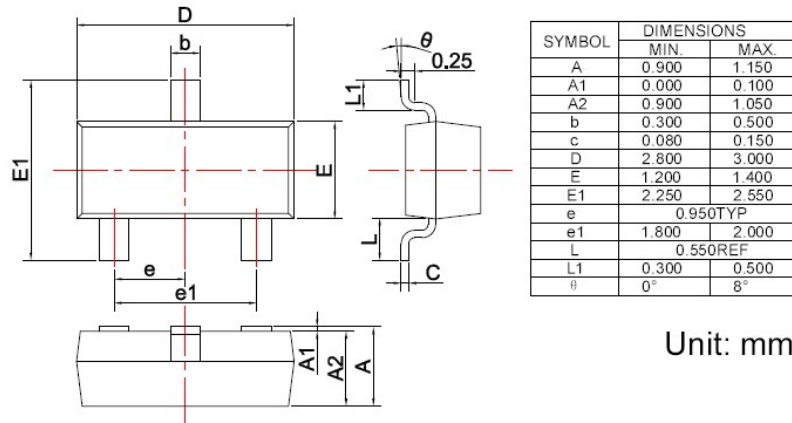


PACKAGE OUTLINE & DIMENSIONS

S9012



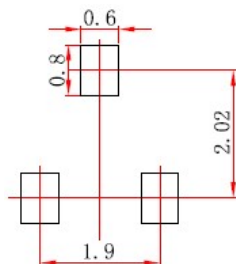
SOT-23 PACKAGE OUTLINE Plastic surface mounted package



Unit: mm

Precautions: PCB Design

Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.