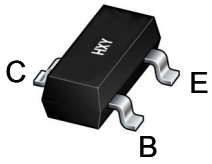
S9012

PNP Plastic-Encapsulate Transistors

FEATURES

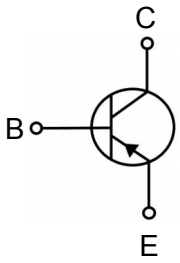
- Collector Current: I_C=0.5A
- Power Dissipation of 300mw



SOT-23

Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
S9012	SOT-23	2T1	3000



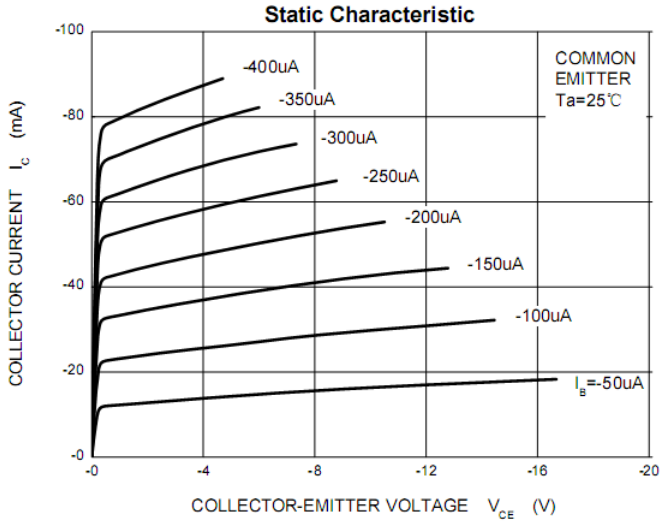
MAXIMUM RATINGS (Ta=25℃ unless otherwise noted)

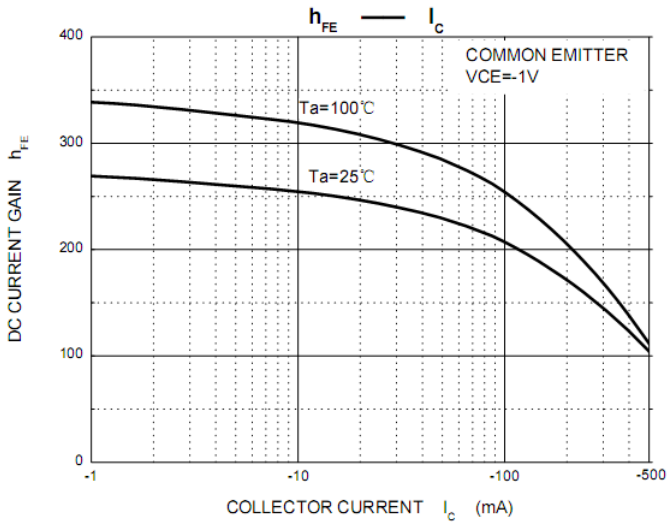
Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-500	mA
Collector Power Dissipation	P_C	300	mW
Thermal Resistance From Junction To Ambient	$R_{\Theta JA}$	416	℃/W
Junction Temperature	T_j	150	℃
Storage Temperature	T_{stg}	-55～+150	℃

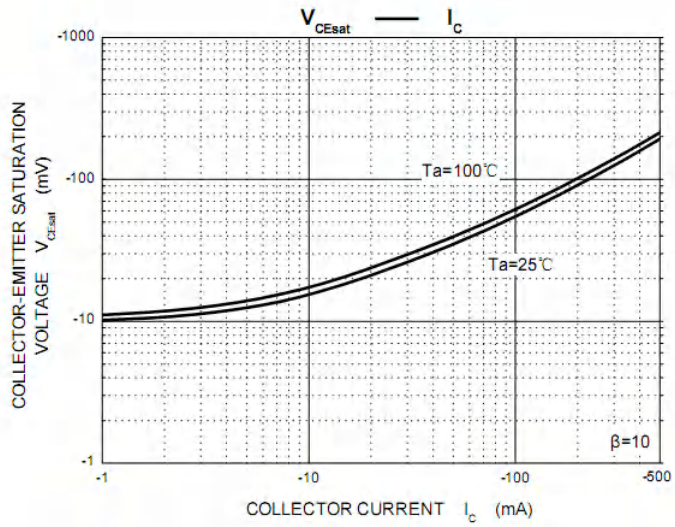
ELECTRICAL CHARACTERISTICS (T_a=25℃unless otherwise specified)

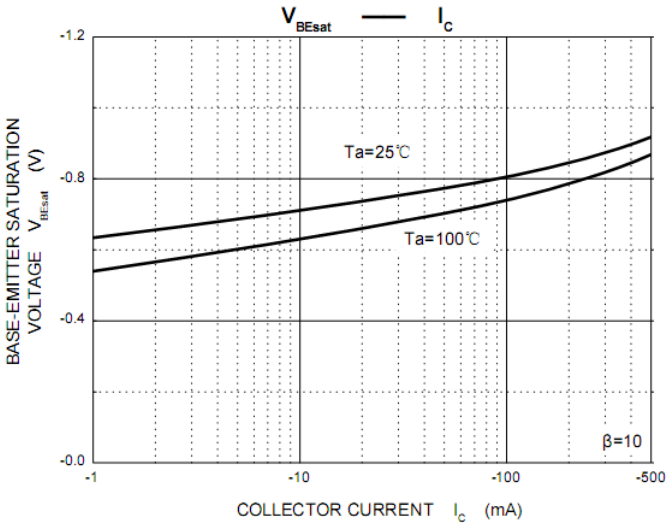
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-0.1mA, I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-1mA, I_B=0	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-0.1mA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-40V, I_E=0			-0.1	uA
Collector cut-off current	I_{CEO}	V_{CE}=-20V, I_B=0			-0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0			-0.1	uA
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			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA			-1.2	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

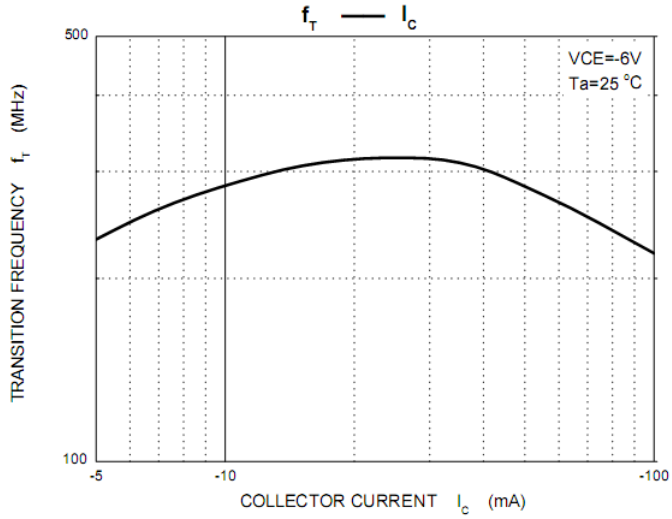
Typical Characteristics

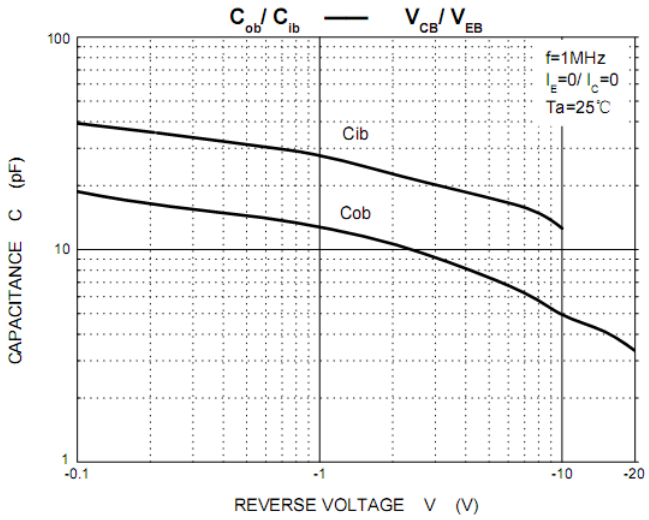


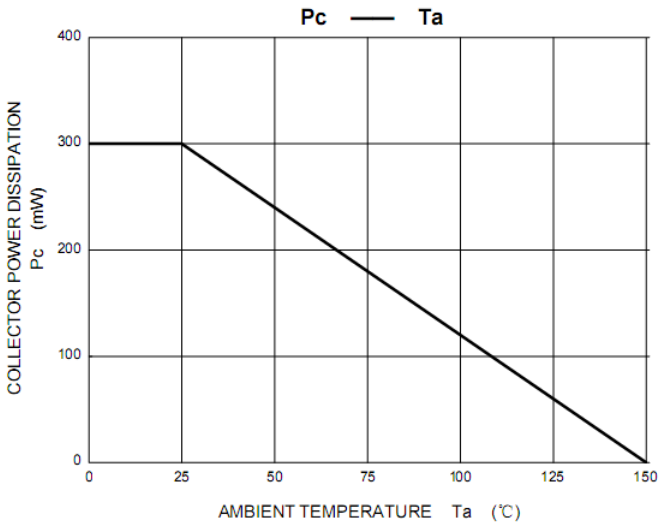




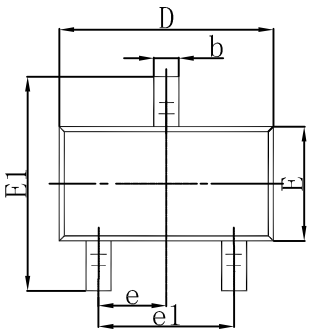


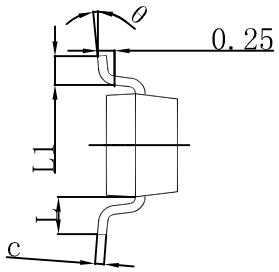


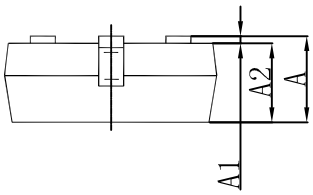




SOT-23 Package Outline Dimensions

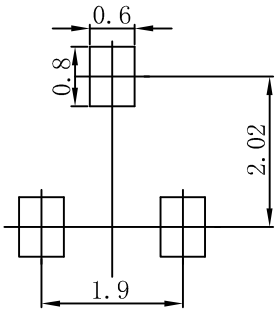






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



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

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