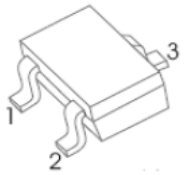
2SA812W TRANSISTOR (PNP)

SOT-323



1. BASE
2. EMITTER
3. COLLECTOR

FEATURES

- **Complementary to 2SC1623W**
- **High DC Current Gain: h_{FE}=200 TYP.(V_{CE}=-6V,I_C=-1mA)**
- **High Voltage: V_{ceo}=-50V**

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-100	mA
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

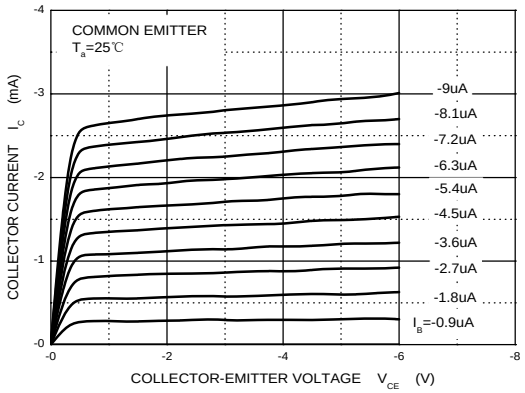
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-100μA, I_E=0	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA, I_B=0	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -100μA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=- 60 V, I_E=0			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}= -5V, I_C=0			-0.1	μA
DC current gain	h_{FE}	V_{CE}=- 6V, I_C= -1mA	90		600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-100mA, I_B= -10mA			-0.3	V
Base-emitter voltage	V_{BE}	I_C=-1mA, V_{CE}=-6V	-0.58		-0.68	V
Transition frequency	f_T	V_{CE}=-6V, I_C= -10mA		180		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0,f=1MHz		4.5		pF

CLASSIFICATION OF h_{FE}

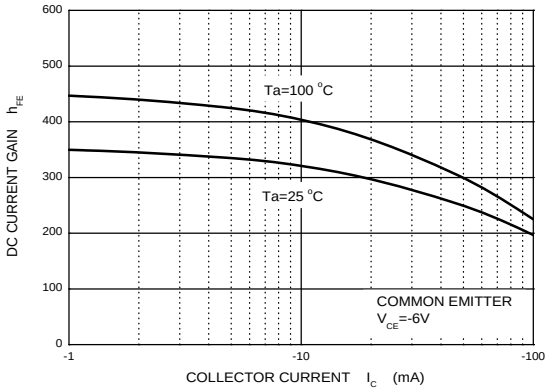
Rank	M4	M5	M6	M7
Range	90-180	135-270	200-400	300-600
Marking	M4	M5	M6	M7

Typical Characteristics

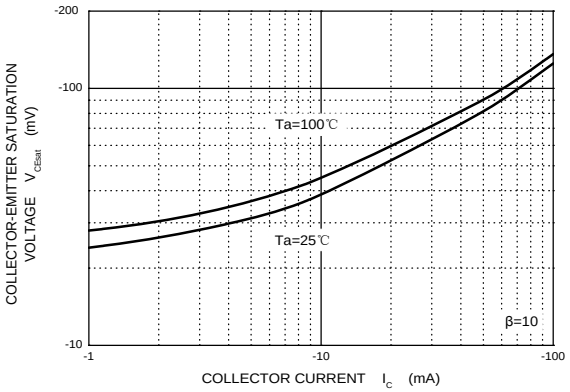
Static Characteristic



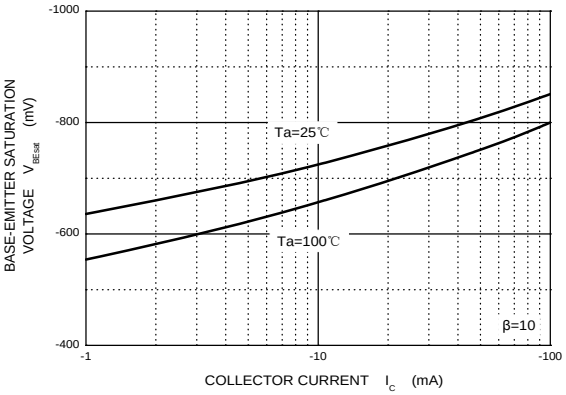
h_{FE} —— I_C



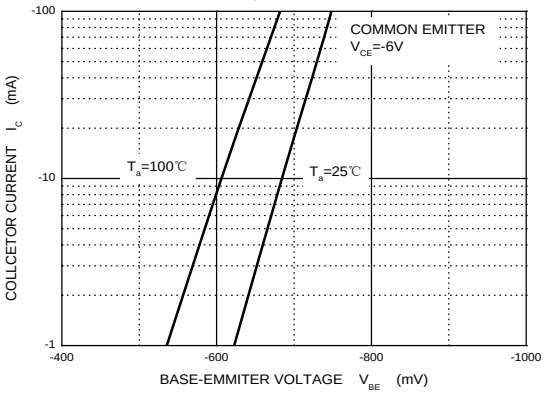
V_{CEsat} —— I_C



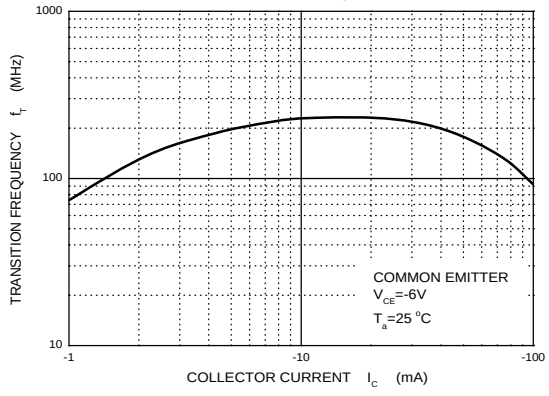
V_{BEsat} —— I_C



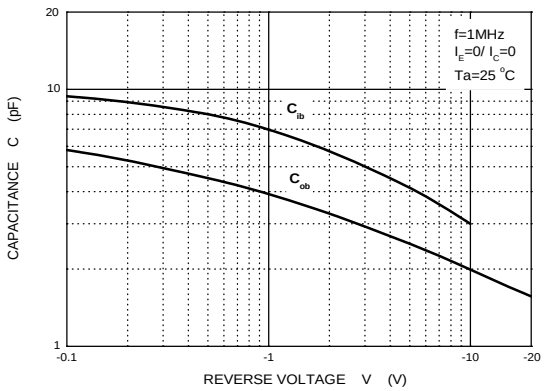
I_C —— V_{BE}



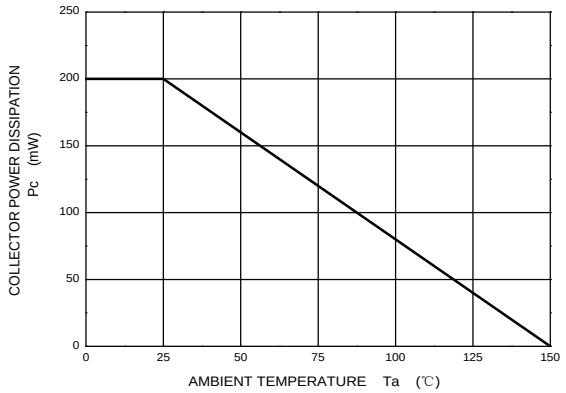
f_T —— I_C



C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}

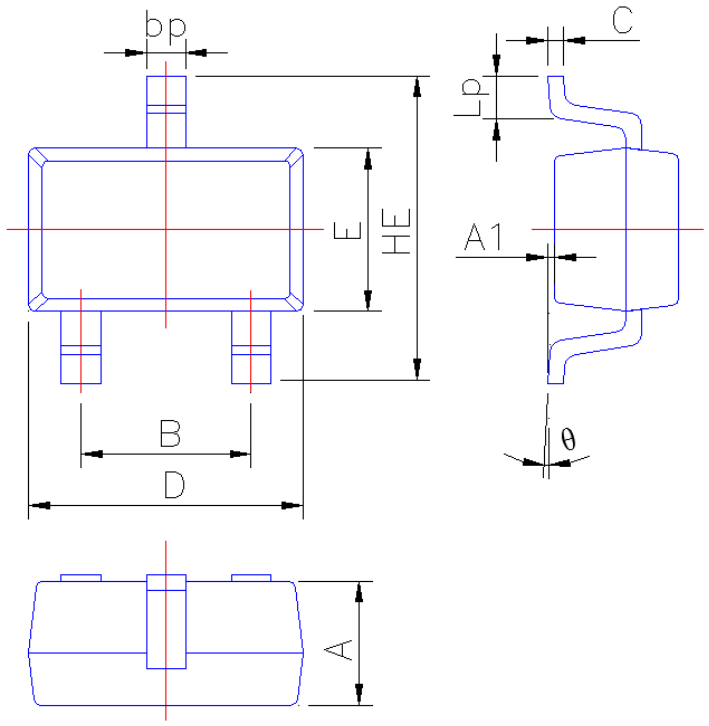


Pc —— Ta



PACKAGE OUTLINE

Plastic surface mounted package; 3 leads **SOT-323**



Symbol	Dimension in Millimeters	
	Min	Max
A	0.90	1.00
A1	0.010	0.100
B	1.20	1.40
bp	0.25	0.45
C	0.09	0.15
D	2.00	2.20
E	1.15	1.35
HE	2.15	2.55
Lp	0.25	0.46
θ	0°	6°