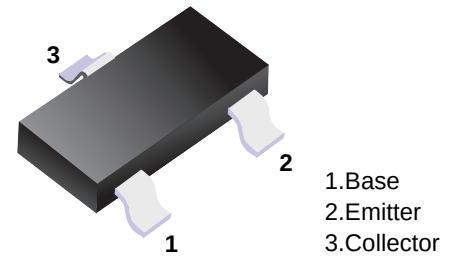


S9012

PNP Transistors

Features

- Excellent hFE linearity
- Collector Current : $I_C = -0.5A$



■ Simplified outline(SOT-23)

Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-40	V
Collector - Emitter Voltage	V_{CEO}	-25	V
Emitter - Base Voltage	V_{EBO}	-5	V
Collector Current to Continuous	I_C	-500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature	T_{stg}	-55 to 150	$^\circ C$

Electrical Characteristics $T_a = 25^\circ C$

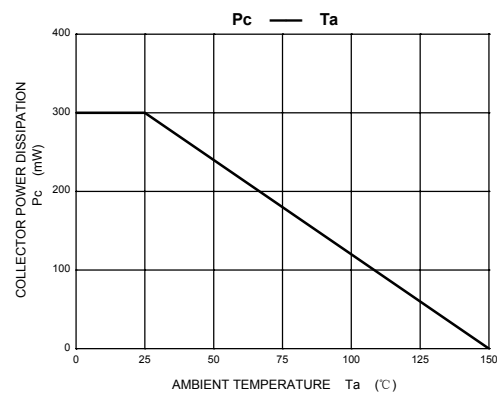
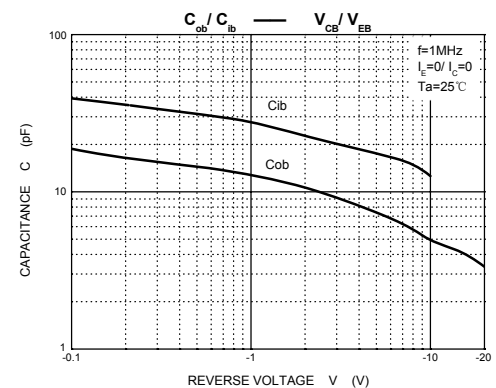
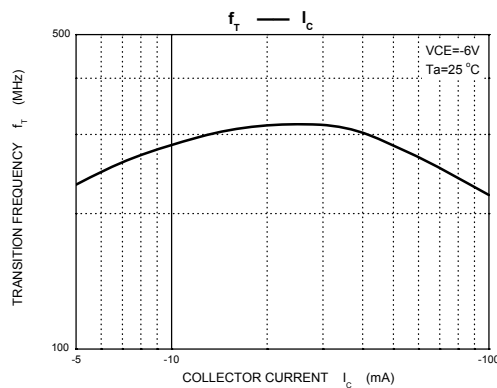
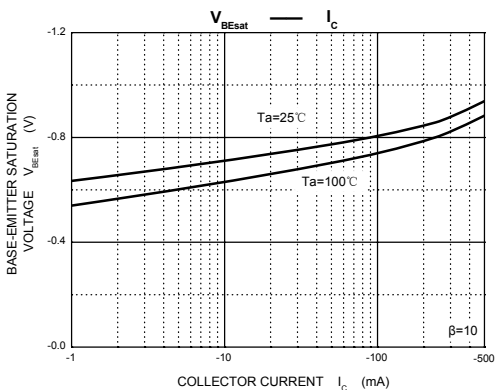
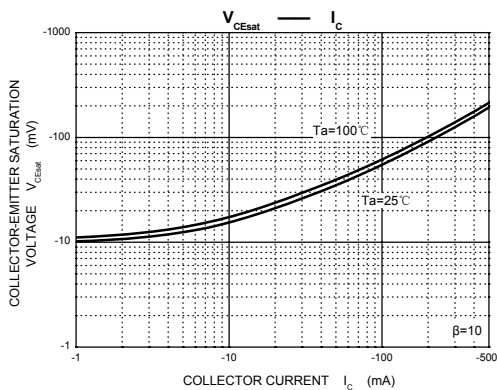
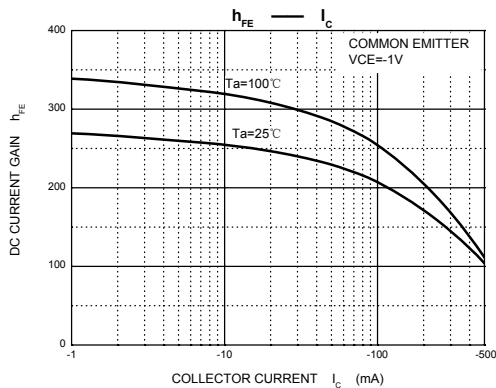
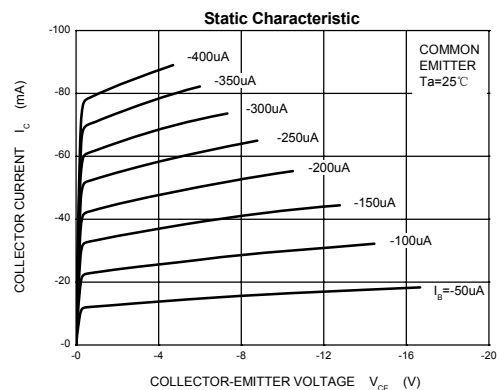
Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector - base breakdown voltage	V_{CBO}	$I_C = -100\mu A, I_E = 0$	-40			V
Collector - emitter breakdown voltage	V_{CEO}	$I_C = -1 mA, I_B = 0$	-25			V
Emitter - base breakdown voltage	V_{EBO}	$I_E = -100\mu A, I_C = 0$	-5			V
Collector cut - off current	I_{CBO}	$V_{CB} = -40V, I_E = 0$			-0.1	μA
Collector cut - off current	I_{CEO}	$V_{CB} = -20V, I_E = 0$			-1	μA
Emitter cut - off current	I_{EBO}	$V_{EB} = -5V, I_C = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -1V, I_C = -50mA$	120		400	
Collector - emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500 mA, I_B = -50mA$			-0.6	V
Base - emitter voltage	$V_{BE(sat)}$	$I_C = -500 mA, I_B = -50mA$			-1.2	V
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$			5	pF
Transition frequency	f_T	$V_{CE} = -6V, I_C = -20mA, f = 30MHz$	150			MHz

Classification of $h_{FE}(1)$

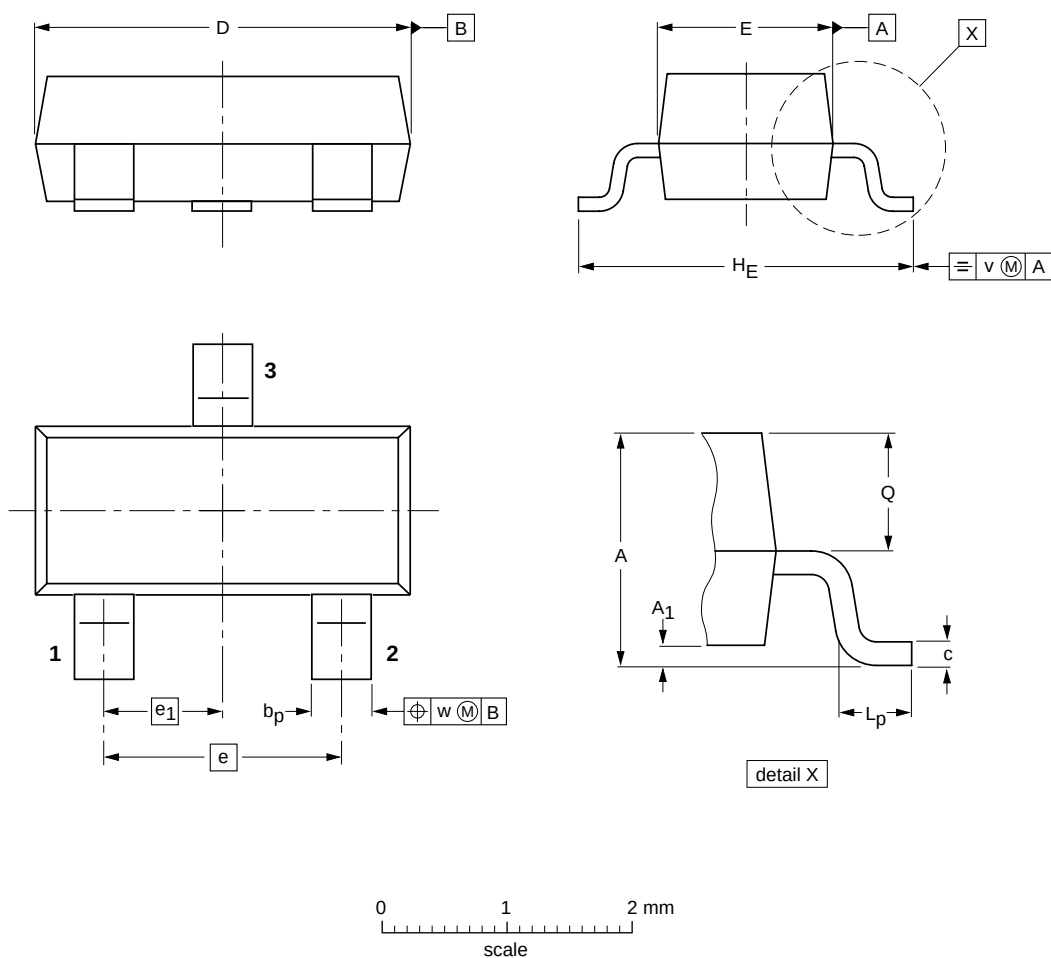
Type	S9012	S9012-L	S9012-H	S9012-J
Range	200-350	120-200	144-202	300-400
Marking	2T1			

S9012

Typical Characteristics



■ SOT-23



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1