

■ PNP Transistors



■ Simplified outline(SOT-23)

■ Features

- Excellent hFE linearity
- Collector Current :I<sub>c</sub>=-0.5A

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V <sub>CB0</sub>	-40	V
Collector - Emitter Voltage	V <sub>CEO</sub>	-25	V
Emitter - Base Voltage	V <sub>EBO</sub>	-5	V
Collector Current to Continuous	I <sub>c</sub>	-500	mA
Collector Power Dissipation	P <sub>c</sub>	300	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 to 150	°C

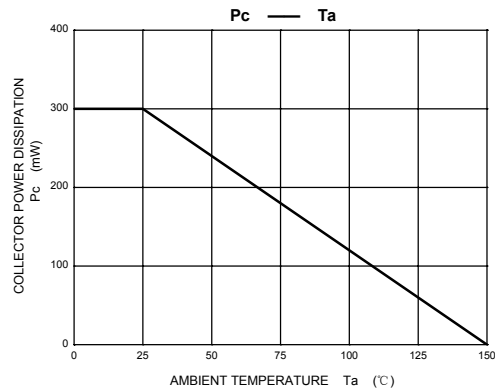
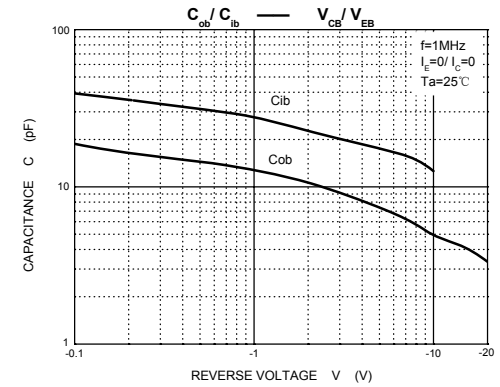
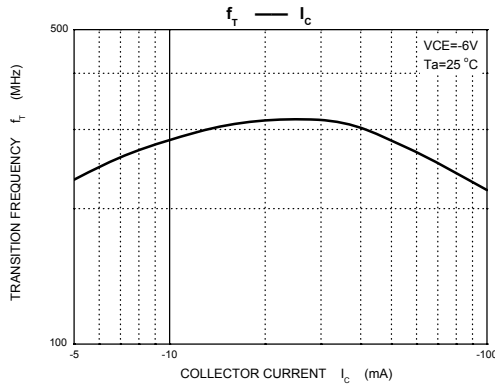
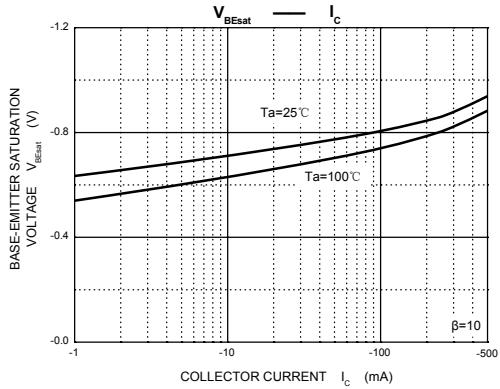
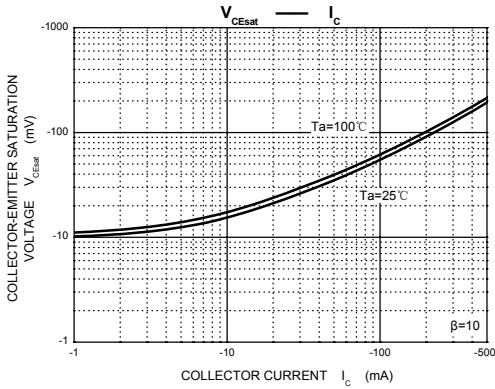
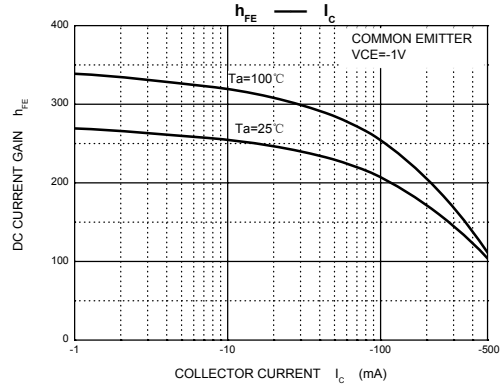
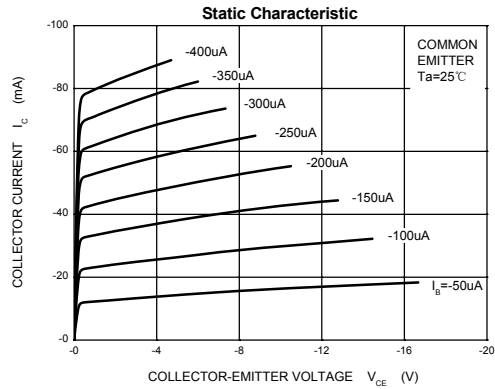
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector - base breakdown voltage	V <sub>CB0</sub>	I <sub>c</sub> = -100u A, I <sub>E</sub> =0	-40			V
Collector - emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> = -1 mA, I <sub>B</sub> =0	-25			V
Emitter - base breakdown voltage	V <sub>EBO</sub>	I <sub>E</sub> = -100uA, I <sub>C</sub> =0	-5			V
Collector cut - off current	I <sub>CB0</sub>	V <sub>CB</sub> =- 40V, I <sub>E</sub> =0			-0.1	μ A
Collector cut - off current	I <sub>CEO</sub>	V <sub>CB</sub> =-20V, I <sub>E</sub> =0			-1	μ A
Emitter cut - off current	I <sub>EBO</sub>	V <sub>EB</sub> =- 5V, I <sub>C</sub> =0			-0.1	μ A
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =-1V, I <sub>c</sub> = -50mA	120		400	
Collector - emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> = -500 mA, I <sub>B</sub> = -50mA			-0.6	V
Base - emitter voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> = -500 mA, I <sub>B</sub> =- 50mA			-1.2	V
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> =-10V, I <sub>E</sub> =0, f=1MHz			5	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =-6V, I <sub>c</sub> =-20mA, f=30MHz	150			MHz

■ Classification of h<sub>FE</sub>(1)

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

■ Typical Characteristics



**Package Outline**

**SOT-23**



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	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

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1