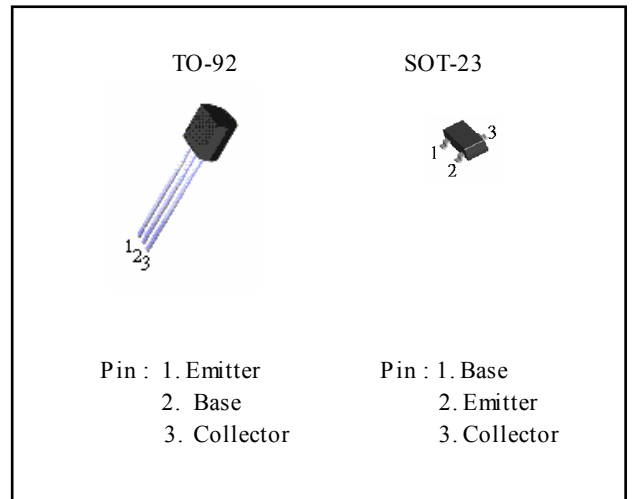


NPN Epitaxial Silicon Transistor

**1W OUTPUT AMPLIFIER OF POTABLE
RADIOS IN CLASS B PUSH-PULL OPERATION**

- High total power dissipation($P_T=625mW$)
- High collector Current ($I_C=500mA$)
- Complementary to PJ2N9012
- Excellent h_{EF} Linearity



ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

Rating	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	500	A
Collector Dissipation	P_C	625	W
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55 ~150	°C

ORDERING INFORMATION

Device	Operating Temperature	Package
PJ2N9013CT	-20°C ~+85°C	TO-92
PJ2N9013CX		SOT-23

ELECTRICAL CHARACTERISTICS(Ta= 25°C)

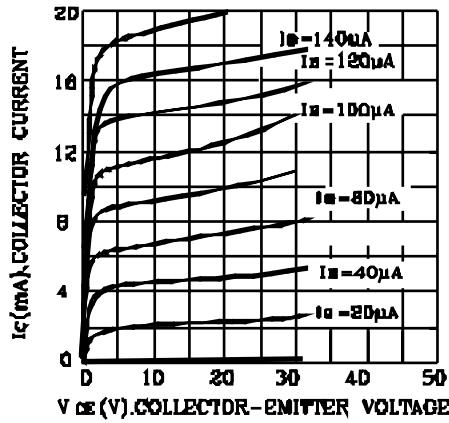
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C= 100\mu A, I_E=0$	40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C= 1mA, I_B=0$	20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu A, I_C=0$	5			V
Collector Cut-off Current	I_{CBO}	$V_{CB}= 25V, I_E = 0$			100	nA
Emitter Cut-off Current	I_{EBO}	$V_{EB}= 3V, I_C=0$			100	nA
DC Current Gain	h_{FE1}	$V_{EB}= 1V, I_C =50mA$	64	120	202	
	h_{FE2}	$V_{EB}= 1V, I_C =500mA$	40	90		
Collector- Base Saturation Voltage	$V_{CE(sat)}$	$I_C= 500 mA, I_B=50mA$		0.16	0.6	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C= 500mA, I_B=50mA$		0.91	1.2	V
Base-Emitter On Voltage	$V_{BE(ON)}$	$V_{CE} =1V, I_C =10mA$	0.6	0.67	0.7	V

h_{EF} CLASSIFICATION

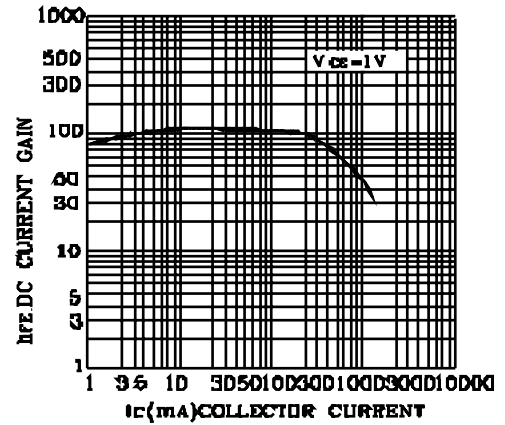
Classification	D	E	F	G	H
h_{EF}	64-91	78-112	96-135	112-166	144-202

NPN Epitaxial Silicon Transistor

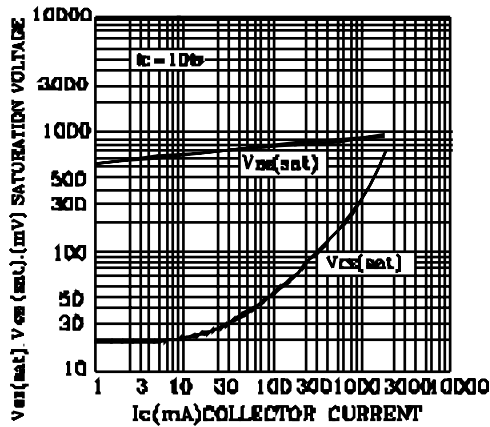
STATIC CHARACTERISTIC



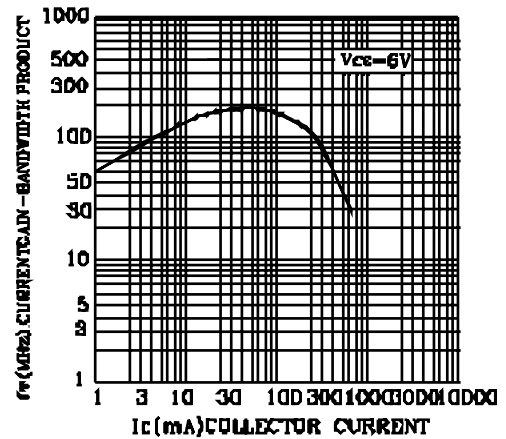
DC CURRENT GAIN



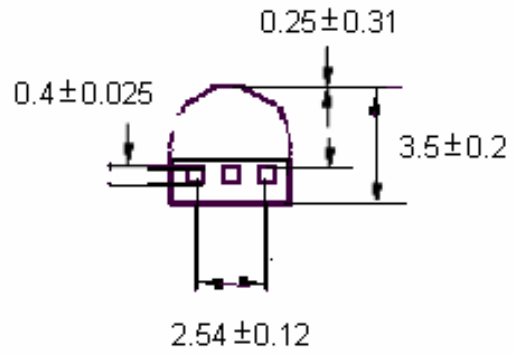
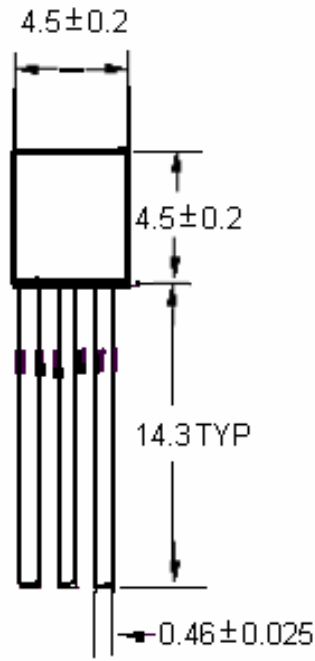
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



TO-92 Unit:mm



SOT-23 Unit:mm

