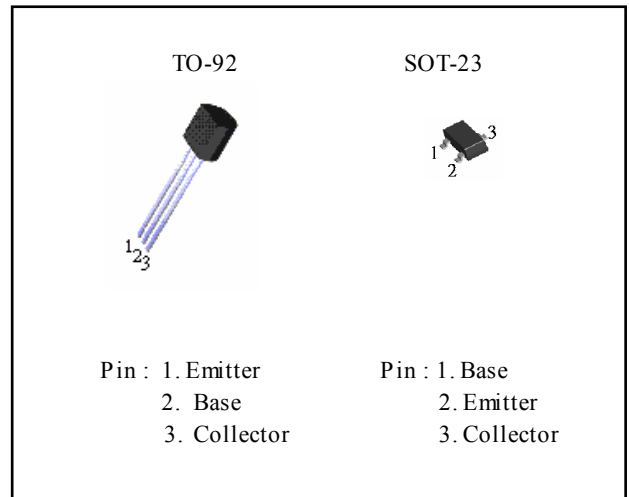


NPN Epitaxial Silicon Transistor**1W OUTPUT AMPLIFIER OF POTABLE
RADIOS IN CLASS B PUSH-PULL OPERATION**

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

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

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	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 ~150	$^\circ\text{C}$

**ORDERING INFORMATION**

Device	Operating Temperature	Package
PJ2N9013CT	-20 $^\circ\text{C}$ ~+85 $^\circ\text{C}$	TO-92
PJ2N9013CX		SOT-23

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

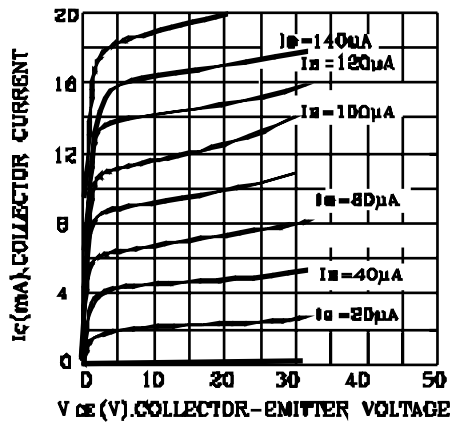
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu\text{A}$, $I_E=0$	40			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	20			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu\text{A}$, $I_C=0$	5			V
Collector Cut-off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

 h_{EF} CLASSIFICATION

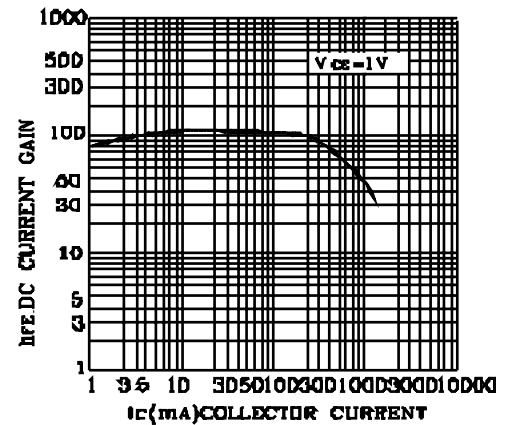
Classification	D	E	F	G	H
h_{EF}	64-91	78-112	96-135	112-166	144-202

NPN Epitaxial Silicon Transistor

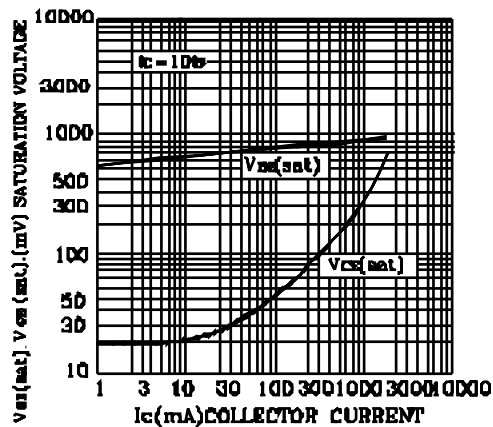
STATIC CHARACTERISTIC



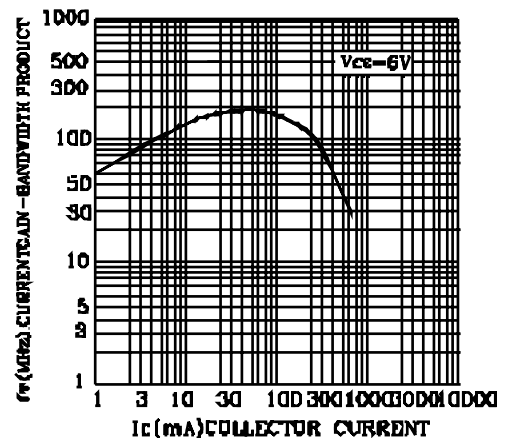
DC CURRENT GAIN



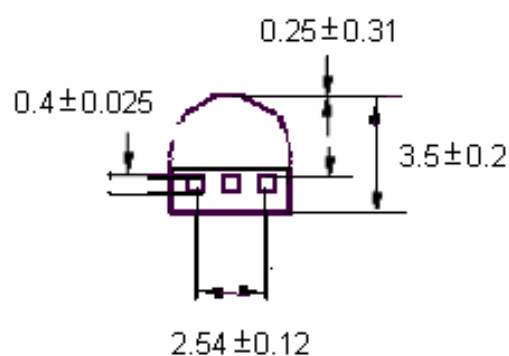
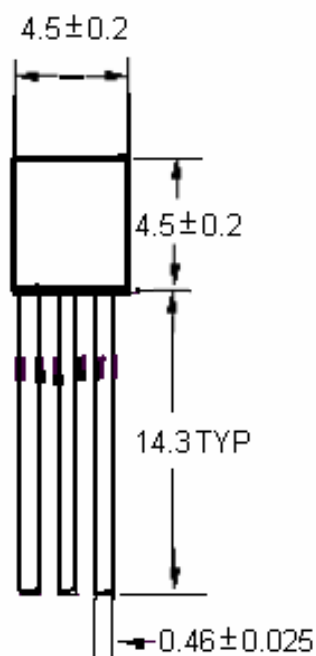
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



TO-92 Unit:mm



SOT-23 Unit:mm

