PROMAX-JOHNTON

PJ2N9013

NPN Epitaxial Silicon Transistor

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

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

TO-92 SOT-23

Pin : 1. Emitter 2. Base 3. Collector

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ABSOLUTE MAXIMUM RATINGS (Ta= 25°C)

Rating	Symbol	Value	Uint
Collector Base Voltage	V_{CBO}	40	V
Collector Emitter Voltage	V_{CEO}	20	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	Ic	500	A
Collector Dissipation	Pc	625	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	-55 ~150	°C

ORDERING INFORMATION

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

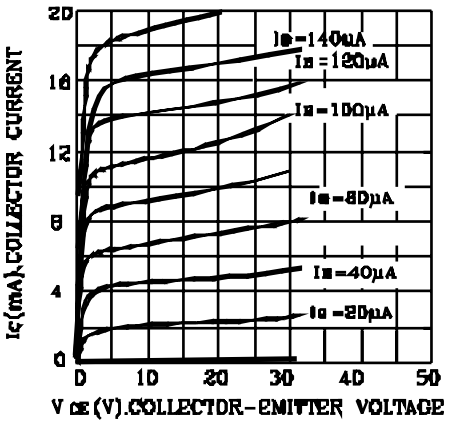
ELECTRICAL CHARACTERISTICS(Ta= 25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C= 100μA , 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=100μA , 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, Ic =10mA	0.6	0.67	0.7	V

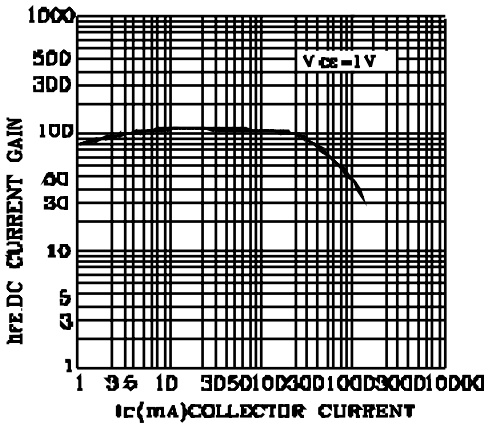
h_{EF} CLASSIFICATION

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

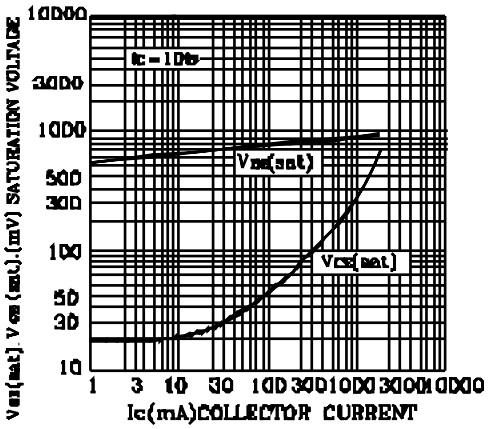
STATIC CHARACTERISTIC



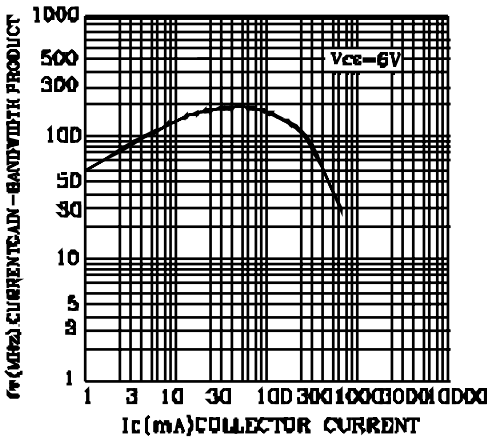
DC CURRENT GAIN



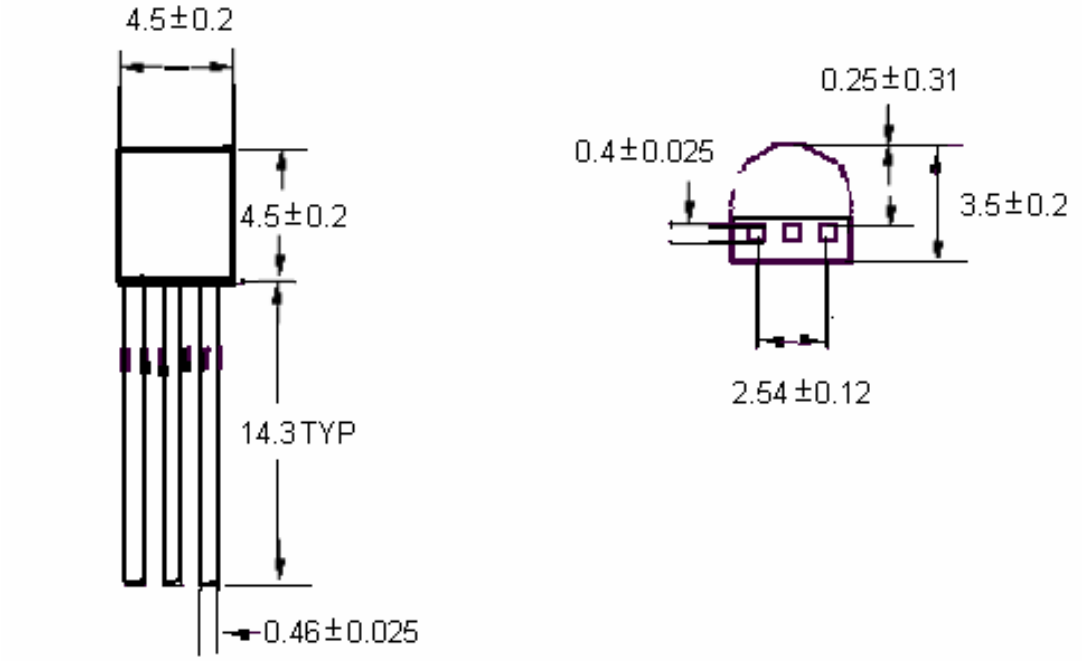
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



CURRENT GAIN-BANDWIDTH PRODUCT



TO-92 Unit:mm



SOT-23 Unit:mm