

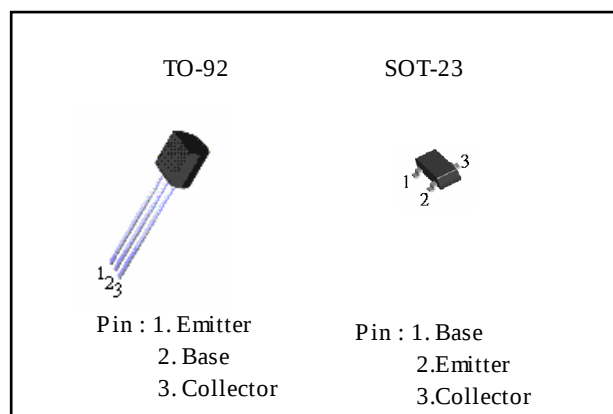
NPN Epitaxial Silicon Transistor

PRE-AMPLIFIER, LOW LEVEL&LOW NOISE

- High total power dissipation (PT=450mW)
- High h_{FE} and good linearity
- Complementary to PJ2N9015

ABSOLUTE MAXIMUM RATINGS (T_a= 25 °C)

Rating	Symbol	Value	Unit
Collector Base Voltage	V _{CBO}	50	V
Collector Emitter Voltage	V _{CEO}	45	V
Emitter Base Voltage	V _{EBO}	5	V
Collector Current	I _c	100	mA
Collector Dissipation	P _c	450	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55 ~150	°C



ORDERING INFORMATION

Device	Operating Temperature	Package
PJ2N9014CT	-20°C ~ +85°C	TO-92
PJ2N9014CX		SOT-23

ELECTRICAL CHARACTERISTICS (T_a= 25 °C)

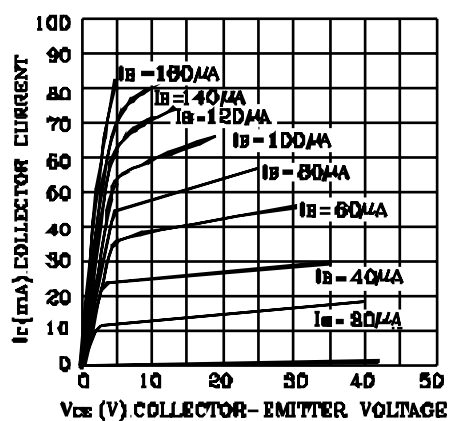
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV _{CBO}	I _c = 100 μ A , I _E =0	50			V
Collector-Emitter Breakdown Voltage	BV _{CEO}	I _c = 1mA , I _B =0	45			V
Emitter-Base Breakdown Voltage	BV _{EBO}	I _E =100 μ A , I _C =0	5			V
Collector Cut-off Current	I _{CBO}	V _{CB} = 50V , I _E = 0			50	nA
Emitter Cut-off Current	I _{EBO}	V _{EB} = 5V , I _C =0			50	nA
DC Current Gain	h _{FE}	V _{EB} = 5V , I _c =1 mA	60	280	1000	
Collector- Base Saturation Voltage	V _{CE(sat)}	I _c = 100 mA , I _B =5mA		0.14	0.3	V
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _c = 100mA , I _B =5mA		0.84	1.0	V
Base-Emitter On Voltage	V _{BE(ON)}	V _{CE} =5V, I _c =2 mA	0.58	0.63	0.7	V
Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0 f=1MHz		2.2	3.5	pF
Current Gain Bandwidth Product	f _T	V _{CE} =5V, I _c =10 mA	150	270		MHz
Noise Figure	NF	V _{CE} =5V, I _c =0.2 mA f=1KHz, R _s =2KΩ		0.9	10	dB

h_{FE} CLASSIFICATION

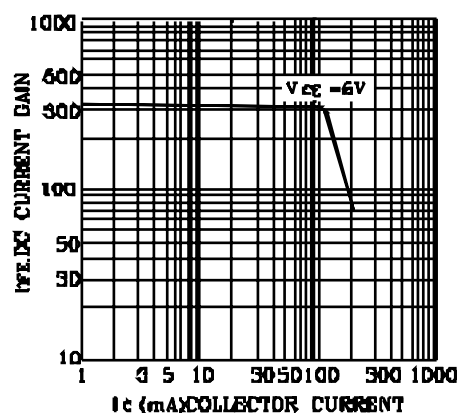
Classification	A	B	C	D
H _{FE}	60-150	100-300	200-600	400-1000

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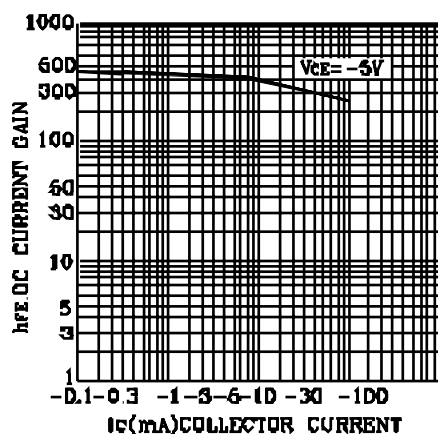
STATIC CHARACTERISTIC



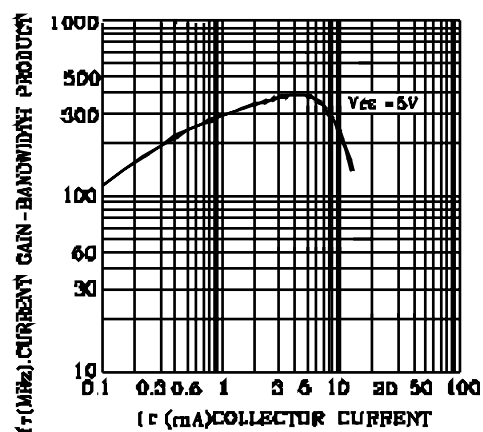
DC CURRENT GAIN



BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

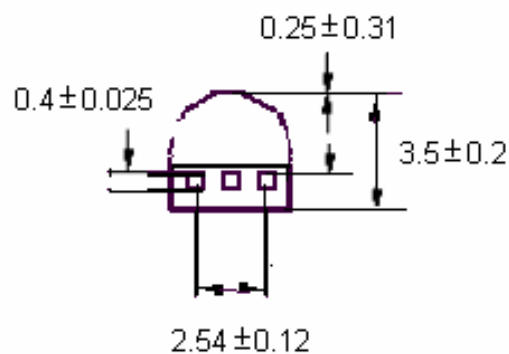
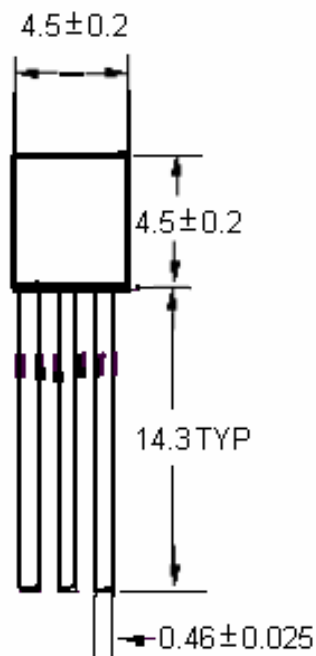


CURRENT GAIN-BANDWIDTH PRODUCT



NPN Epitaxial Silicon Transistor

TO-92 Unit:mm



SOT-23 Unit:mm

