

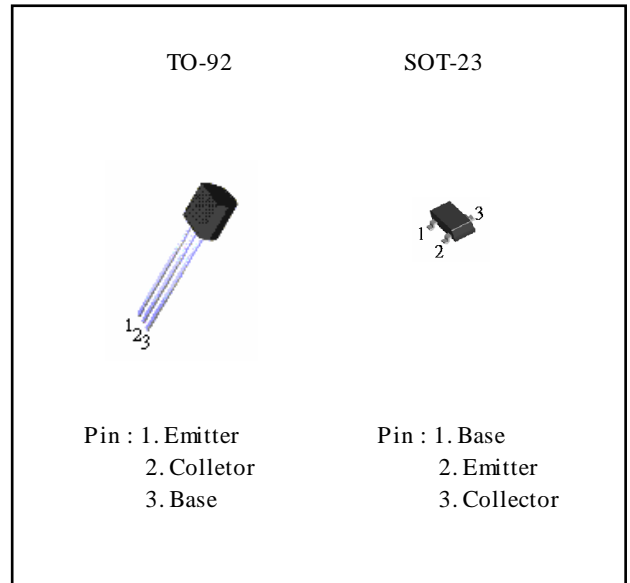
**NPN Epitaxial Silicon Transistor**

**AUDIO FREQUENCY AMPLIFIER  
HIGH FREQUENCY OSC.**

- Complement to PJA733
- Excellent DC Current Gain Linearly 0.1mA to 50mA
- Low Output Capacitance Cob=2.5PF(Typ.) @V<sub>CB</sub>=6V, f=1MHz
- Low Noise Figure NF=2.5dB(TYP.) I<sub>C</sub>=0.1mA, V<sub>CE</sub>=6V R<sub>g</sub>=2KΩ, f=1KHz
- DC Current Gain Selection Available

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Rating	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CBO</sub>	60	V
Collector-Emitter Voltage	V <sub>CEO</sub>	50	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>c</sub>	120	mA
Total Device Dissipation	P <sub>D</sub>	450	mW
	P <sub>D</sub>	1.2	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~150	°C



**ORDERING INFORMATION**

Device	Operating Temperature	Package
PJC945CT	-20°C ~+85°C	TO-92
PJC945CX		SOT-23

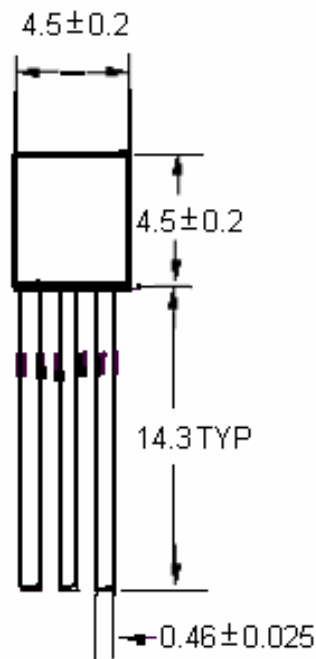
**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>c</sub> = 10μA, I <sub>E</sub> = 0	80			V
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>c</sub> = 1.0mA, I <sub>B</sub> = 0	50			V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> = -10μA, I <sub>C</sub> = 0	5			V
Collector Cutoff Current	I <sub>CBO</sub>	V <sub>CB</sub> =45V, I <sub>E</sub> =0			0.1	μA
Emitter Cutoff Current	I <sub>EBO</sub>	V <sub>EB</sub> =3V, I <sub>C</sub> =0			0.1	μA
Collector-Cutoff Current	I <sub>CEO</sub>	V <sub>CE</sub> =40V, I <sub>B</sub> =0			1	μA
DC Current Gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =6V, I <sub>c</sub> =0.1 mA	50			
	h <sub>FE(2)</sub>	V <sub>CE</sub> =6V, I <sub>c</sub> =1.0 mA	70		70	
Collector-Emitter Saturation Voltage	V <sub>CE(SAT)</sub>	I <sub>c</sub> =10mA, I <sub>B</sub> =1mA		0.09	0.3	V
Base-Emitter Saturation Voltage	V <sub>BE(SAT)</sub>	I <sub>c</sub> =10mA, I <sub>B</sub> =1mA		0.81	1	V
Base-Emitter On Voltage	V <sub>BE(on)</sub>	I <sub>c</sub> =0.1mA, V <sub>CE</sub> =6V	0.55	0.6	0.65	V
Current-Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>c</sub> =10mA	150	250	450	MHz
		V <sub>CB</sub> =6V, I <sub>E</sub> =0				
Output Capacitance	C <sub>ob</sub>	f=1MHz, V <sub>CE</sub> =6V, I <sub>E</sub> =-0.5mA		2.5	5	pF
Noise Figure	NF	f=1KHz, R <sub>S</sub> =2KΩ		2.5	15	dB

**h<sub>FE(2)</sub> CLASSIFICATION**

Classification	R	P	Q	K
h <sub>FE(2)</sub>	70-140	120-240	200-400	350-700

**TO-92 Unit:mm**



**SOT-23 Unit:mm**

