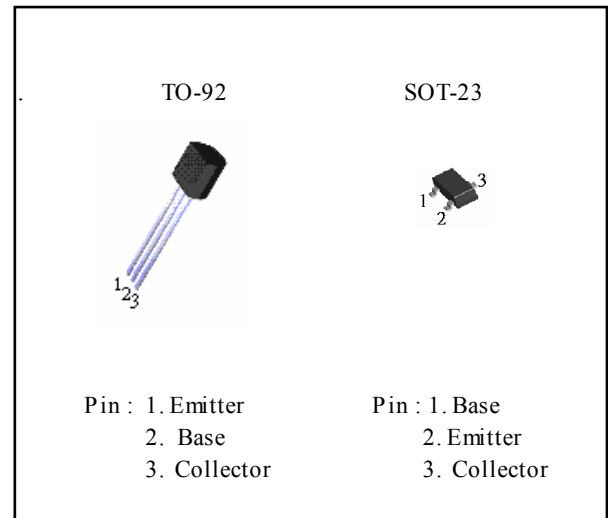


## PNP Epitaxial Silicon Transistor

## GENERAL PURPOSE TRANSISTOR

- Collector-Emitter Voltage:  $V_{CEO} = 40V$
- Collector Dissipation:  $P_{C(max)} = 625\text{ mW}$

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

Rating	Symbol	Value	Unit
Collector-Base Voltage	$V_{CBO}$	40	V
Collector-Emitter Voltage	$V_{CEO}$	40	V
Emitter-Base Voltage	$V_{EBO}$	5	V
Collector Current	$I_C$	200	mA
Collector Dissipation	$P_C$	625	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55~150	$^\circ\text{C}$

**ORDERING INFORMATION**

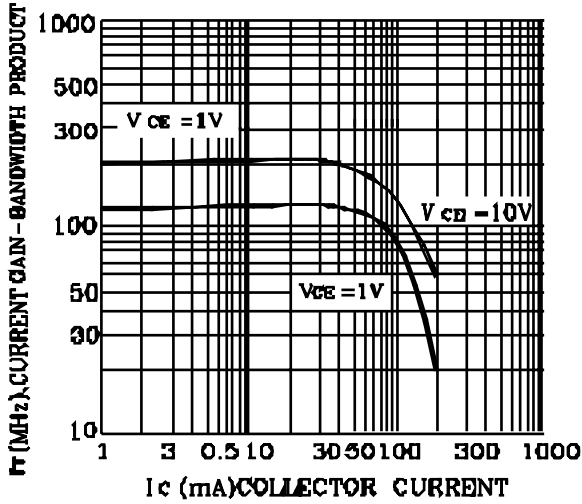
Device	Operating Temperature	Package
PJ2N3906CT	-20 $^\circ\text{C}$ ~ +85 $^\circ\text{C}$	TO-92
PJ2N3906CX		SOT-23

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

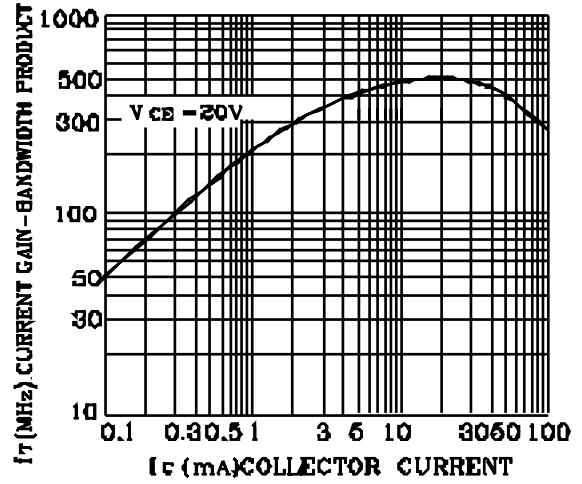
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 10\ \mu\text{A}$ , $I_E = 0$	40			V
*Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 1\text{mA}$ , $I_B = 0$	40			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = 10\ \mu\text{A}$ , $I_C = 0$	6			V
Collector Cut-off Current	$I_{CEX}$	$V_{CE} = 30\text{V}$ , $V_{BE} = 3\text{V}$			50	nA
Base Cut-off Current	$I_{BL}$	$V_{CE} = 30\text{V}$ , $V_{BE} = 3\text{V}$			50	nA
*DC Current Gain	$h_{FE}$	$I_C = 0.1\text{mA}$ , $V_{CE} = 1\text{V}$	60			
		$I_C = 1\text{mA}$ , $V_{CE} = 1\text{V}$	80			
		$I_C = 10\text{mA}$ , $V_{CE} = 1\text{V}$	100		300	
		$I_C = 50\text{mA}$ , $V_{CE} = 1\text{V}$	60			
		$I_C = 100\text{mA}$ , $V_{CE} = 1\text{V}$	30			
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}$ , $I_B = 1\text{mA}$			0.25	V
		$I_C = 50\text{mA}$ , $I_B = 5\text{mA}$			0.4	V
*Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 10\text{mA}$ , $I_B = 1\text{mA}$	0.65		0.85	V
		$I_C = 50\text{mA}$ , $I_B = 5\text{mA}$			0.95	V
Output Capacitance	$C_{ob}$	$V_{CB} = 5\text{V}$ , $I_E = 0$			4.5	pF
Current Gain Bandwidth Product	$f_T$	$f = 1\text{MHz}$	250			MHz
		$I_C = 10\text{mA}$ , $V_{CE} = 20\text{V}$				
		$f = 100\text{MHz}$				
Turn On Time	$t_{on}$	$V_{CC} = 3\text{V}$ , $V_{BE} = 0.5\text{V}$			70	ns
Turn Off Time	$t_{off}$	$I_C = 10\text{mA}$ , $I_{B1} = 1\text{mA}$			250	ns
		$V_{CC} = 3\text{V}$ , $I_C = 1\text{mA}$				
		$I_{B1} = I_{B2} = 1\text{mA}$				

\*Pulse Test: Pulse Width  $\leq 300\ \mu\text{s}$ , Duty Cycle  $\leq 2\%$

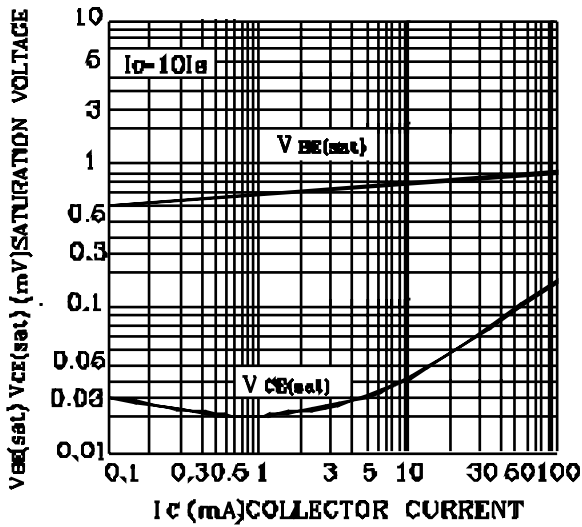
DC CURRENT GAIN



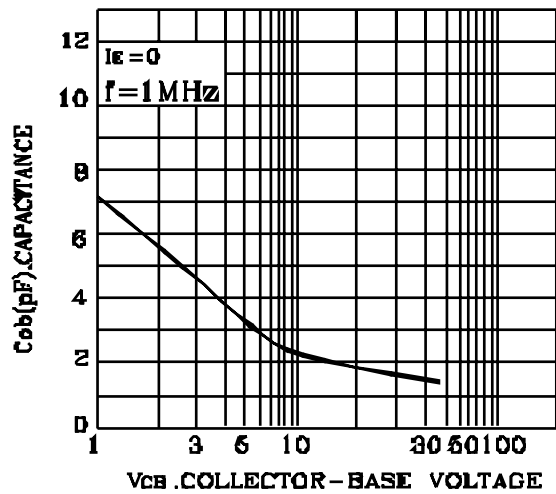
CURRENT GAIN-BANDWIDTH PRODUCT



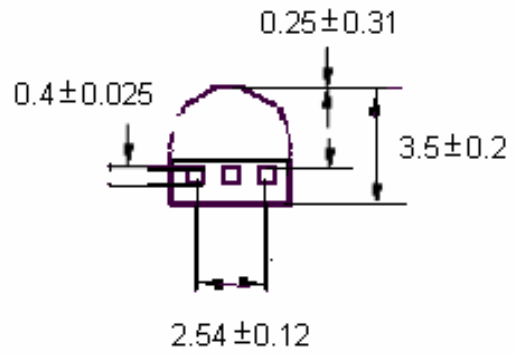
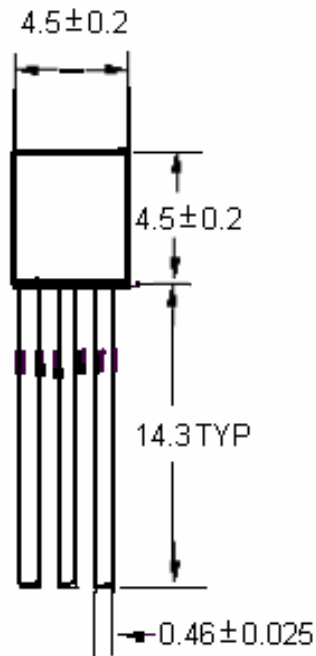
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



OUTPUT CAPACITANCE



**TO-92 Unit:mm**



**SOT-23 Unit:mm**

