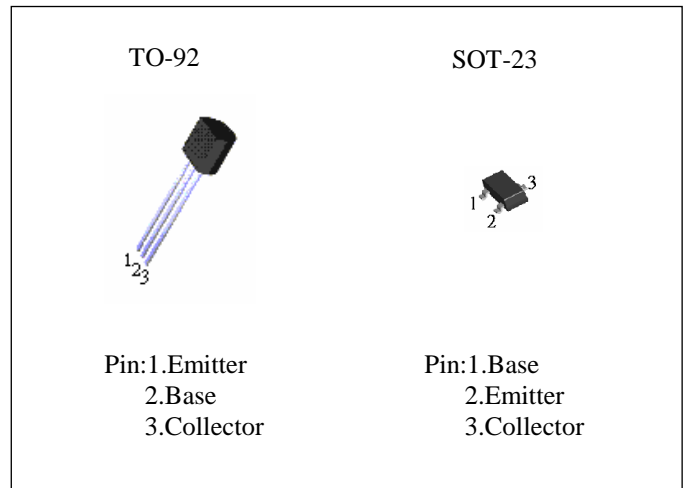


NPN Epitaxial Silicon Transistors

GENERAL PURPOSE TRANSISTOR

- Collector-Emitter Voltage: $V_{CEO} = 40V$
- Collector Dissipation: $P_{D(max)} = 625\text{ mW}$ --- TO-92
- 300 mW --- SOT-23



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector Base Voltage	V_{CBO}	75	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	0.6	A
Collector Dissipation	P_D	0.62	W
		0.3	W
TO-92	T_j	150	°C
SOT-23	T_{stg}	-55~150	°C
Junction Temperature			
Storage Temperature			

ORDERING INFORMATION

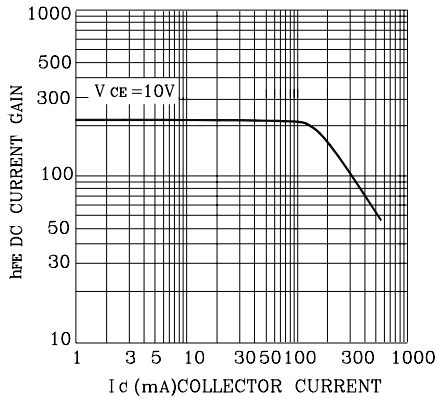
Device	Operating Temperature	Package
PJ2N2222ACT	-20°C ~ +85°C	TO-92
PJ2N2222ACX		SOT-23

ELECTRICAL CHARACTERISTICS (Ta=25°C)

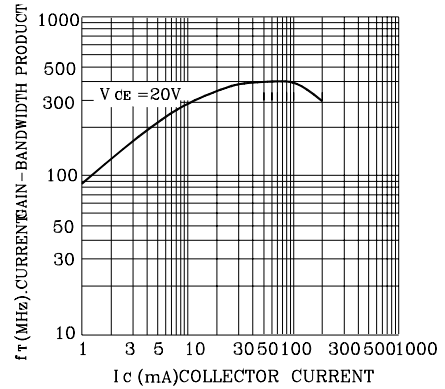
Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=10\mu A, I_E=0$	75			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=10mA, I_B=0$	40			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=10\mu A, I_C=0$	5			V
Collector Cut-off Current	I_{EBO}	$V_{CB}=60V, I_E=0$			10	nA
Emitter Cutoff Current	I_{FE}	$V_{EB}=3V, I_C=0$	35			
DC Current Gain		$I_C=0.1mA, V_{CE}=10V$	50			
		$I_C=1mA, V_{CE}=10V$	75			
		$I_C=10mA, V_{CE}=10V$	100		300	
		$*I_C=150mA, V_{CE}=10V$	40			
Collector-Base Saturation Voltage	$V_{CE(sat)}$	$*I_C=500mA, V_{CE}=10V$			0.3	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=150mA, I_B=15mA$			1.0	V
		$I_C=500mA, I_B=50mA$			1.2	V
Current Gain-Bandwidth Product	f_T	$I_C=150mA, I_B=15mA$			2.0	V
Output Capacitance	C_{ob}	$I_C=500mA, I_B=50mA$			8	pF
Turn On Time	t_{on}	$I_C=20mA, V_{ce}=20V$	300			MHz
Turn Off Time	t_{off}	$f=100MHz$			35	ns
		$V_{CB}=10V, I_E=0, f=1MHz$				
Noise Figure	NF	$V_{cc}=30V, I_C=150mA$			285	ns
		$I_C=20mA, V_{CE}=20V$				
		$f=100MHz$				
		$V_{cc}=30V, V_{BE}=0.5V$				
		$I_C=150mA, V_{B1}=15mA$				
		$V_{cc}=30V, I_C=150mA,$				
		$I_{B1}=I_{B2}=15mA$				

- Pulse Test: Pulse Width $\leq 350\ \mu s$, Duty Cycle $\leq 2\%$

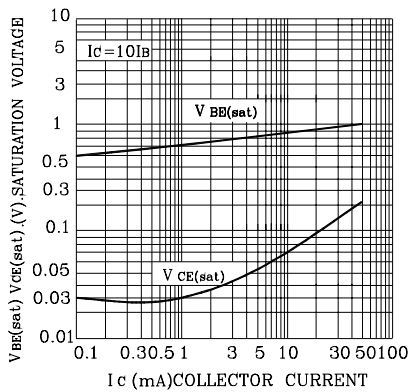
DC CURRENT GAIN



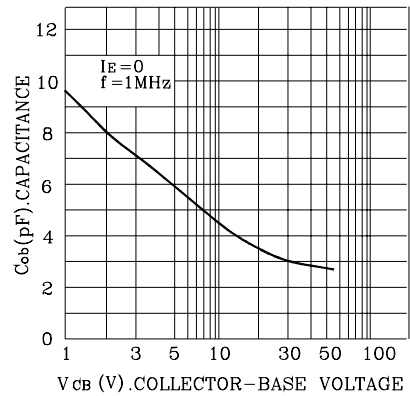
CURRENT GAIN-BANDWIDTH PRODUCT



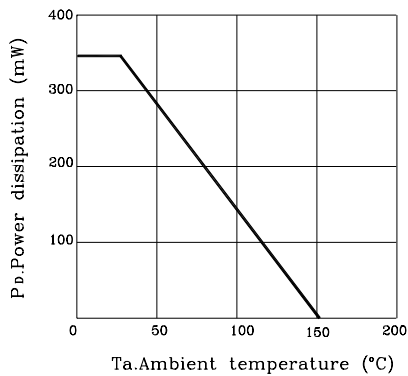
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



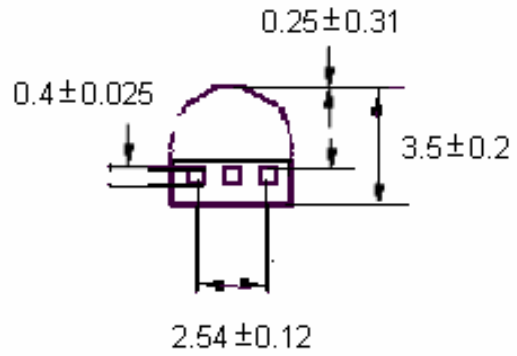
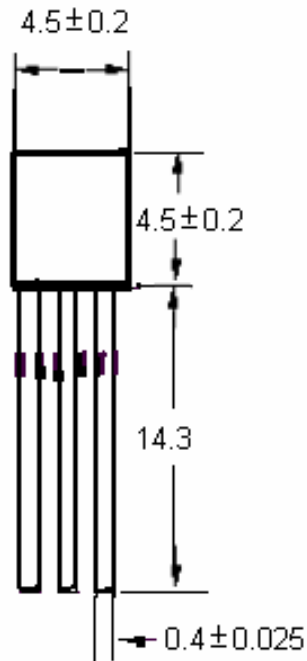
OUTPUT CAPACITANCE



POWER DERATING



TO-92 Unit:mm



SOT-23 Unit:mm

