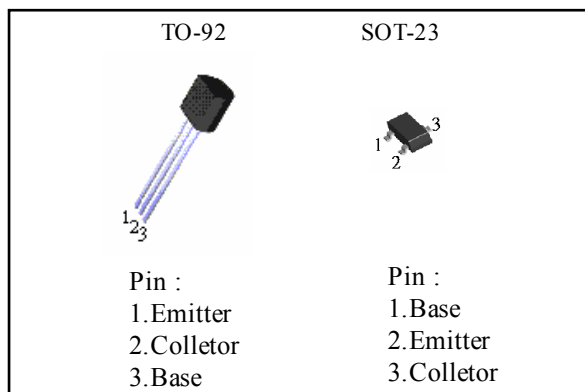


NPN Epitaxial Silicon Transistor

AUDIO FREQUENCY POWER AMPLIFIER
MEDIUM SPEED SWITCHING



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Rating	Symbol	Rating	Unit
Collector-base Voltage	V _{CBO}	120	V
Collector-Emitter Voltage	V _{CEO}	60	V
Emitter-base Voltage	V _{EBO}	6	V
Collector Current (DC)	I _C	1	A
*Collector Current (Pulse)	I _C	2	A
Collector Dissipation	P _D	0.75	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55~150	°C

ORDERING INFORMATION

Device	Operating Temperature	Package
PJD1616ACT	-20°C ~ +85°C	TO-92
PJD1616ACX		SOT-23

- PW ≤ 10ms, Duty Cycle ≤ 50%

ELECTRICAL CHARACTERISTICS (Ta=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I _{CBO}	V _{CB} =60V, I _E =0			100	nA
Emitter Cutoff Current	I _{EBO}	V _{EB} =6V, I _C =0			100	nA
*DC Current Gain	h _{FE1}	V _{CE} =2V, I _C =100mA	135		400	
	h _{FE2}	V _{CE} =2V, I _C =1A	81			
**Base Emitter On Voltage	V _{BE (on)}	V _{CE} =2V, I _C =50mA	600	640	700	mV
*Collector Emitter Saturation Voltage	V _{CE (sat)}	I _C =1A, I _B =50mA		0.15	0.3	V
*Base Emitter Saturation Voltage	V _{BE (sat)}	I _C =1A, I _B =50mA		0.9	1.2	V
Output Capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz		19		pF
Current Gain Bandwidth Product	f _T	V _{CE} =2V, I _C =100mA	100	160		MHz
Turn On Time	ton	V _{CC} =10V, I _C =100mA		0.07		μs
Storage Time	ts	I _{B1} = -I _{B2} =10mA		0.95		μs
Fall Time	tf	V _{BE(off)} = -2~3V		0.07		μs

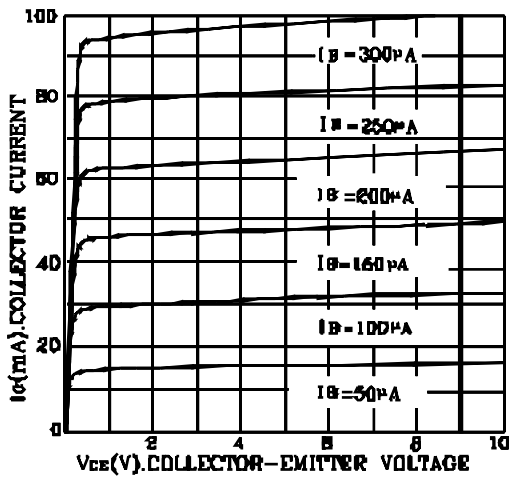
- Pulse Test: PW ≤ 350 μs, Duty Cycle ≤ 2% Pulsed

h_{FE}(1) CLASSIFICATION

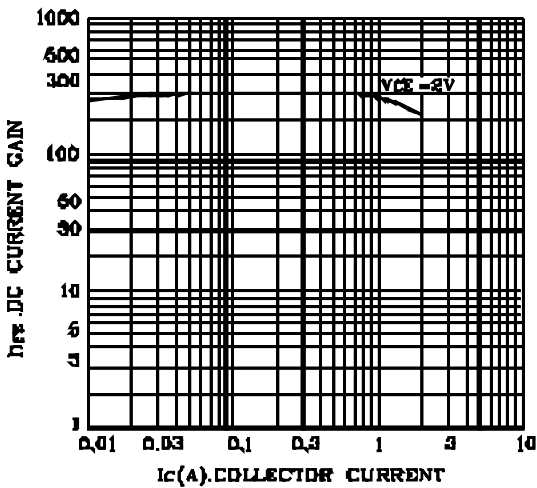
Classification	Y	G	L
h _{FE} (1)	135-270	200-400	300-600

NPN Epitaxial Silicon Transistor

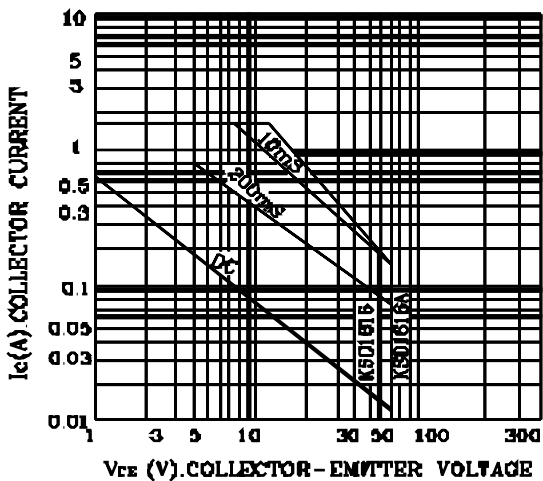
STATIC CHARACTERISTIC



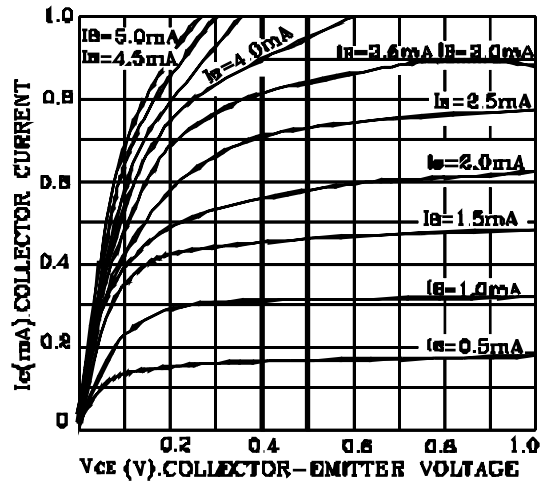
DC CURRENT GAIN



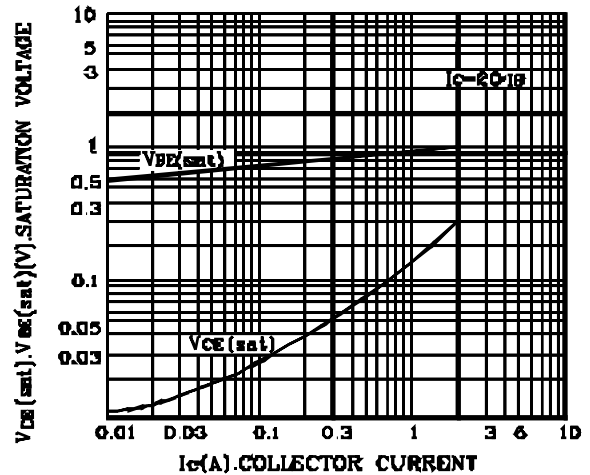
SAFE OPERATING AREA



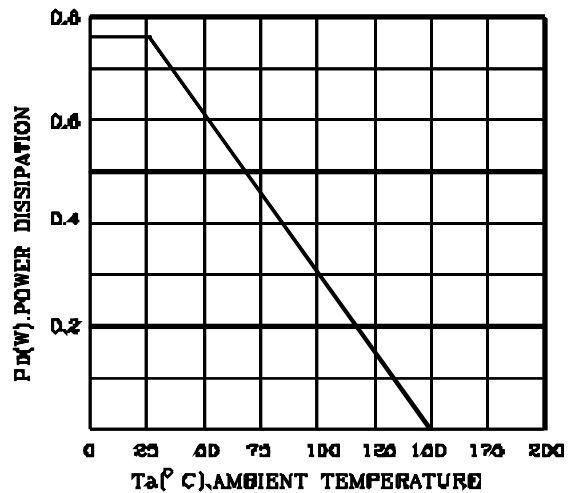
STATIC CHARACTERISTIC



BASE-EMITTER SATURATION VOLT
COLLECTOR-EMITTER SATURATION VOLTAGE

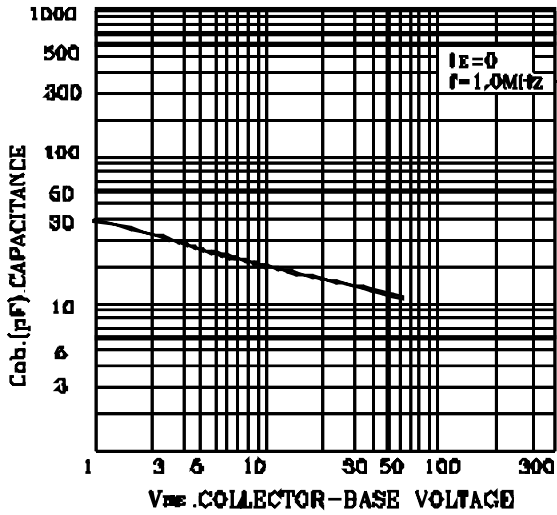


POWER DERATING

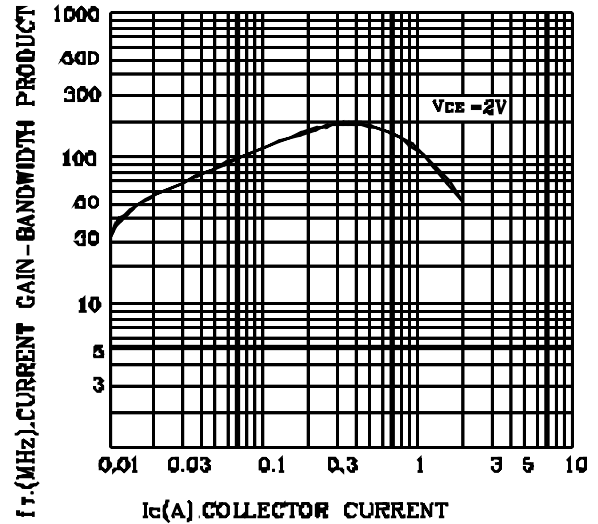


NPN Epitaxial Silicon Transistor

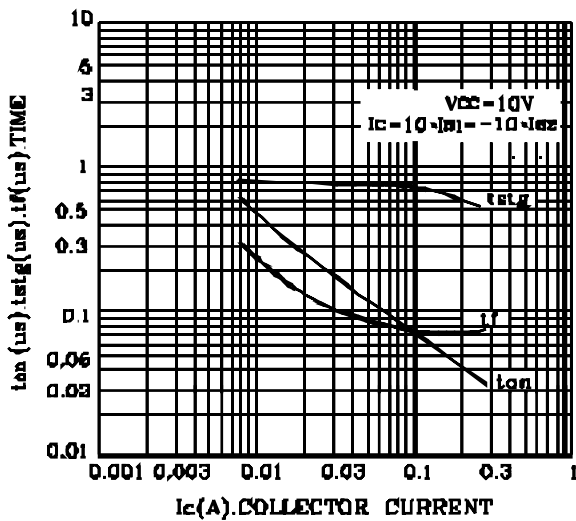
COLLECTOR OUTPUT CAPACITANCE



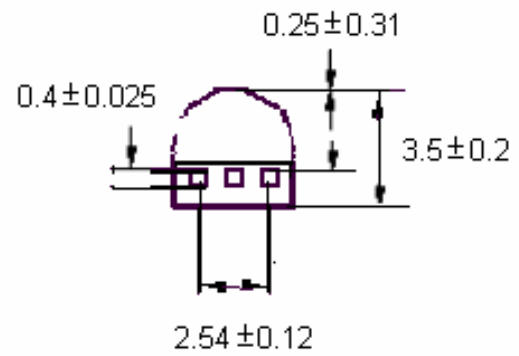
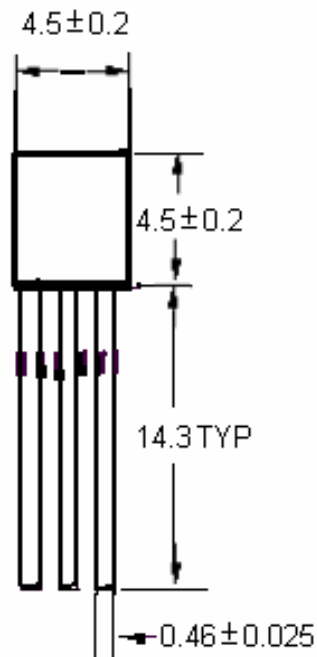
CURRENT GAIN-BANDWIDTH PRODUCT



SWITCHING TIME



TO-92 Unit:mm



SOT-23 Unit:mm

