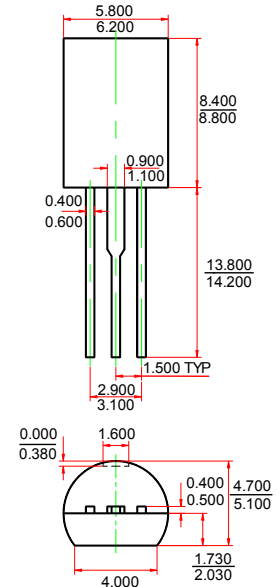




1.EMITTER  
2.COLLECTOR  
3.BASE

### TO-92MOD



Dimensions in inches and (millimeters)

## Features

- ✧ Audio power amplifier
- ✧ Complement to Application

### MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
$V_{CB0}$	Collector-Base Voltage	-30	V
$V_{CEO}$	Collector-Emitter Voltage	-30	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current -Continuous	-2	A
$P_C$	Collector Power Dissipation	1	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

### ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYPE	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CB0}$	$I_C = -100\mu\text{A}, I_E = 0$	-30			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-30			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E = -1\text{mA}, I_C = 0$	-5			V
Collector cut-off current	$I_{CB0}$	$V_{CB} = -30\text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{V}, I_C = 0$			-0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = -2\text{V}, I_C = -500\text{mA}$	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1.5\text{ A}, I_B = -0.03\text{A}$			-2	V
Base-emitter voltage	$V_{BE}$	$I_C = -500\text{ mA}, V_{CE} = -2\text{V}$			-1	V
Transition frequency	$f_T$	$V_{CE} = -2\text{ V}, I_C = -500\text{mA}$		120		MHZ
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$		48		pF

### CLASSIFICATION OF $h_{FE}$

Rank	O	Y
Range	100-200	160-320

## Typical Characteristics

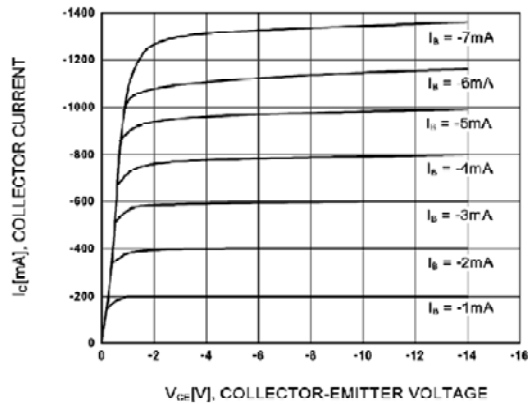


Figure 1. Static Characteristic

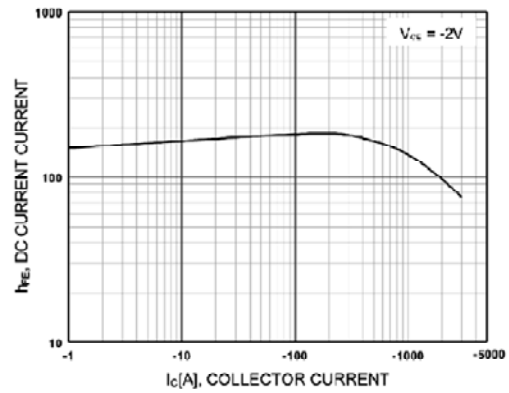


Figure 2. DC current Gain

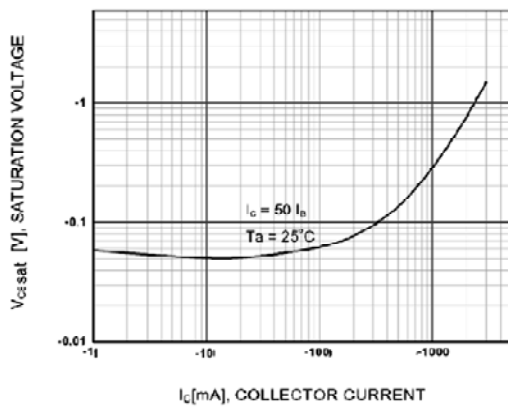


Figure 3. Collector-Emitter Saturation Voltage

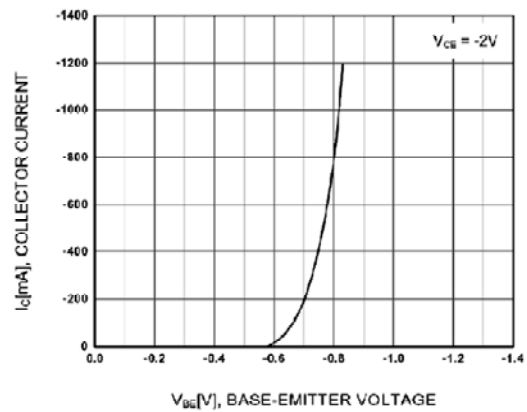


Figure 4. Base-Emitter On Voltage

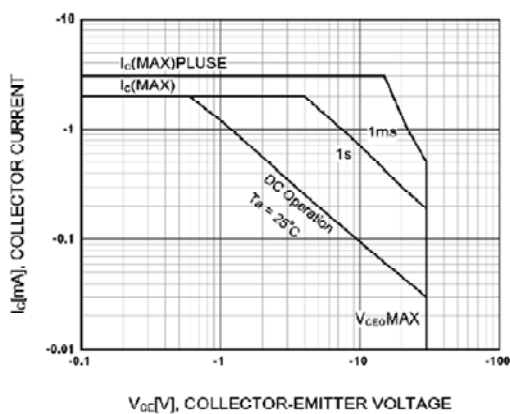


Figure 5. Safe Operating Area

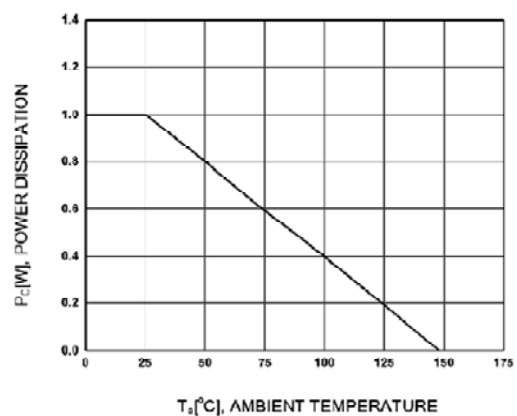


Figure 6. Power Derating

Package	Packing	Quantity	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92MOD	Bulk	500pcs/BP	5000pcs	245×170×100	50,000pcs	525×375×270
TO-92MOD	Tape	2000pcs/TP	2000pcs	333×245×43	20,000pcs	502×403×300