

FJP1943

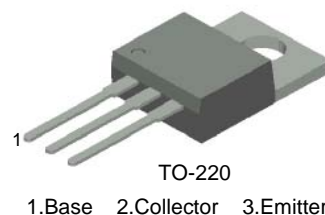
PNP Epitaxial Silicon Transistor

Applications

- High-Fidelity Audio Output Amplifier
- General Purpose Power Amplifier

Features

- High Current Capability: $I_C = -17A$.
- High Power Dissipation : 80watts.
- High Frequency : 30MHz.
- High Voltage : $V_{CEO} = -250V$
- Wide S.O.A for reliable operation.
- Excellent Gain Linearity for low THD.
- Complement to FJP5200
- Full thermal and electrical Spice models are available.
- Same transistor is also available in:
 - TO264 package, 2SA1943/FJL4215 : 150 watts
 - TO3P package, 2SA1962/FJA4213 : 130 watts
 - TO220F package, FJPF1943 : 50 watts



Absolute Maximum Ratings* $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
BV_{CBO}	Collector-Base Voltage	-250	V
BV_{CEO}	Collector-Emitter Voltage	-250	V
BV_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-17	A
I_B	Base Current	-1.5	A
P_D	Total Device Dissipation($T_C=25^\circ C$) Derate above $25^\circ C$	80 0.64	W W/ $^\circ C$
T_J, T_{STG}	Junction and Storage Temperature	- 50 ~ +150	$^\circ C$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics* $T_a=25^\circ C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
$R_{\theta JC}$	Thermal Resistance, Junction to Case	1.25	$^\circ C/W$

* Device mounted on minimum pad size

h_{FE} Classification

Classification	R	O
h_{FE1}	55 ~ 110	80 ~ 160

Electrical Characteristics* $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=-5\text{mA}, I_E=0$	-250			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=-10\text{mA}, R_{BE}=\infty$	-250			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=-5\text{mA}, I_C=0$	-5			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=-230\text{V}, I_E=0$			-5.0	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=-5\text{V}, I_C=0$			-5.0	μA
h_{FE1}	DC Current Gain	$V_{CE}=-5\text{V}, I_C=-1\text{A}$	55		160	
h_{FE2}	DC Current Gain	$V_{CE}=-5\text{V}, I_C=-7\text{A}$	35	60		
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=-8\text{A}, I_B=-0.8\text{A}$		-0.4	-3.0	V
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE}=-5\text{V}, I_C=-7\text{A}$		-1.0	-1.5	V
f_T	Current Gain Bandwidth Product	$V_{CE}=-5\text{V}, I_C=-1\text{A}$		30		MHz
C_{ob}	Output Capacitance	$V_{CB}=-10\text{V}, f=1\text{MHz}$		360		pF

* Pulse Test: Pulse Width=20 μs , Duty Cycles \leq 2%**Ordering Information**

Part Number	Marking	Package	Packing Method	Remarks
FJP1943RTU	J1943R	TO-220	TUBE	hFE1 R grade
FJP1943OTU	J1943O	TO-220	TUBE	hFE1 O grade

Typical Characteristics

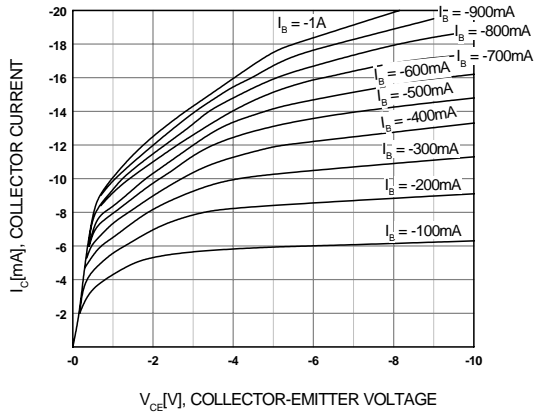


Figure 1. Static Characteristic

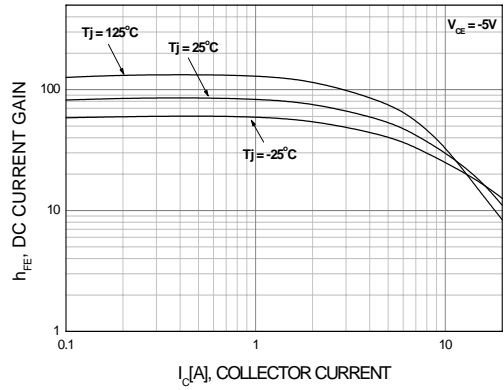


Figure 2. DC current Gain (R Grade)

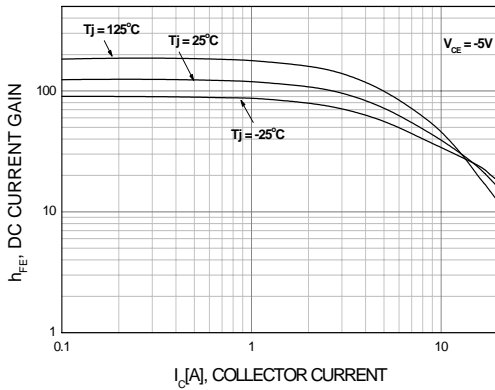


Figure 3. DC current Gain (O Grade)

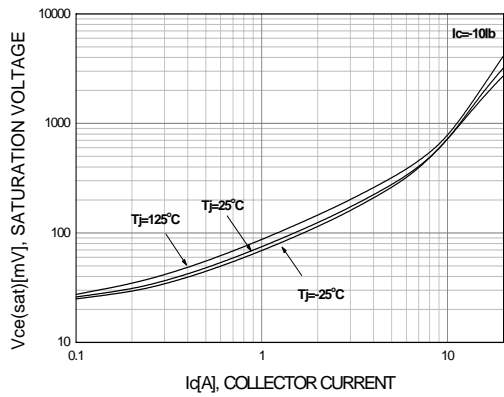


Figure 4. Collector-Emitter Saturation Voltage

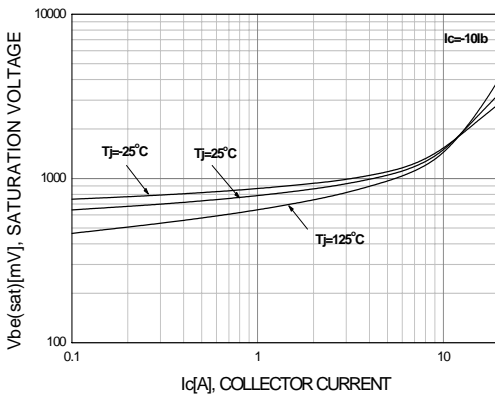


Figure 5. Base-Emitter Saturation Voltage

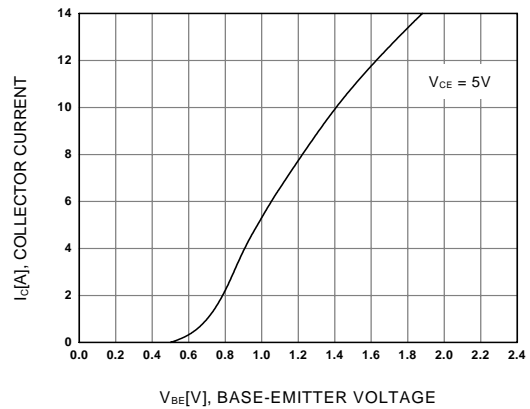


Figure 6. Base-Emitter On Voltage

Typical Characteristics

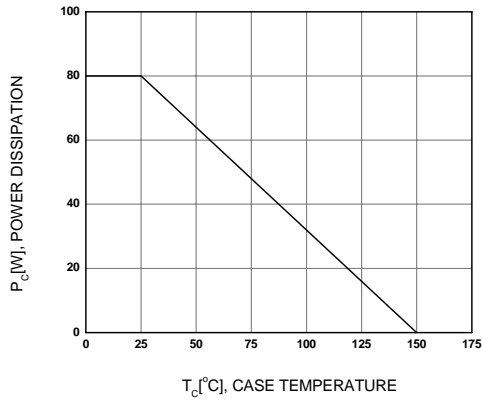


Figure 7. Power Derating

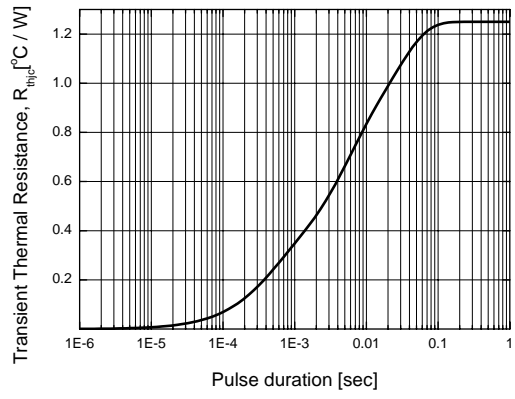
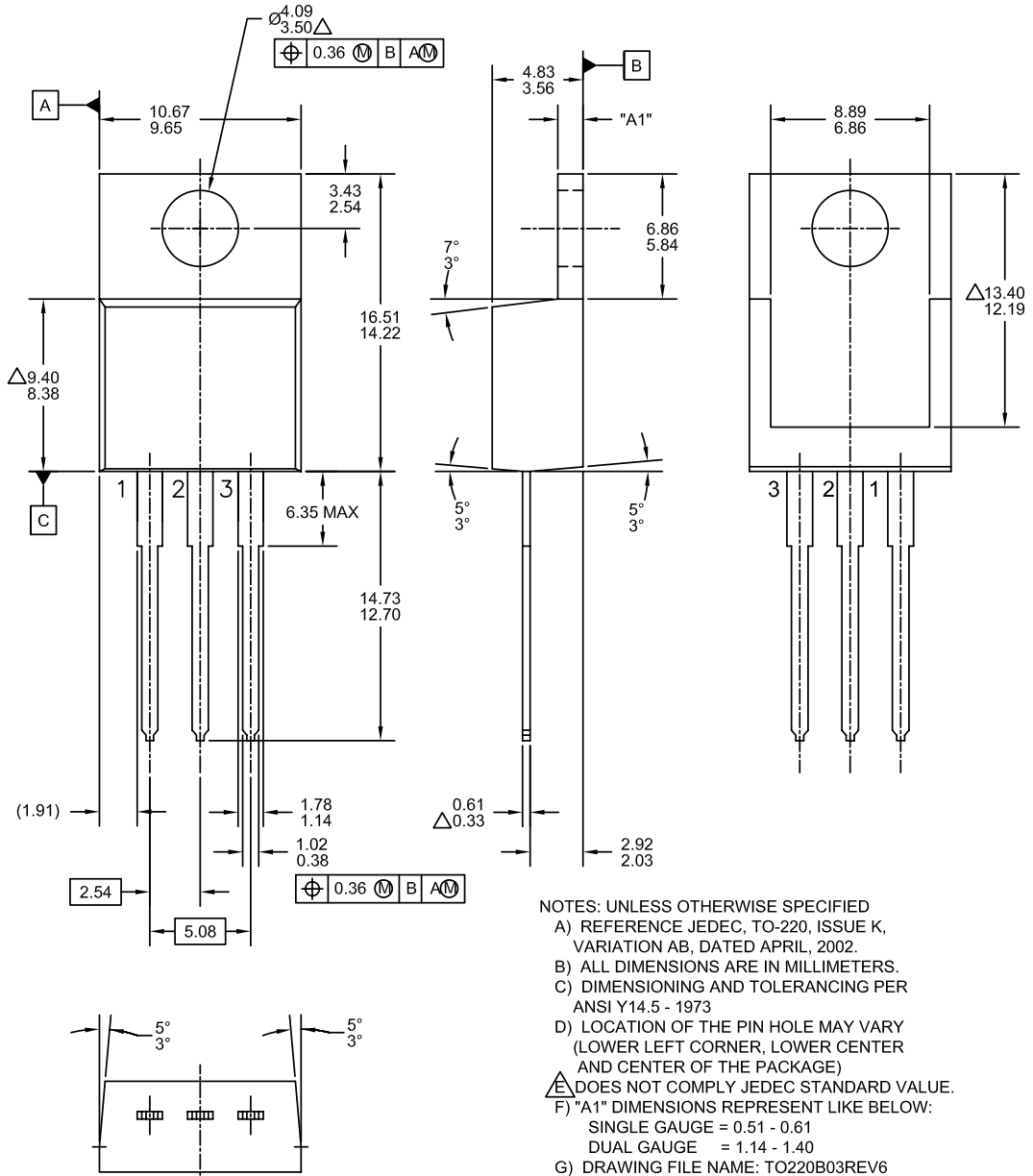


Figure 8. Thermal Resistance

Mechanical Dimensions

TO220



- NOTES: UNLESS OTHERWISE SPECIFIED
 A) REFERENCE JEDEC, TO-220, ISSUE K, VARIATION AB, DATED APRIL, 2002.
 B) ALL DIMENSIONS ARE IN MILLIMETERS.
 C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5 - 1973
 D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE)
 E) DOES NOT COMPLY JEDEC STANDARD VALUE.
 F) "A1" DIMENSIONS REPRESENT LIKE BELOW:
 SINGLE GAUGE = 0.51 - 0.61
 DUAL GAUGE = 1.14 - 1.40
 G) DRAWING FILE NAME: TO220B03REV6



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