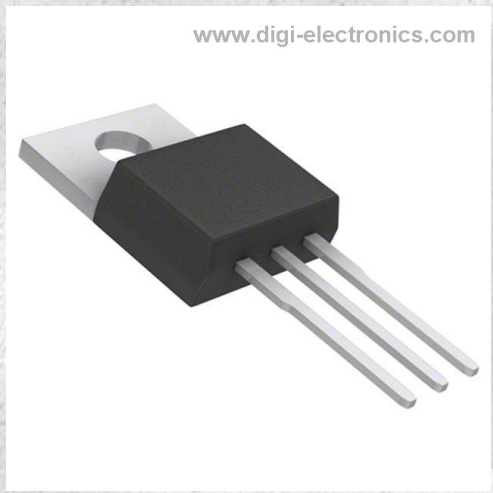
FJP5200OTU Datasheet



https://www.DiGi-Electronics.com

DiGi Electronics Part Number	FJP5200OTU-DG
Manufacturer	onsemi
Manufacturer Product Number	FJP5200OTU
Description	TRANS NPN 250V 17A TO220-3
Detailed Description	Bipolar (BJT) Transistor NPN 250 V 17 A 30MHz 80 W Through Hole TO-220-3

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
FJP5200OTU	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	17 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
250 V	3V @ 800mA, 8A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
5µA (ICBO)	80 @ 1A, 5V
Power - Max:	Frequency - Transition:
80 W	30MHz
Operating Temperature:	Mounting Type:
-50°C ~ 150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-220-3	TO-220-3
Base Product Number:	
FJP520	

Environmental & Export classification

Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.29.0075

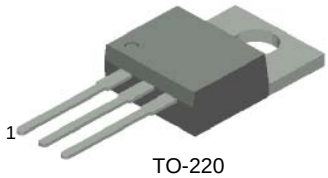
FAIRCHILD SEMICONDUCTOR®

January 2009

FJP5200
NPN Epitaxial Silicon Transistor

Applications

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



TO-220

1.Base 2.Collector 3.Emitter

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 FJP1943
- Thermal and electrical Spice models are available.
- Same transistor is also available in:
  -- TO264 package, 2SC5200/FJL4315 : 150 watts
  -- TO3P package, 2SC5242/FJA4313 : 130 watts
  -- TO220F package, FJPF5200 : 50 watts

Absolute Maximum Ratings* T_a = 25°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(DC)	17	A
I_B	Base Current	1.5	A
P_D	Total Device Dissipation(T_C=25°C) Derate above 25°C	80 0.64	W W/°C
T_J, T_{STG}	Junction and Storage Temperature	- 50 ~ +150	°C

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

Thermal Characteristics* T_a=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
$R_{\theta JC}$	Thermal Resistance, Junction to Case	1.25	°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°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C=5mA, I_E=0	250			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C=10mA, R_{BE}=∞	250			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E=5mA, I_C=0	5			V
I_{CBO}	Collector Cut-off Current	V_{CB}=230V, I_E=0			5.0	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=5V, I_C=0			5.0	μA
h_{FE1}	DC Current Gain	V_{CE}=5V, I_C=1A	55		160	
h_{FE2}	DC Current Gain	V_{CE}=5V, I_C=7A	35	60		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C=8A, I_B=0.8A		0.4	3.0	V
V_{BE}(on)	Base-Emitter On Voltage	V_{CE}=5V, I_C=7A		1.0	1.5	V
f_T	Current Gain Bandwidth Product	V_{CE}=5V, I_C=1A		30		MHz
C_{ob}	Output Capacitance	V_{CB}=10V, f=1MHz		200		pF

* Pulse Test: Pulse Widt=20μs, Duty Cycle≤2%

Ordering Information

Part Number	Marking	Package	Packing Method	Remarks
FJP5200RTU	J5200R	TO-220	TUBE	hFE1 R grade
FJP5200OTU	J5200O	TO-220	TUBE	hFE1 O grade

Typical Characteristics

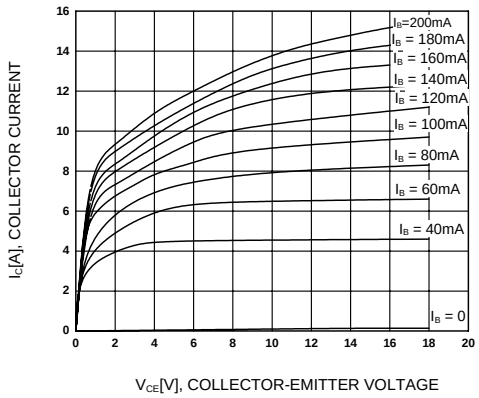


Figure 1. Static Characteristic

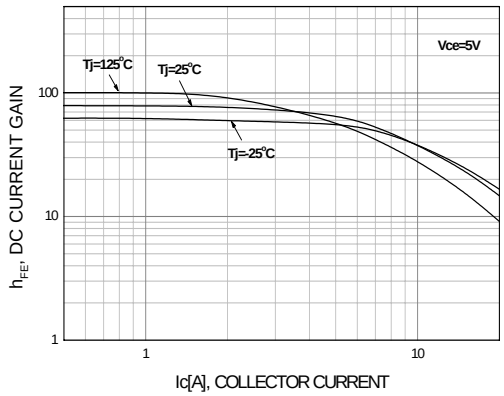


Figure 2. DC current Gain (R grade)

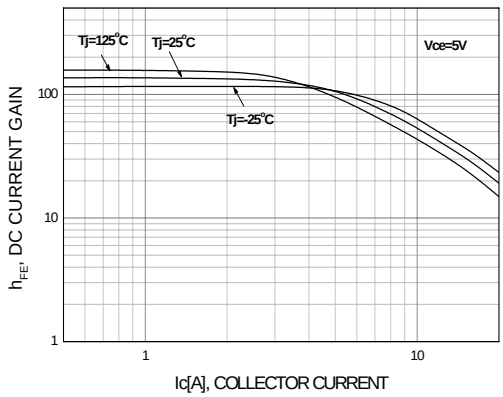


Figure 3. DC current Gain (O grade)

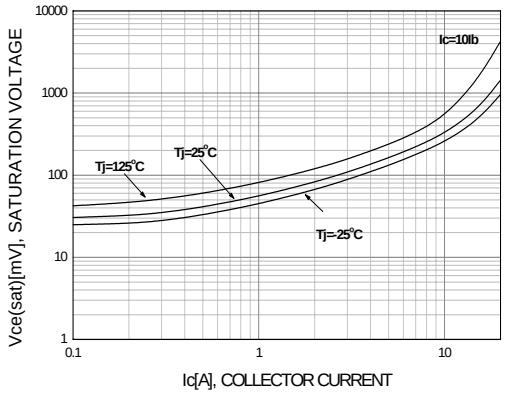


Figure 4. Collector-Emitter Saturation Voltage

Figure 5. Base-Emitter Saturation Voltage

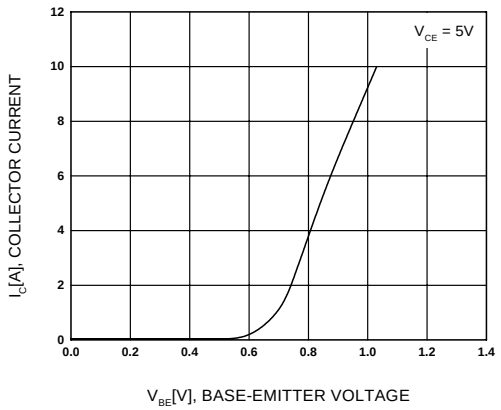


Figure 6. Base-Emitter On Voltage

Typical Characteristics

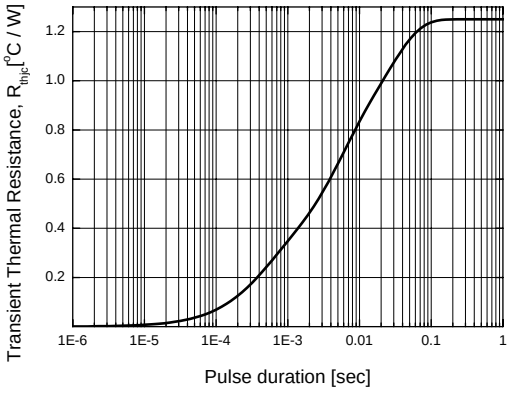


Figure 7. Thermal Resistance

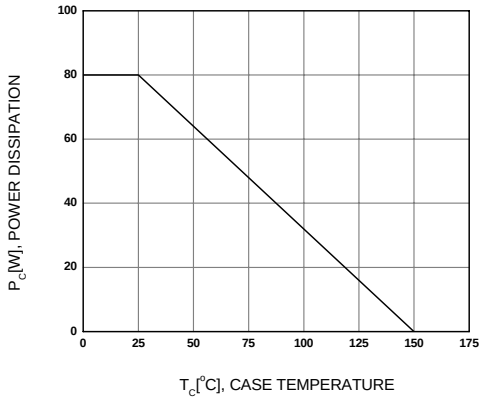
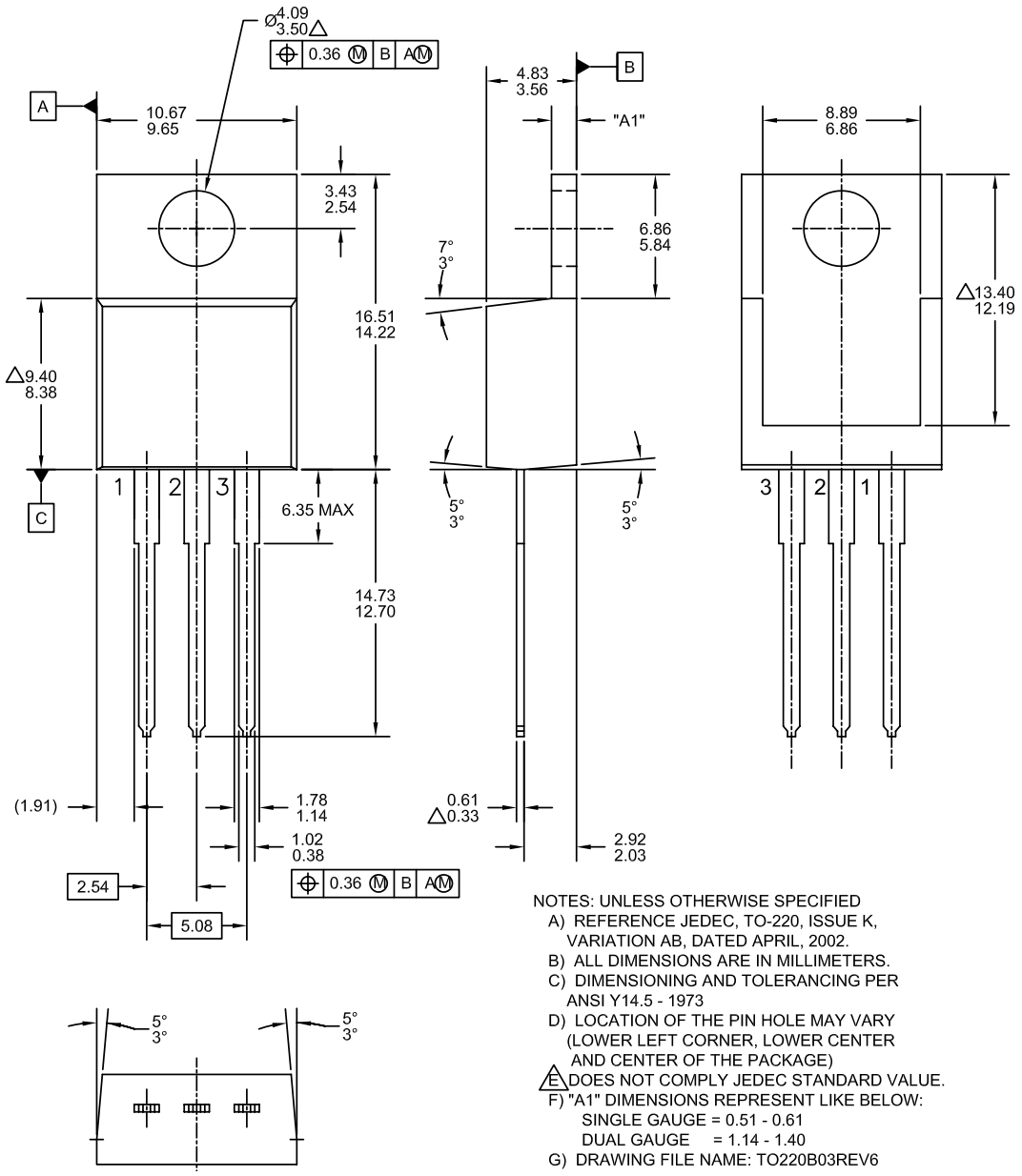


Figure 8. Power Derating

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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Preliminary	First Production	Datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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Obsolete	Not In Production	Datasheet contains specifications on a product that is discontinued by Fairchild Semiconductor. The datasheet is for reference information only.

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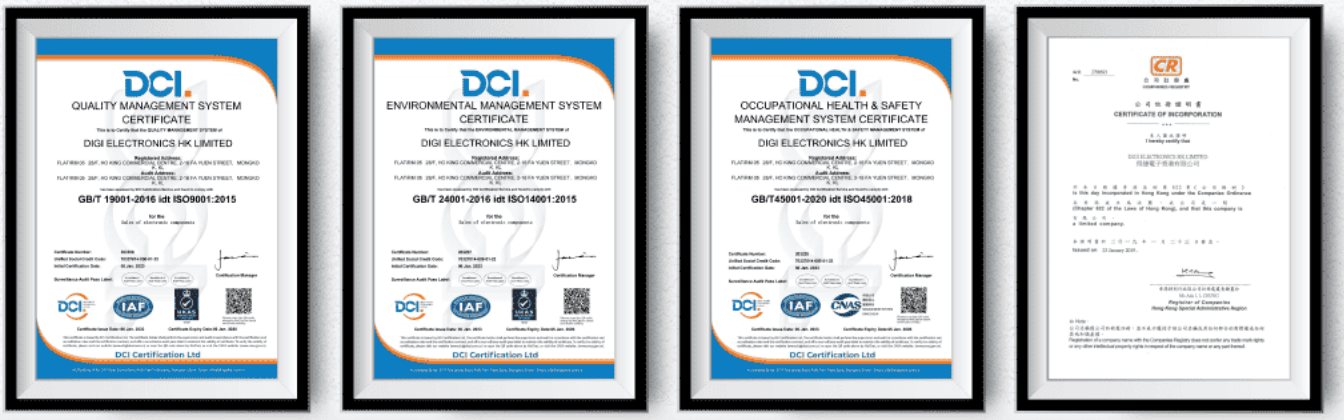

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