Onsemi

NPN Epitaxial Silicon Transistor

FJL4315, 2SC5200

Features

- High Current Capability: I_C = 17 A
- High Power Dissipation: 150 W
- High Frequency: 30 MHz
- High Voltage: V_{CEO} = 250 V
- Wide S.O.A. for Reliable Operation
- Excellent Gain Linearity for Low THD
- Complement to 2SA1943 / FJL4215
- Thermal and Electrical Spice Models are Available
- Same Transistor is also Available in:
 - TO3P Package, 2SC5242 / FJA4313 : 130 Watts
 - ◆ TO220 Package, FJP5200 : 80 Watts
 - ✤ TO220F Package, FJPF5200 : 50 Watts
- These Devices are Pb-Free and are RoHS Compliant

Applications

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

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Ratings	Units
Collector-Base Voltage	BV _{CBO}	250	V
Collector-Emitter Voltage	BV _{CEO}	250	V
Emitter-Base Voltage	BV _{EBO}	5	V
Collector Current (DC)	۱ _C	17	А
Base Current	Ι _Β	1.5	А
Total Device Dissipation (T _C = 25°C) Derate Above 25°C	P _D	150 1.04	W W/°C
Junction and Storage Temperature	T _J , T _{STG}	-50 ~ +150	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS (Note 1)

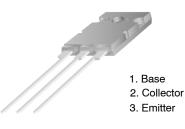
(T_A = 25°C unless otherwise noted)

Parameter	Symbol	Max.	Units
Thermal Resistance, Junction to Case	$R_{ extsf{ heta}JC}$	0.83	°C/W

1. Device mounted on minimum pad size.

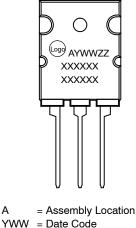
h_{FE} CLASSIFICATION

Classification	R	0
h _{FE1}	55 ~ 110	80 ~ 160



TO-264-3LD CASE 340CA

MARKING DIAGRAM



ΖZ = Assembly Lot xxxxx = Specific Device Code

А

(J43150 or C52000)

ORDERING INFORMATION

See detailed ordering and shipping information on page 2 of this data sheet.

FJL4315, 2SC5200

Symbol	Parameter	Conditions	Min.	Тур.	Max.	Unit
BV _{CBO}	Collector-Base Breakdown Voltage	I _C = 5 mA, I _E = 0	250			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10 mA, R_{BE} = ∞	250			V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E = 5 mA, I _C = 0	5			V
I _{CBO}	Collector Cut-Off Current	$V_{CB} = 230 \text{ V}, I_{E} = 0$			5.0	μΑ
I _{EBO}	Emitter Cut-Off Current	$V_{EB} = 5 V, I_{C} = 0$			5.0	μA
h _{FE1}	DC Current Gain	$V_{CE} = 5 \text{ V}, \text{ I}_{C} = 1 \text{ A}$	55		160	
h _{FE2}	DC Current Gain	$V_{CE} = 5 V, I_{C} = 7 A$	35	60		
V _{CE} (sat)	Collector-Emitter Saturation Voltage	I _C = 8 A, I _B = 0.8 A		0.4	3.0	V
V _{BE} (on)	Base-Emitter On Voltage	$V_{CE} = 5 \text{ V}, \text{ I}_{C} = 7 \text{ A}$		1.0	1.5	V
f _T	Current Gain Bandwidth Product	$V_{CE} = 5 V, I_{C} = 1 A$		30		MHz
C _{ob}	Output Capacitance	V _{CB} = 10 V, f = 1 MHz		200		pF

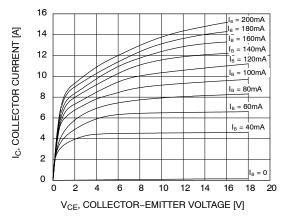
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
Pulse Test: Pulse Width = 20 μs, Duty Cycle ≤ 2%

ORDERING INFORMATION

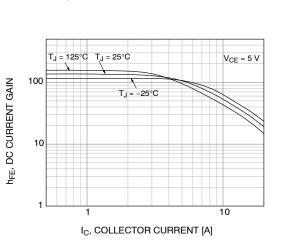
Part Number	Marking	Package	Shipping	Remarks
2SC5200OTU	C5200O	TO-264-3LD (Pb-Free)	375 Units / Tube	h _{FE1} O grade
FJL4315OTU	J4315O	TO-264-3LD (Pb-Free)	375 Units / Tube	h _{FE1} O grade

FJL4315, 2SC5200

TYPICAL CHARACTERISTICS









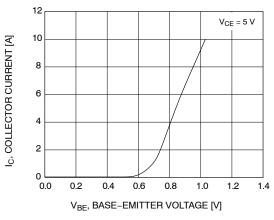


Figure 5. Base-Emitter On Voltage

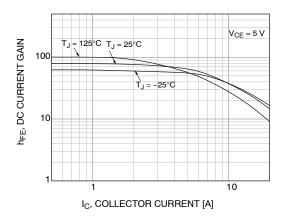
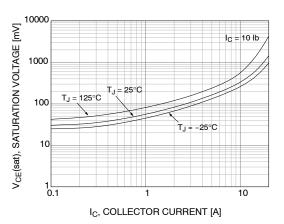
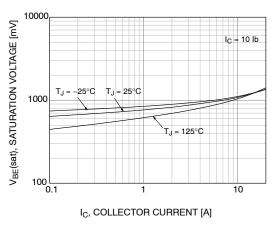


Figure 2. DC Current Gain (R Grade)









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TYPICAL CHARACTERISTICS

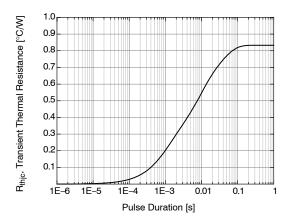


Figure 7. Power Derating

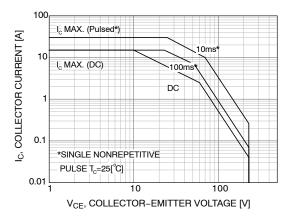


Figure 8. Safe Operating Area

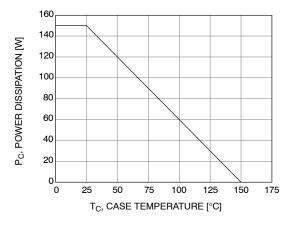
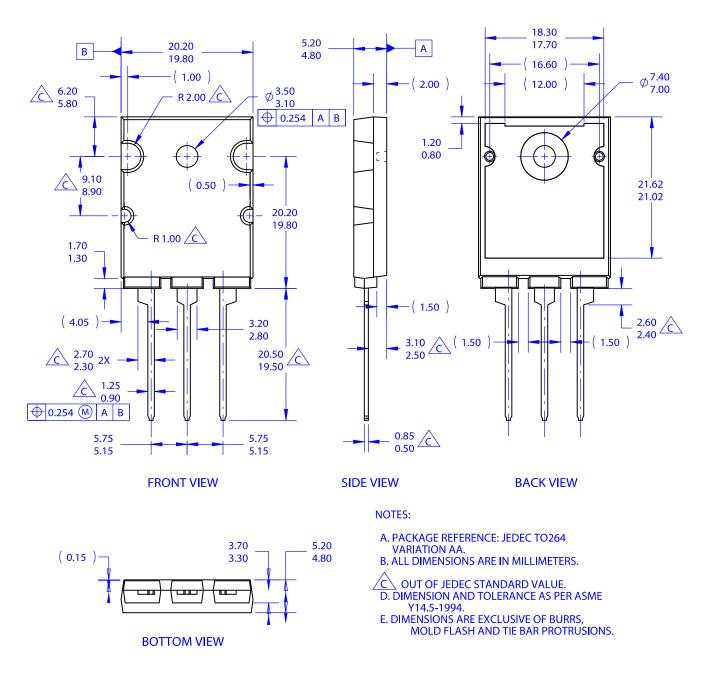


Figure 9. Power Derating

TO-264-3LD CASE 340CA ISSUE O

DATE 31 OCT 2016



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