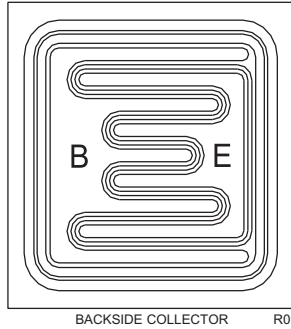


CP208-TIP31C

NPN - Power Transistor Die

3.0 Amp, 100 Volt

The CP208-TIP31C is a silicon NPN power transistor designed for power amplifier and high speed switching applications.



MECHANICAL SPECIFICATIONS:

Die Size	66 x 66 MILS
Die Thickness	12.5 MILS
Base Bonding Pad Size	12 x 24 MILS
Emitter Bonding Pad Size	11 x 14 MILS
Top Side Metalization	Al - 50,000Å
Back Side Metalization	Cr/Ni/Ag - 17,000Å
Scribe Alley Width	3.4 MILS
Wafer Diameter	4 INCHES
Gross Die Per Wafer	2,645

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$)

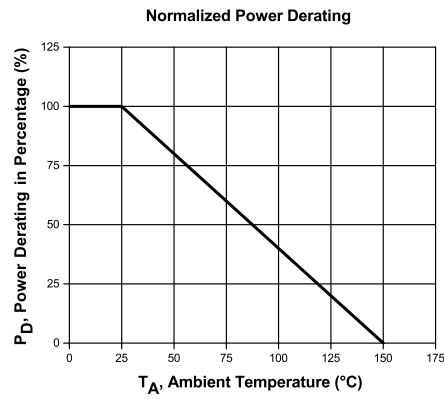
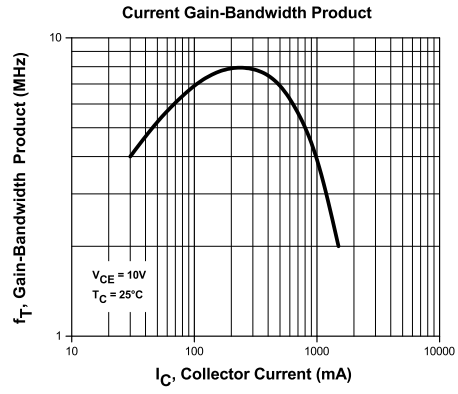
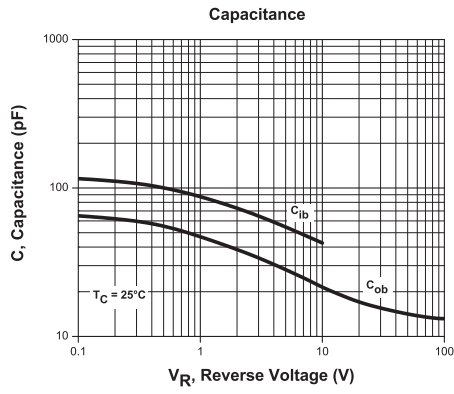
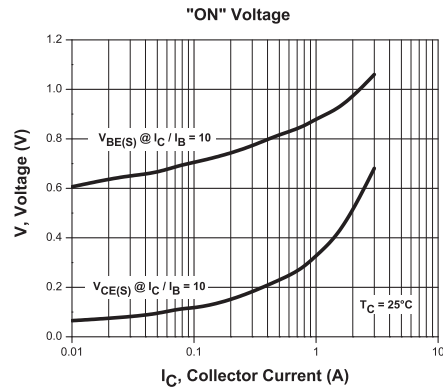
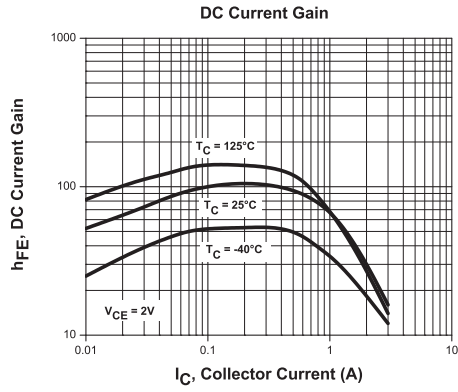
	SYMBOL		UNITS
Collector-Base Voltage	V_{CB0}	100	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	3.0	A
Peak Collector Current	I_{CM}	5.0	A
Continuous Base Current	I_B	1.0	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CES}	$V_{CE}=100\text{V}$			200	μA
I_{CEO}	$V_{CE}=60\text{V}$			300	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			1.0	mA
BV_{CEO}	$I_C=30\text{mA}$	100			V
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=375\text{mA}$			1.2	V
$V_{BE(ON)}$	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$			1.8	V
h_{FE}	$V_{CE}=4.0\text{V}, I_C=1.0\text{A}$	25			
h_{FE}	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}$	10		50	
h_{fe}	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1.0\text{kHz}$	20			
f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1.0\text{MHz}$	3.0			MHz
t_{on}	$I_C=1.0\text{A}, I_{B1}=I_{B2}=0.1\text{A}, R_L=30\Omega$		0.3		μs
t_{off}	$I_C=1.0\text{A}, I_{B1}=I_{B2}=0.1\text{A}, R_L=30\Omega$		1.0		μs

CP208-TIP31C

Typical Electrical Characteristics



Rethink the Possibilities™
Discretes do Matter™

Bare Die and Wafer Part Numbering & Packing Guide

Central™
Semiconductor Corp.

www.centrasemi.com

Bare Die Part Numbering System

- This specification defines the method for bare die packing and part number identification.
Example: Bipolar Power NPN Darlington Transistor Die, 2N6300, with optional up-screening to MIL-PRF-38534 Class H equivalent, Tray (Waffle) Package.

CP127 - H2N6300 - CM

DEVICE TYPE NUMBER
(10 ALPHA/NUMERIC MAX)

PREFIX FOR OPTIONAL UP-SCREENING*

H = MIL-PRF-38534 Class H equivalent
 K = MIL-PRF-38534 Class K equivalent
 HC = MIL-PRF-19500 JANHC equivalent
 KC = MIL-PRF-19500 JANKC equivalent
 CEN = Customer-specific up-screening

*Non up-screened devices will not include this prefix.

CENTRAL PROCESS NUMBER
(5 - 7 ALPHA/NUMERIC)

CPxxx = Transistor
 CPZxx = Zener Diode
 CPDxx = Diode
 CPQxx = TRIAC
 CPSxx = SCR
 CPCxx = Silicon Carbide

PACKING METHOD

CM = Singulated bare die, 100% electrically tested, 100% visually inspected, reject die removed, tray (waffle) package

CT = Singulated bare die, 100% electrically tested, reject die removed, tray (waffle) package

WN = Wafer form, 100% electrically tested, reject die inked

WR = Wafer form, 100% electrically tested, sawn and mounted on adhesive membrane and plastic ring, reject die inked

WS* = Wafer form, 100% electrically tested, sawn and mounted on adhesive membrane and metal frame, reject die inked

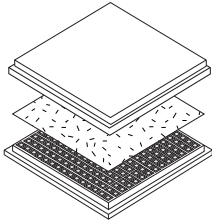
***WS is by special order only.**
 Please contact Central sales representative at 631-435-1110.

Visit the Central website for a complete listing of all available WR and WS specifications:

www.centrasemi.com/bare-die



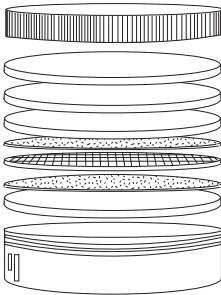
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

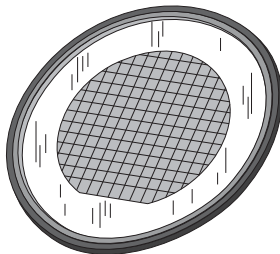
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

CM: Singulated die in tray (waffle) pack 100% visually inspected as per MIL-STD-750, (method 2072 transistors, method 2073 diodes).
(example: CP211-PART NUMBER-CM)



UNSAWN WAFER

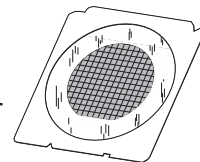
WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



SAWN WAFER ON PLASTIC RING

WR: Full wafer, sawn and mounted on plastic ring,
100% tested with reject die inked.
(example: CP211-PART NUMBER-WR)

Please note: Sawn Wafer on Metal Frame (WS) is possible as a special order. Please contact your Central Sales Representative at 631-435-1110.



Visit the Central website for a complete listing of specifications:
www.centalsemi.com/bdspecs

R2 (3-April 2017)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

CONTACT US

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Main Fax: (631) 435-1824
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www.centalsemi.com

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REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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