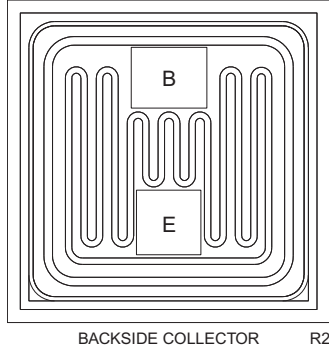


CP310-2N6517

NPN - High Voltage Transistor Die

The CP310-2N6517 is a silicon NPN transistor designed for high voltage driver and amplifier applications.



MECHANICAL SPECIFICATIONS:

Die Size	26 x 26 MILS
Die Thickness	9.0 MILS
Base Bonding Pad Size	6.1 x 4.9 MILS
Emitter Bonding Pad Size	5.2 x 5.2 MILS
Top Side Metalization	Al – 30,000Å
Back Side Metalization	Au – 9,000Å
Scribe Alley Width	2.2 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	25,214

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

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	350	V
Collector-Emitter Voltage	V_{CEO}	350	V
Emitter-Base Voltage	V_{EBO}	6.0	V
Continuous Collector Current	I_C	500	mA
Continuous Base Current	I_B	250	mA
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	MAX	UNITS
I_{CBO}	$V_{CB}=250\text{V}$		50	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		50	nA
BV_{CBO}	$I_C=100\mu\text{A}$	350		V
BV_{CEO}	$I_C=1.0\text{mA}$	350		V
BV_{EBO}	$I_E=10\mu\text{A}$	6.0		V
$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.30	V
$V_{CE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.35	V
$V_{CE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.50	V
$V_{CE(SAT)}$	$I_C=50\text{mA}, I_B=5.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1.0\text{mA}$		0.75	V
$V_{BE(SAT)}$	$I_C=20\text{mA}, I_B=2.0\text{mA}$		0.85	V
$V_{BE(SAT)}$	$I_C=30\text{mA}, I_B=3.0\text{mA}$		0.90	V
$V_{BE(ON)}$	$V_{CE}=10\text{V}, I_C=100\text{mA}$		2.0	V
h_{FE}	$V_{CE}=10\text{V}, I_C=1.0\text{mA}$	20		
h_{FE}	$V_{CE}=10\text{V}, I_C=10\text{mA}$	30		
h_{FE}	$V_{CE}=10\text{V}, I_C=30\text{mA}$	30	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=50\text{mA}$	20	200	
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	15		
f_T	$V_{CE}=20\text{V}, I_C=10\text{mA}, f=20\text{MHz}$	40	200	MHz

R0 (9-May 2016)

CP310-2N6517

Typical Electrical Characteristics

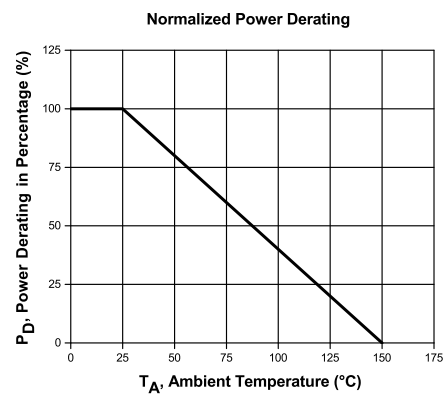
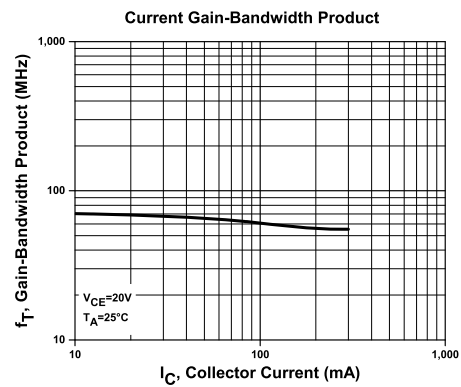
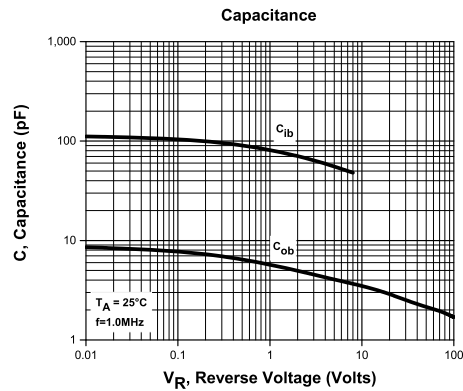
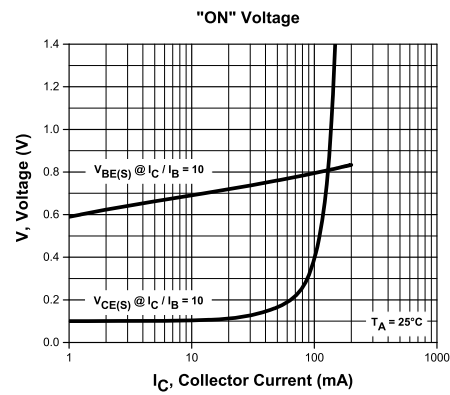
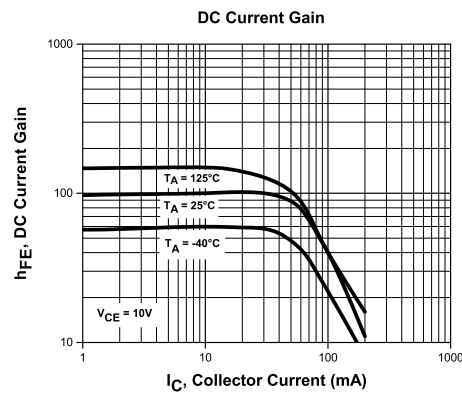


ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

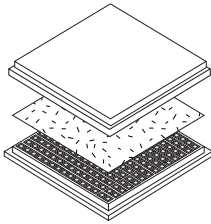
SYMBOL	TEST CONDITIONS	MAX	UNITS
C_{cb}	$V_{CB}=20\text{V}$, $I_E=0$, $f=1.0\text{MHz}$	6.0	pF
t_{on}	$V_{CC}=100\text{V}$, $V_{BE}=2.0\text{V}$, $I_C=50\text{mA}$, $I_{B1}=10\text{mA}$	200	ns
t_{off}	$V_{CC}=100\text{V}$, $I_C=50\text{mA}$, $I_{B1}=I_{B2}=10\text{mA}$	3.5	ns

CP310-2N6517

Typical Electrical Characteristics



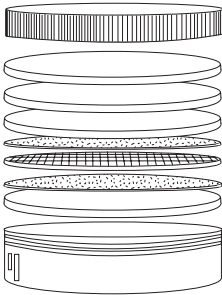
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

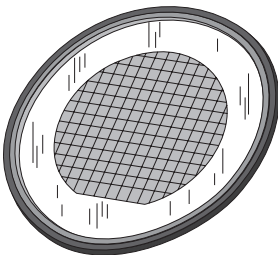
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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

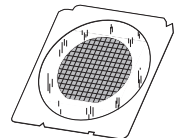
WN: Full wafer, unsawn, 100% tested with reject die inked.
(example: CP211-PART NUMBER-WN)



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.centrasemi.com/bdspecs

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

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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