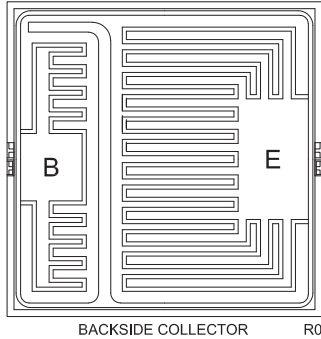


# CP127-2N6385

## NPN - Darlington Transistor Die

### 10 Amp, 80 Volt

The CP127-2N6385 die is a silicon NPN Darlington power transistor designed for high gain amplifier applications.



#### MECHANICAL SPECIFICATIONS:

Die Size	110 x 110 MILS
Die Thickness	10.6 MILS
Base Bonding Pad Size	21 x 24 MILS
Emitter Bonding Pad Size	24 x 42 MILS
Top Side Metalization	Al - 20,000Å
Back Side Metalization	Ni/Ag - 2,000Å/10,000Å
Scribe Alley Width	4.3 MILS
Wafer Diameter	4 INCHES
Gross Die Per Wafer	700

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

	SYMBOL		UNITS
Collector-Base Voltage	$V_{CBO}$	80	V
Collector-Emitter Voltage	$V_{CEX}$	80	V
Collector-Emitter Voltage	$V_{CEO}$	80	V
Emitter-Base Voltage	$V_{EBO}$	5.0	V
Continuous Collector Current	$I_C$	10	A
Peak Collector Current	$I_{CM}$	15	A
Continuous Base Current	$I_B$	250	mA
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +200	$^\circ\text{C}$

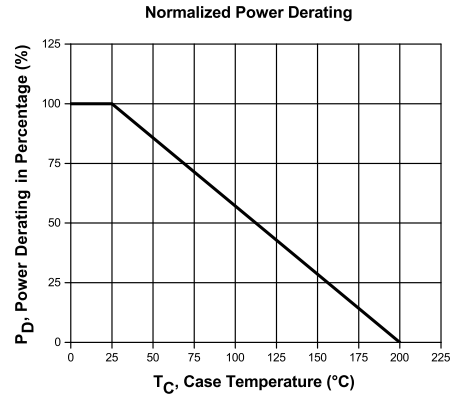
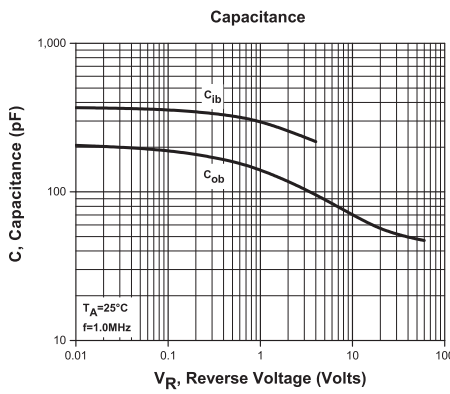
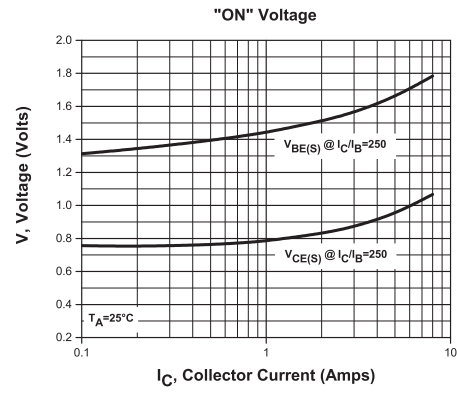
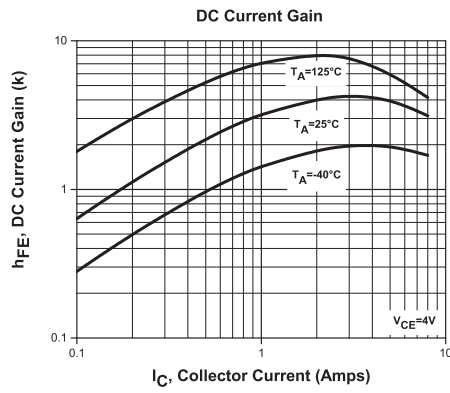
#### ELECTRICAL CHARACTERISTICS: ( $T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CEV}$	$V_{CE}=80\text{V}, V_{BE}=1.5\text{V}$		300	$\mu\text{A}$
$I_{CEV}$	$V_{CE}=80\text{V}, V_{BE(off)}=1.5\text{V}, T_C=150^\circ\text{C}$		3.0	mA
$I_{CEO}$	$V_{CE}=80\text{V}$		1.0	mA
$I_{EBO}$	$V_{EB}=5.0\text{V}$		10	mA
$BV_{CEO}$	$I_C=200\text{mA}$	80		V
$BV_{CER}$	$I_C=200\text{mA}, R_{BE}=100\Omega$	80		V
$BV_{CEV}$	$I_C=200\text{mA}, V_{BE(off)}=1.5\text{V}$	80		V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=10\text{mA}$		2.0	V
$V_{CE(SAT)}$	$I_C=10\text{A}, I_B=100\text{mA}$		3.0	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=5.0\text{A}$		2.8	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=10\text{A}$		4.5	V
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=5.0\text{A}$	1.0K	20K	
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=10\text{A}$	100		
$V_F$	$I_F=10\text{A}$		4.0	V
$h_{fe}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}, f=1.0\text{MHz}$	1.0K		
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		200	pF

R0 (28-January 2016)

# CP127-2N6385

## Typical Electrical Characteristics



## BARE DIE PACKING OPTIONS

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### 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)

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### UNSAWN WAFER

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

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### 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](http://www.centrasemi.com/bdspecs)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2<sup>nd</sup> 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

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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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### CONTACT US

#### Corporate Headquarters & Customer Support Team

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**Worldwide Distributors:**  
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