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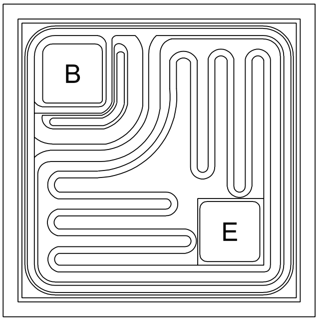
CP327V-D40C7

NPN - Darlington Transistor Die
0.5 Amp, 50 Volt

The CP327V-D40C7 die is a silicon NPN Darlington power transistor designed for high gain amplifier applications.



BACKSIDE COLLECTOR R0

MECHANICAL SPECIFICATIONS:

Die Size	22.8 x 22.8 MILS
Die Thickness	7.1 MILS
Base Bonding Pad Size	4.7 x 4.7 MILS
Emitter Bonding Pad Size	4.7 x 4.7 MILS
Top Side Metalization	Al-Si – 17,000Å
Back Side Metalization	Au – 9,000Å
Scribe Alley Width	1.8 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	33,085

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Emitter Voltage	V_{CES}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	13	V
Continuous Collector Current	I_C	0.5	A
Peak Collector Current	I_{CM}	1.0	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS: (T_A=25°C unless otherwise noted)

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{CES}	V_{CE}=50V			500	nA
I_{EBO}	V_{EB}=13V			100	nA
BV_{CEO}	I_C=10mA	50			V
$V_{CE(SAT)}$	I_C=500mA, I_B=0.5mA			1.5	V
$V_{BE(SAT)}$	I_C=500mA, I_B=0.5mA			2.0	V
h_{FE}	V_{CE}=5.0V, I_C=200mA	10K		70K	
f_T	V_{CE}=5.0V, I_C=20mA		80		MHz
C_{cb}	V_{CB}=10V, f=1.0MHz			10	pF
t_{on}	I_C=1.0A, I_{B1}=1.0mA		120		ns
t_{off}	I_C=1.0A, I_{B1}= I_{B2}=1.0mA		1200		ns

R0 (09-May 2022)

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Typical Electrical Characteristics

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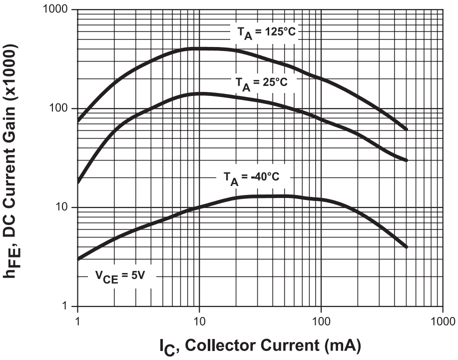
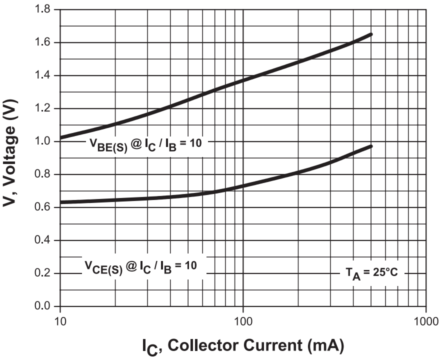
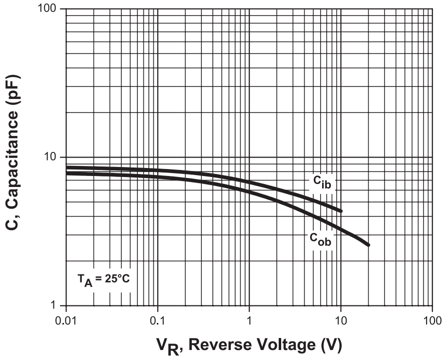
DC Current Gain



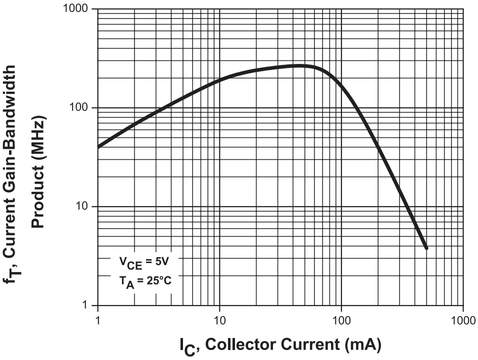
"ON" Voltage



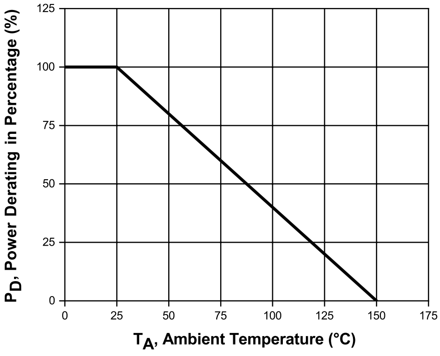
Capacitance



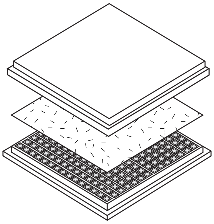
Current Gain-Bandwidth Product



Normalized Power Derating



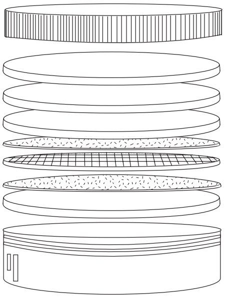
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

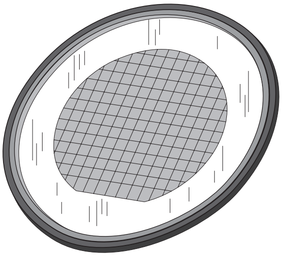
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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)



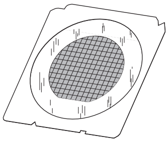
UNSAWN WAFER

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.centralsemi.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

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).

CONTACT US

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