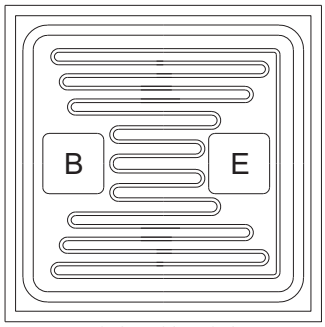
www.centralsemi.com

CP782X-CMPT7820

PNP - Low $V_{CE(SAT)}$ Transistor Die

1.0 Amp, 60 Volt

The CP782X-CMPT7820 die is a low $V_{CE(SAT)}$ silicon PNP transistor designed for high efficiency applications.



BACKSIDE COLLECTOR R0

MECHANICAL SPECIFICATIONS:

Die Size	26 x 26 MILS
Die Thickness	5.9 MILS
Base Bonding Pad Size	5.5 x 5.5 MILS
Emitter Bonding Pad Size	5.5 x 5.5 MILS
Top Side Metalization	Al-Si – 30,000Å
Back Side Metalization	Au – 9,000Å
Scribe Alley Width	1.97 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	25,536

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS**
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Continuous Collector Current	I_C	1.0	A
Peak Collector Current	I_{CM}	2.0	A
Continuous Base Current	I_B	300	mA
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C

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

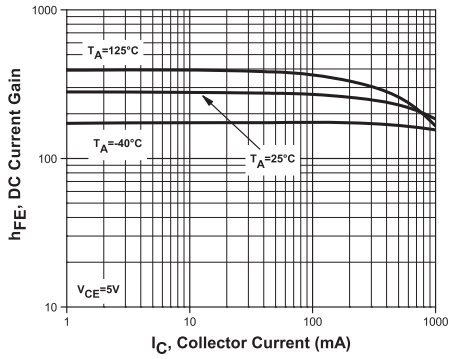
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=60V		100	nA
I_{EBO}	V_{EB}=5.0V		100	nA
BV_{CBO}	I_C=100μA	80		V
BV_{CEO}	I_C=10mA	60		V
BV_{EBO}	I_E=100μA	5.0		V
$V_{CE(SAT)}$	I_C=100mA, I_B=1.0mA		0.175	V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.18	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA		0.34	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=50mA		1.1	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=1.0A		0.9	V
h_{FE}	V_{CE}=5.0V, I_C=1.0mA	200		
h_{FE}	V_{CE}=5.0V, I_C=500mA	150		
h_{FE}	V_{CE}=5.0V, I_C=1.0A	100		
f_T	V_{CE}=10V, I_C=50mA	150		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		15	pF

R0 (29-August 2018)

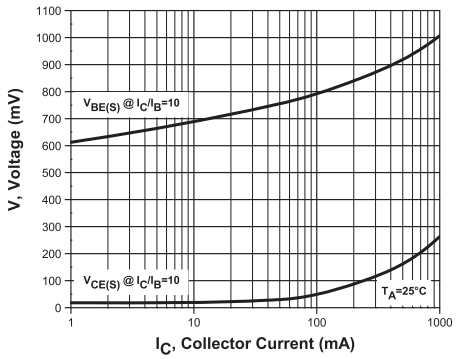
CP782X-CMPT7820
Typical Electrical Characteristics

www.centralsemi.com

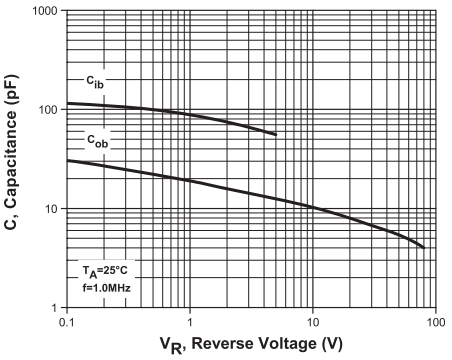
DC Current Gain



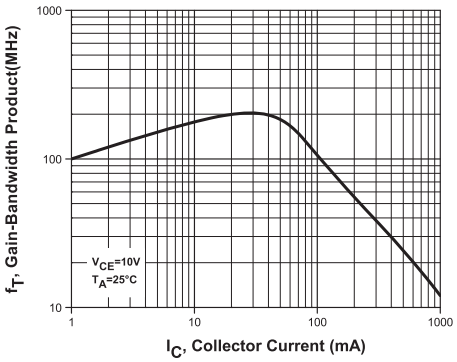
"ON" Voltage



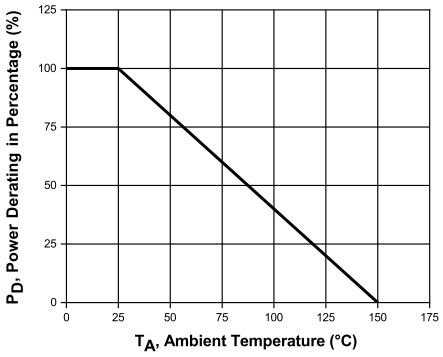
Capacitance



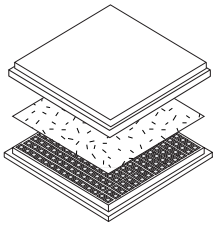
Current Gain-Bandwidth Product



Normalized Power Derating



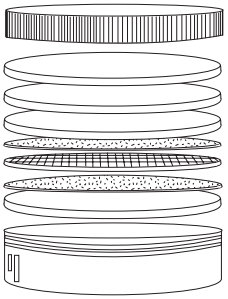
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

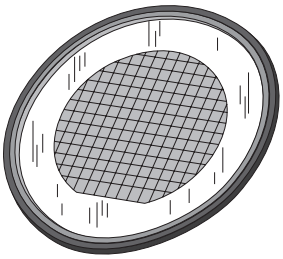
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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)



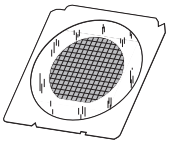
UNSAWN WAFER

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

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centralsemi.com

Worldwide Field Representatives:
www.centralsemi.com/wwreps

Worldwide Distributors:
www.centralsemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centralsemi.com/terms