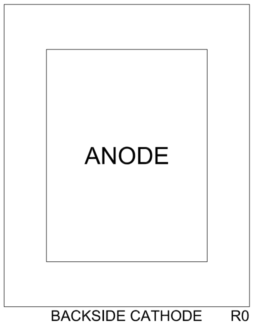
CPC12-SIC02-1200

Silicon Carbide Schottky Rectifier Die
2.0 Amp, 1200 Volt

The CPC12-SIC02-1200 Silicon Carbide Schottky die is optimized for high temperature applications. Parametrically, the device is energy efficient as a result of low total conduction losses and minimal changes to switching characteristics as a function of temperature.

FEATURES:
- Positive temperature coefficient
- Low reverse leakage current
- Temperature independent switching characteristics
- High operating junction temperature
- Metalization suitable for standard die attach technologies
- Top metalization optimized for wire bonding

APPLICATIONS:
- Power inverters
- Industrial motor drives
- Switch-mode power supplies
- Power factor correction
- Over-current protection



MECHANICAL SPECIFICATIONS:

Die Size	40.9 x 50.4 MILS
Die Thickness	5.9 MILS
Anode Bonding Pad Size	26.8 x 35.4 MILS
Top Side Metalization	Al – 50,000Å
Back Side Metalization	Ti/Ni/Ag – 1,000Å/2,000Å/10,000Å
Scribe Alley Width	3.15 MILS
Wafer Diameter	6 INCHES
Gross Die Per Wafer	10,954

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL		UNITS
Peak Repetitive Reverse Voltage	V_{RRM}	1200	V
Peak Reverse Surge Voltage	V_{RSM}	1200	V
DC Blocking Voltage	V_R	1200	V
Continuous Forward Current	I_F	2.0	A
Peak Forward Surge Current, tp=10ms	I_{FSM}	24	A
Operating and Storage Junction Temperature*	T_J, T_{stg}	-55 to +175	°C

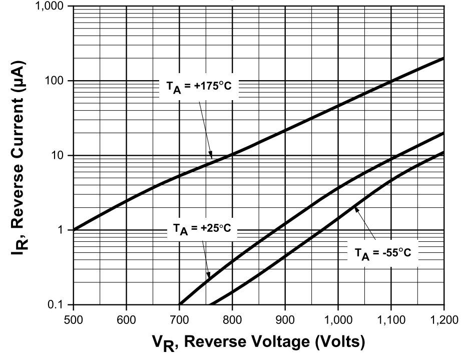
*Maximum junction temperature was determined via a TO-247 package type. Theoretically, SiC die can operate at junction temperatures greater than 600°C.

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

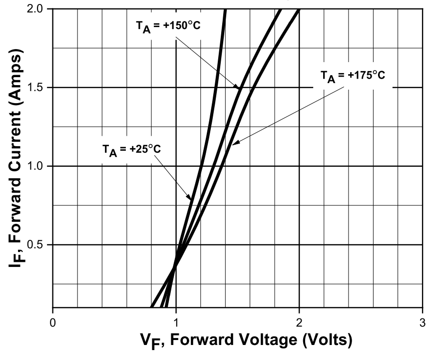
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
I_R	V_R=1200V		20	128	μA
I_R	V_R=1200V, T_J=175°C		200		μA
BV_R	I_R=128μA	1200			V
V_F	I_F=2.0A		1.4	1.6	V
V_F	I_F=2.0A, T_J=150°C		1.85	2.3	V
V_F	I_F=2.0A, T_J=175°C		2.0	2.6	V
Q_C	V_R=800V		11		nC
C_J	V_R=1.0V, f=1.0MHz		102		pF
C_J	V_R=400V, f=1.0MHz		10		pF
C_J	V_R=800V, f=1.0MHz		8.0		pF

R2 (22-July 2020)

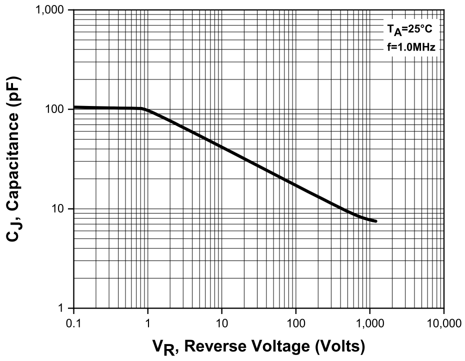
Leakage Current



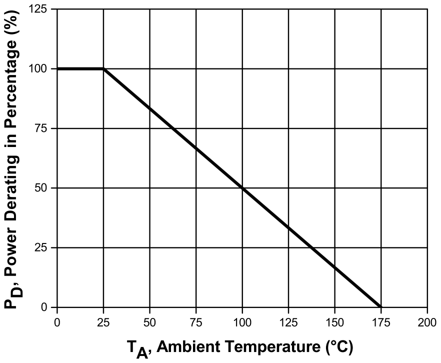
Forward Voltage



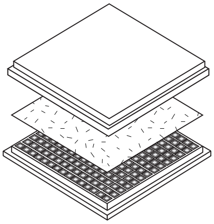
Capacitance



Normalized Power Derating



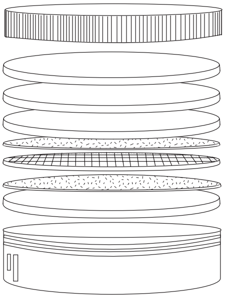
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

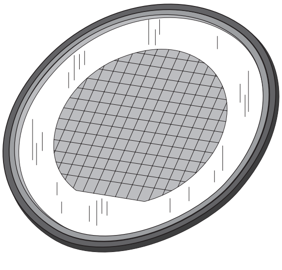
CT: Singulated die in tray (waffle) pack.
(example: CP211-<u>PART NUMBER</u>-CT)

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



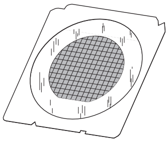
UNSAWN WAFER

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



SAWN WAFER ON PLASTIC RING

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