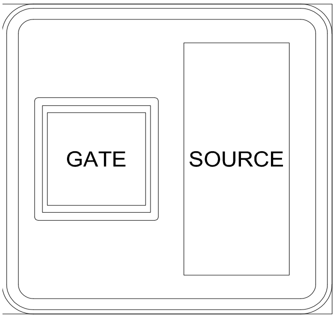
Central™
Semiconductor Corp.
www.centralsemi.com

CP324X-2N7002A

N-Channel MOSFET Die
Enhancement-Mode

The CP324X-2N7002A is a silicon N-Channel MOSFET designed for high speed pulsed amplifier and driver applications.



MECHANICAL SPECIFICATIONS:

Die Size	21.65 x 21.65 MILS
Die Thickness	5.9 MILS
Gate Bonding Pad Size	5.5 x 5.5 MILS
Source Bonding Pad Size	5.9 x 13.8MILS
Top Side Metalization	Al – 30,000Å
Back Side Metalization	Au – 12,000Å
Scribe Alley Width	1.97 MILS
Wafer Diameter	5 INCHES
Gross Die Per Wafer	34,700

MAXIMUM RATINGS: (T_A=25°C)	**SYMBOL**		**UNITS** R0
Drain-Source Voltage	V_{DS}	60	V
Drain-Gate Voltage	V_{DG}	60	V
Gate-Source Voltage	V_{GS}	40	V
Continuous Drain Current	I_D	280	mA
Continuous Source Current (Body Diode)	I_S	280	mA
Maximum Pulsed Drain Current	I_{DM}	1.5	A
Maximum Pulsed Source Current	I_{SM}	1.5	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	°C

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

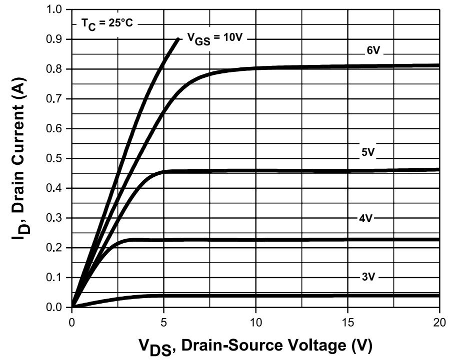
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{GSSF}, I_{GSSR}	V_{GS}=20V, V_{DS}=0		100	nA
I_{DSS}	V_{DS}=60V, V_{GS}=0		1.0	μA
$I_{D(ON)}$	V_{GS}=10V, V_{DS}=10V	500		mA
BV_{DSS}	V_{GS}=0, I_D=10μA	60		V
$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	1.0	2.5	V
$V_{DS(ON)}$	V_{GS}=10V, I_D=500mA		1.0	V
$V_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA		0.15	V
V_{SD}	V_{GS}=0, I_S=11.5mA		1.2	V
$r_{DS(ON)}$	V_{GS}=10V, I_D=500mA		2.0	Ω
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=50mA		3.0	Ω
g_{FS}	V_{DS} =10V, I_D=200mA	80		mS
C_{rss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		5.0	pF
C_{iss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		50	pF
C_{oss}	V_{DS}=25V, V_{GS}=0, f=1.0MHz		25	pF

R1 (29-November 2022)

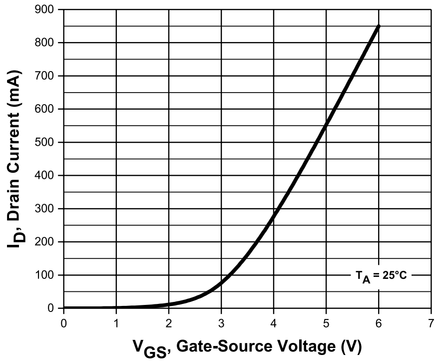
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	TYP	MAX	UNITS
$Q_{g(tot)}$	V_{DS}=30V, V_{GS}=4.5V, I_D=100mA	0.592		nC
Q_{gs}	V_{DS}=30V, V_{GS}=4.5V, I_D=100mA	0.196		nC
Q_{gd}	V_{DS}=30V, V_{GS}=4.5V, I_D=100mA	0.148		nC
t_{on}	V_{DD}=30V, V_{GS}=10V, I_D=200mA, R_G=25Ω, R_L=150Ω		20	ns
t_{off}			20	ns

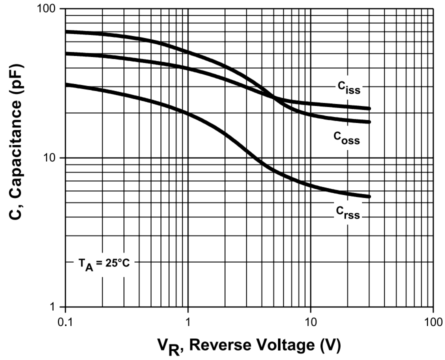
Output Characteristics



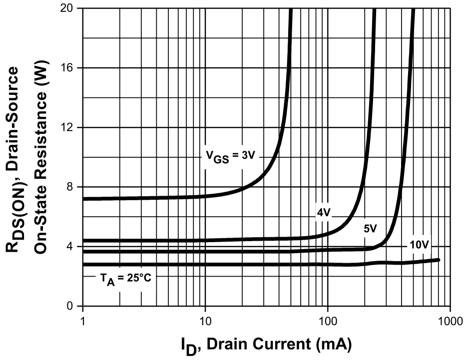
Transfer Characteristics



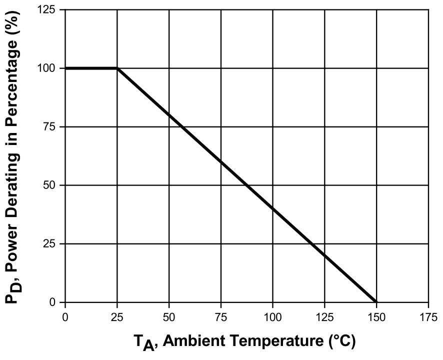
Capacitance



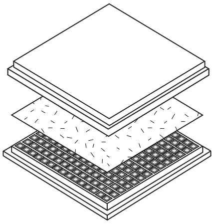
Drain Source On Resistance



Normalized Power Derating



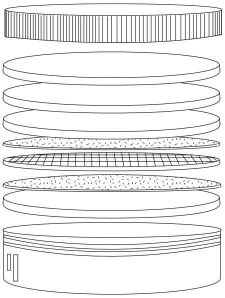
BARE DIE PACKING OPTIONS



BARE DIE IN TRAY (WAFFLE) PACK

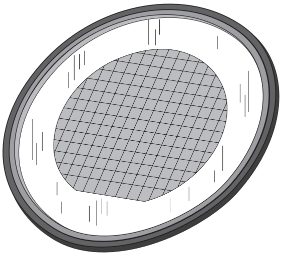
CT: Singulated die in tray (waffle) pack.
(example: CP211-PART NUMBER-CT)

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)



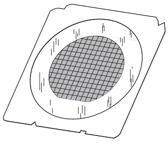
UNSAWN WAFER

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