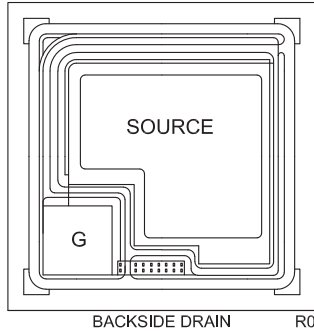


The CP328X-7002AE is a silicon N-Channel MOSFET designed for high speed pulsed amplifier and driver applications.



**MECHANICAL SPECIFICATIONS:**

Die Size	15.7 x 15.7 MILS
Die Thickness	5.5 MILS
Gate Bonding Pad Size	3.9 x 3.9 MILS
Source Bonding Pad Size	9.1 x 8.1 MILS
Top Side Metalization	Al-Si – 35,000Å
Back Side Metalization	Au – 9,000Å
Scribe Alley Width	1.97 MILS
Wafer Diameter	6 INCHES
Gross Die Per Wafer	95,200

**MAXIMUM RATINGS:** ( $T_A=25^\circ\text{C}$ )

	SYMBOL		UNITS
Drain-Source Voltage	$V_{DS}$	60	V
Drain-Gate Voltage	$V_{DG}$	60	V
Gate-Source Voltage	$V_{GS}$	20	V
Continuous Drain Current	$I_D$	300	mA
Maximum Pulsed Drain Current	$I_{DM}$	800	mA
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 to +150	$^\circ\text{C}$

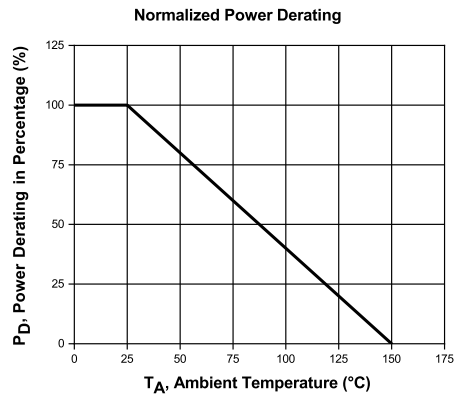
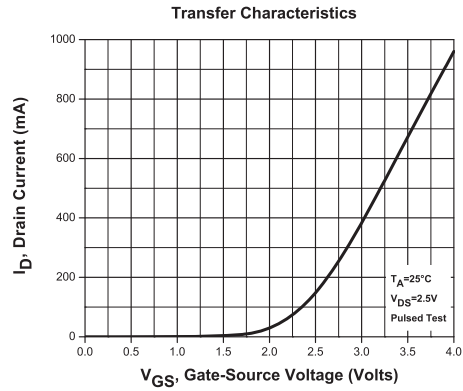
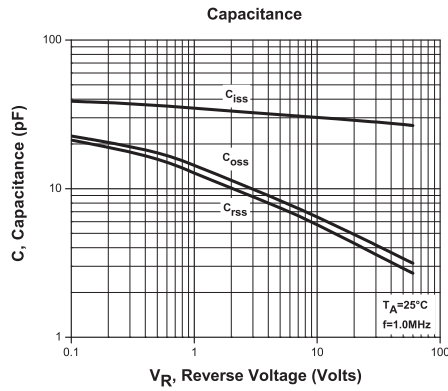
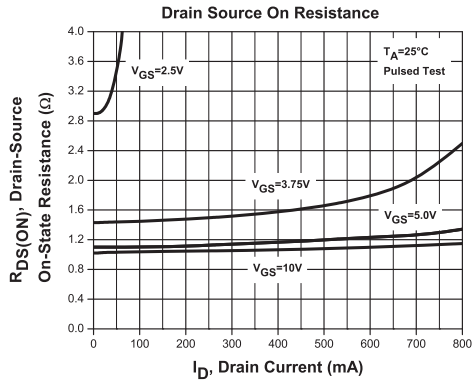
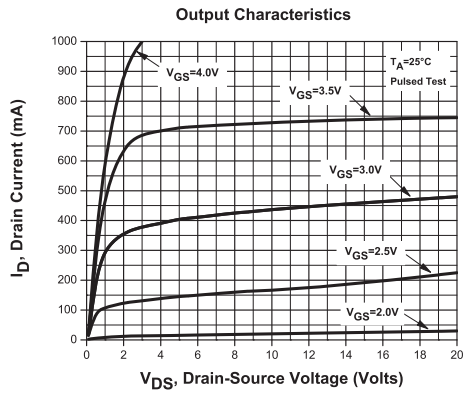
**ELECTRICAL CHARACTERISTICS:** ( $T_A=25^\circ\text{C}$  unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=20\text{V}, V_{DS}=0$			10	$\mu\text{A}$
$I_{DSS}$	$V_{DS}=60\text{V}, V_{GS}=0$			100	nA
$BV_{DSS}$	$V_{GS}=0, I_D=10\mu\text{A}$	60	70		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.2	1.5	2.0	V
$V_{SD}$	$V_{GS}=0, I_S=115\text{mA}, t_p=380\mu\text{s}$	0.5		1.1	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}, t_p=380\mu\text{s}$		1.0	1.4	$\Omega$
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=100\text{mA}, t_p=380\mu\text{s}$		1.1	1.8	$\Omega$
$r_{DS(ON)}$	$V_{GS}=2.5\text{V}, I_D=10\text{mA}, t_p=380\mu\text{s}$		3.0	6.0	$\Omega$
gFS	$V_{DS}=10\text{V}, I_D=200\text{mA}$	220			mS
$C_{rss}$	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$			5.0	pF
$C_{iss}$	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$			50	pF
$C_{oss}$	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$			25	pF
$Q_g(\text{tot})$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$		0.5		nC
$Q_{gs}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$		0.2		nC
$Q_{gd}$	$V_{DS}=10\text{V}, V_{GS}=4.5\text{V}, I_D=200\text{mA}$		0.14		nC
$t_{on}$	$[V_{DD}=30\text{V}, V_{GS}=10\text{V}, I_D=200\text{mA}]$			20	ns
$t_{off}$	$[R_G=25\Omega, R_L=150\Omega]$			45	ns

RO (23-August 2018)

# CP328X-7002AE

## 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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