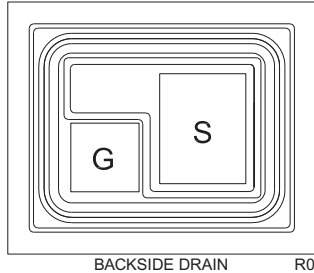


The CP764R-8002A is a silicon P-Channel MOSFET designed for high speed pulsed amplifier and driver applications.



**MECHANICAL SPECIFICATIONS:**

Die Size	21.7 x 17.7 MILS
Die Thickness	3.9 MILS
Gate Bonding Pad Size	4.7 x 4.7 MILS
Source Bonding Pad Size	6.1 x 7.9 MILS
Top Side Metalization	Al-Si – 35,000Å
Back Side Metalization	Au – 12,000Å
Scribe Alley Width	2.76 MILS
Wafer Diameter	6 INCHES
Gross Die Per Wafer	62,600

MAXIMUM RATINGS: ( $T_A=25^{\circ}\text{C}$ )	SYMBOL		UNITS
Drain-Source Voltage	$V_{DS}$	50	V
Drain-Gate Voltage	$V_{DG}$	50	V
Gate-Source Voltage	$V_{GS}$	20	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	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS: ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)				
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{GSSF}, I_{GSSR}$	$V_{GS}=20\text{V}, V_{DS}=0$		100	nA
$I_{DSS}$	$V_{DS}=50\text{V}, V_{GS}=0$		1.0	$\mu\text{A}$
$I_{D(ON)}$	$V_{GS}=10\text{V}, V_{DS}=10\text{V}$	500		mA
$BV_{DSS}$	$V_{GS}=0, I_D=10\mu\text{A}$	50		V
$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu\text{A}$	1.0	2.5	V
$V_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		1.5	V
$V_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		0.15	V
$V_{SD}$	$V_{GS}=0, I_S=115\text{mA}$		1.3	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=500\text{mA}$		2.5	$\Omega$
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=50\text{mA}$		3.0	$\Omega$
$g_{FS}$	$V_{DS}=10\text{V}, I_D=200\text{mA}$	200		mS
$C_{rss}$	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		7.0	pF
$C_{iss}$	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		70	pF
$C_{oss}$	$V_{DS}=25\text{V}, V_{GS}=0, f=1.0\text{MHz}$		15	pF

# CP764R-8002A

## P-Channel MOSFET Die

### Enhancement-Mode

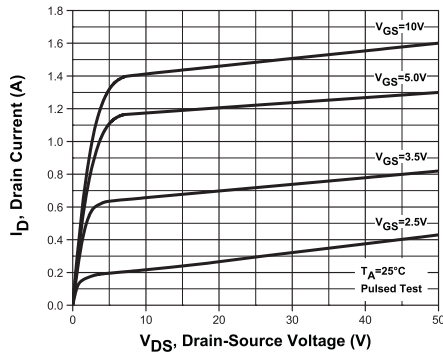
**ELECTRICAL CHARACTERISTICS** - Continued: ( $T_A=25^\circ\text{C}$  unless otherwise noted)

<b>SYMBOL</b>	<b>TEST CONDITIONS</b>	<b>TYP</b>	<b>MAX</b>	<b>UNITS</b>
$Q_{g(\text{tot})}$	$V_{DS}=25\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$	0.72		nC
$Q_{gs}$	$V_{DS}=25\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$	0.25		nC
$Q_{gd}$	$V_{DS}=25\text{V}, V_{GS}=4.5\text{V}, I_D=100\text{mA}$	0.16		nC
$t_{\text{on}}, t_{\text{off}}$	$V_{DD}=30\text{V}, V_{GS}=10\text{V}, I_D=200\text{mA},$ $R_G=25\Omega, R_L=150\Omega$		20	ns

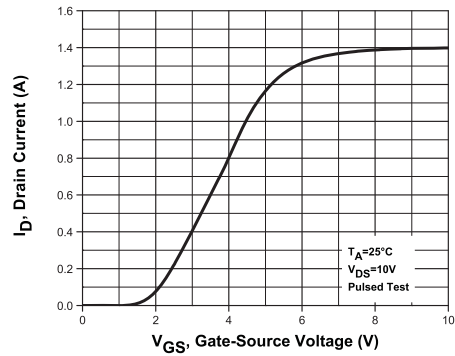
# CP764R-8002A

## Typical Electrical Characteristics

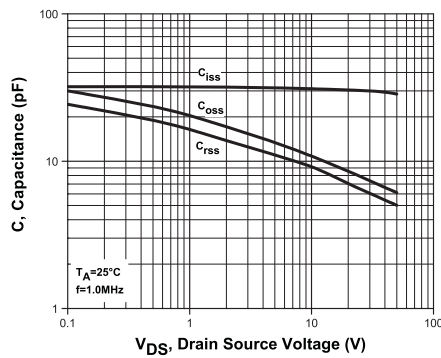
Output Characteristics



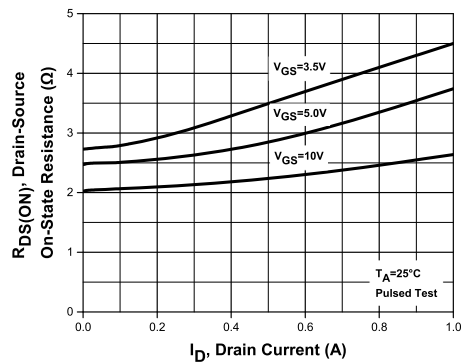
Transfer Characteristics



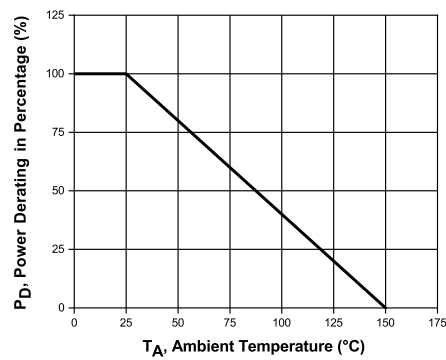
Capacitance



Drain Source On Resistance

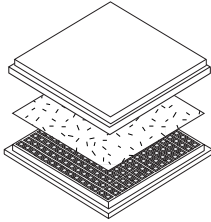


Normalized Power Derating



## BARE DIE PACKING OPTIONS

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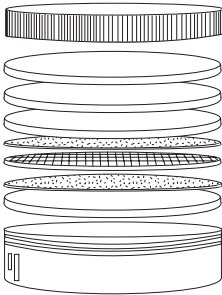


### BARE DIE IN TRAY (WAFFLE) PACK

**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)

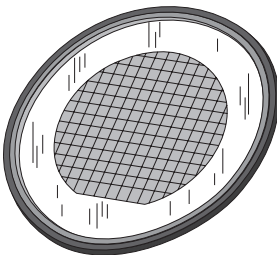
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### UNSAWN WAFER

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

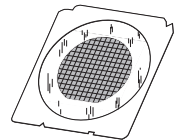
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### SAWN WAFER ON PLASTIC RING

**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

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.centrasemi.com](http://www.centrasemi.com)

**Worldwide Field Representatives:**  
[www.centrasemi.com/wwreps](http://www.centrasemi.com/wwreps)

**Worldwide Distributors:**  
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