

CCSPG1060N

**N-CH GALLIUM NITRIDE
FIELD EFFECT TRANSISTOR
60 AMP, 100 VOLT**

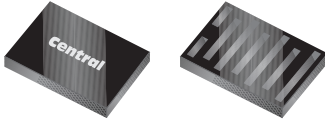


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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CCSPG1060N is an N-channel gallium nitride field effect transistor designed for use in EV charging stations, microinverters, and highly efficient fast-charging power blocks.

MARKING: CSP 1060 D/C



Top View

Bottom View

CSP3.5X2 CASE

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

Drain-Source Voltage

Gate-Source Voltage

Continuous Drain Current ($T_C=25^\circ\text{C}$)

Power Dissipation ($T_C=25^\circ\text{C}$)

Power Dissipation ($T_A=25^\circ\text{C}$)

Operating and Storage Junction Temperature

SYMBOL

V_{DS}

100

UNITS

V

V_{GS}

-4.0 to +6.0

V

I_D

60

A

P_D

300

W

P_D

1.1

W

T_J, T_{stg}

-40 to +150

$^\circ\text{C}$

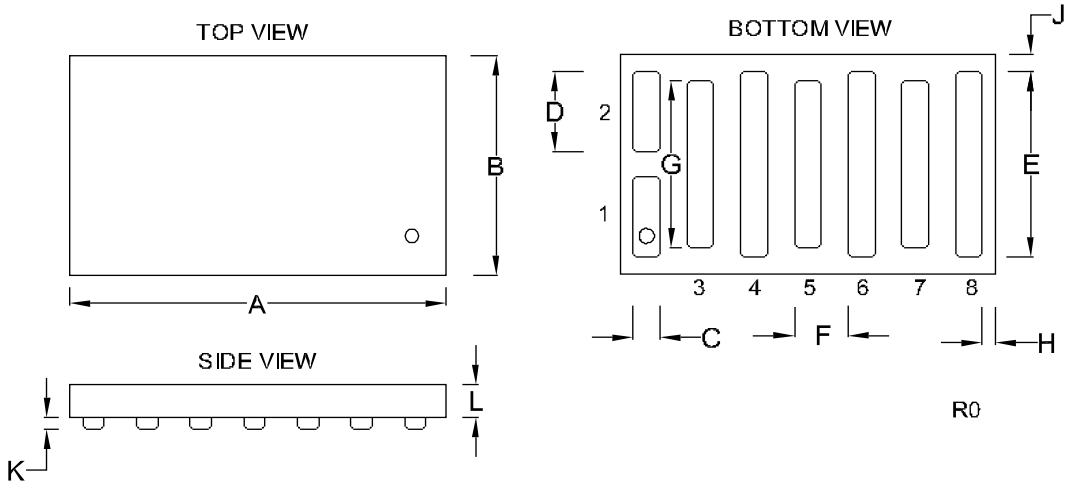
ELECTRICAL CHARACTERISTICS: ($T_J=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}	$V_{GS}=5.0\text{V}, V_{DS}=0$		20	5000	μA
I_{GSSR}	$V_{GS}=4.0\text{V}, V_{DS}=0$		60	400	μA
I_{DSS}	$V_{DS}=80\text{V}, V_{GS}=0$			350	μA
BV_{DSS}	$V_{GS}=0, I_D=400\mu\text{A}$	100			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=9.0\text{mA}$	0.8	1.1	2.5	V
$r_{DS(ON)}$	$V_{GS}=5.0\text{V}, I_D=25\text{A}$		2.4	5.5	$\text{m}\Omega$
V_{FSD}	$V_{GS}=0, I_S=0.5\text{A}$		2.3		V
C_{iss}	$V_{DS}=50\text{V}, V_{GS}=0, f=1\text{MHz}$		1000		pF
C_{oss}	$V_{DS}=50\text{V}, V_{GS}=0, f=1\text{MHz}$		460		pF
C_{rss}	$V_{DS}=50\text{V}, V_{GS}=0, f=1\text{MHz}$		8.2		pF
$C_{oss(er)}$	$V_{DS}=0$ to 50V, $V_{GS}=0$		700		pF
$C_{oss(tr)}$	$V_{DS}=0$ to 50V, $V_{GS}=0$		1020		pF
Q_g	$V_{DS}=50\text{V}, V_{GS}=0$ to 5V, $I_D=25\text{A}$		9.2		nC
Q_{gd}	$V_{DS}=50\text{V}, V_{GS}=0$ to 5V, $I_D=25\text{A}$		1.9		nC
Q_{gs}	$V_{DS}=50\text{V}, V_{GS}=0$ to 5V, $I_D=25\text{A}$		1.7		nC

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CSP3.5X2 CASE - MECHANICAL OUTLINE



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.137	0.139	3.47	3.53
B	0.083	0.085	2.10	2.16
C	0.009	0.011	0.23	0.27
D	0.030	0.031	0.75	0.80
E	0.070	0.072	1.78	1.82
F	0.020		0.50	
G	0.063	0.065	1.60	1.65
H	0.005		0.125	
J	0.006		0.165	
K	0.004	0.006	0.10	0.14
L	0.011	0.013	0.29	0.33

CSP3.5X2 (REV: R0)

LEAD CODE:

- 1) Gate
- 2) Source
- 3) Drain
- 4) Source
- 5) Drain
- 6) Source
- 7) Drain
- 8) Source

MARKING:
CSP 1060 D/C

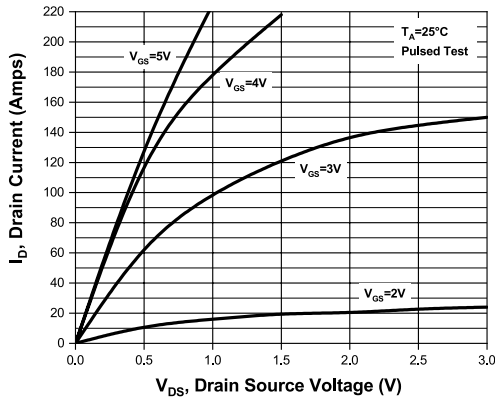
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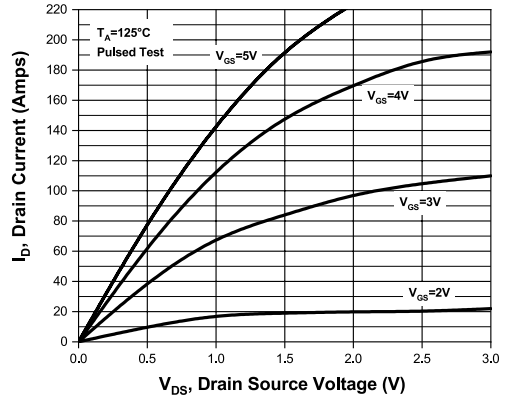


TYPICAL ELECTRICAL CHARACTERISTICS

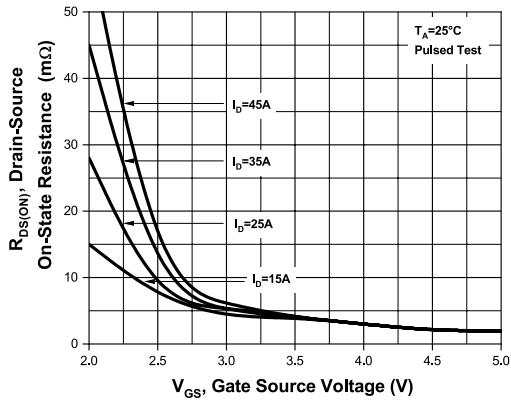
Typical Output Characteristics



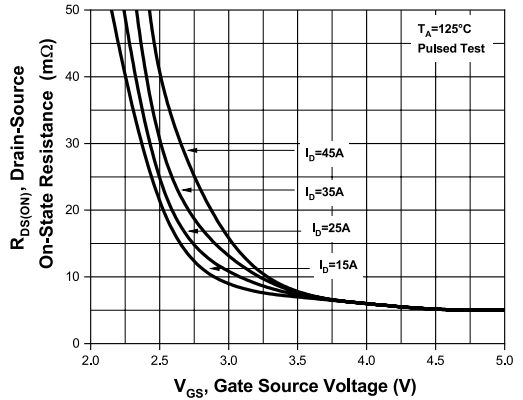
Typical Output Characteristics



Drain Source On Resistance



Drain Source On Resistance



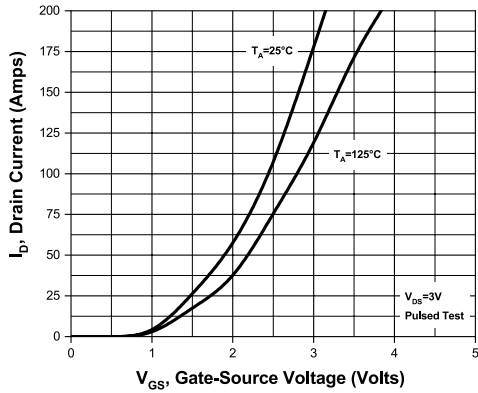
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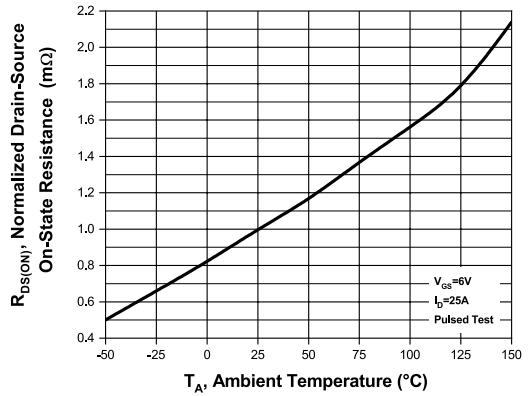


TYPICAL ELECTRICAL CHARACTERISTICS

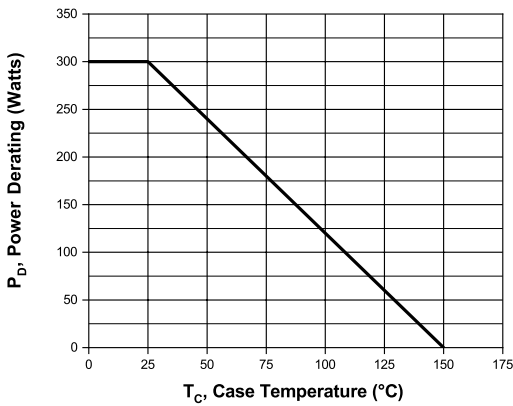
Transfer Characteristics



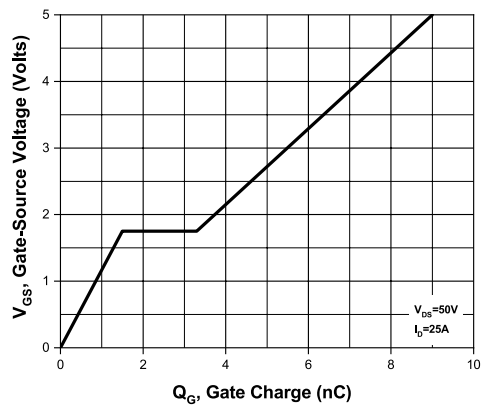
Drain Source Temperature Coefficient



Power Derating



Gate Capacitance Charge

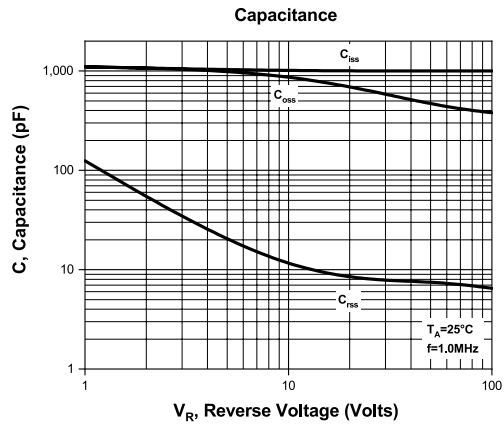


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TYPICAL ELECTRICAL CHARACTERISTICS



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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