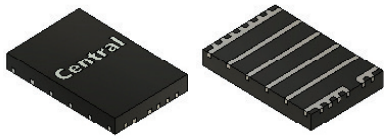
CCSPG1510N

SURFACE MOUNT GaN N-CHANNEL POWER FET

100 AMP, 150 VOLT



CSP4X6 CASE

DESCRIPTION:
The CENTRAL SEMICONDUCTOR CCSPG1510N 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: CEN CSP 1510 L/C D/C

MAXIMUM RATINGS: (T_J=25°C)	**SYMBOL**		**UNITS**
Drain-Source Voltage	V_{DS}	150	V
Gate-Source Voltage	V_{GS}	-4.0 to 6.0	V
Continuous Drain Current	I_D	100	A
Power Dissipation (T_A=25°C)	P_D	0.2	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-40 to +150	°C

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**TYP**	**MAX**	**UNITS**
I_{GSSF}	V_{GS}=5.0V		2.0	100	μA
I_{GSSF}	V_{GS}=6.0V		6.0	1000	μA
I_{GSSR}	V_{GS}=-4.0V		0.1	100	μA
I_{DSS}	V_{DS}=150V, V_{GS}=0V		2.0	150	μA
BV_{DSS}	V_{GS}=0V, I_D=500μA	150			V
$V_{GS(th)}$	V_{GS}= V_{DS}, I_D=12mA	0.8	1.1	2.1	V
$r_{DS(ON)}$	V_{GS}=5.0V, I_D=30A		3.2	3.9	mΩ
V_{SD}	V_{GS}=0V, I_S=0.5A		1.5		V
C_{iss}	V_{DS}=75V, V_{GS}=0V		2200		pF
C_{oss}	V_{DS}=75V, V_{GS}=0V		900		pF
C_{rss}	V_{DS}=75V, V_{GS}=0V		10.5		pF
$C_{oss(er)}$	V_{DS}=0 to 75V, V_{GS}=0V		1300		pF
$C_{oss(tr)}$	V_{DS}=0 to 75V, V_{GS}=0V		1700		pF
R_g	f=5MHz		2		Ω
Q_g	V_{DS}=75V, V_{GS}=5.0V, I_D=30A		20		nC
Q_{gd}	V_{DS}=75V, I_D=30A		3.5		nC
Q_{gs}	V_{DS}=75V, I_D=30A		5.0		nC
$Q_{gd(th)}$	V_{DS}=75V, I_D=30A		3.0		nC
Q_{oss}	V_{DS}=75V, V_{GS}=0V		130		nC

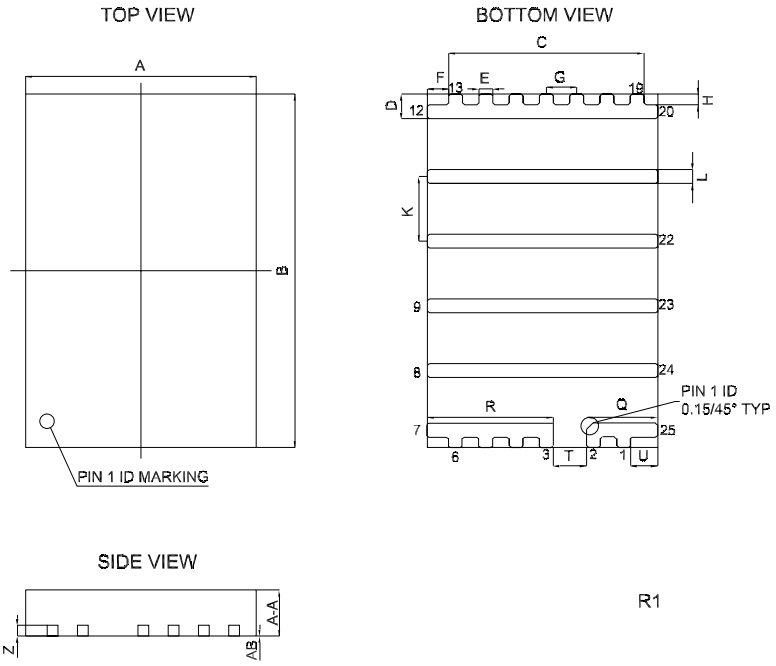
R4 (13-January 2026)

CCSPG1510N

SURFACE MOUNT GaN
N-CHANNEL
POWER FET

100 AMP, 150 VOLT

CSP4X6 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A	0.154	0.161	3.90	4.10
B	0.232	0.240	5.90	6.10
C	0.124	0.132	3.15	3.35
D	0.014	0.022	0.35	0.55
E	0.008	0.012	0.20	0.30
F	0.015		0.375	
G	0.020		0.50	
H	0.008		0.20	
K	0.042		1.07	
L	0.008	0.012	0.20	0.30
Q	0.043	0.051	1.10	1.30
R	0.083	0.091	2.10	2.30
T	0.022	0.026	0.55	0.65
U	0.018		0.45	
Z	0.008		0.203	
AA	0.030	0.037	0.75	0.95
AB	0.000	0.002	0.00	0.05

CSP4X6 (REV:R1)

R1

LEAD CODE:
Gate = 1, 2, 25
Source = 3-7, 9, 11, 21, 23
Drain= 8, 10, 12-20, 22, 24
MARKING: CEN CSP 1510 L/C D/C

R4 (13-January 2026)

CCSPG1510N

**SURFACE MOUNT GaN
N-CHANNEL
POWER FET**

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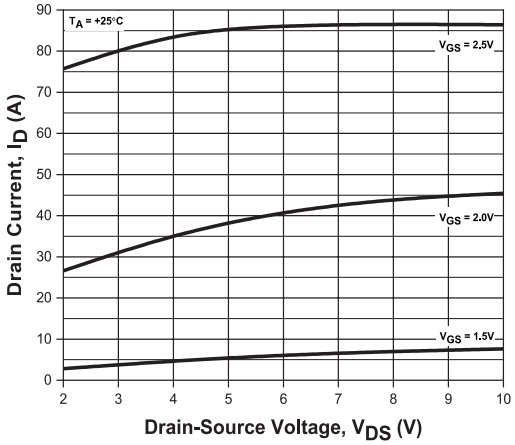
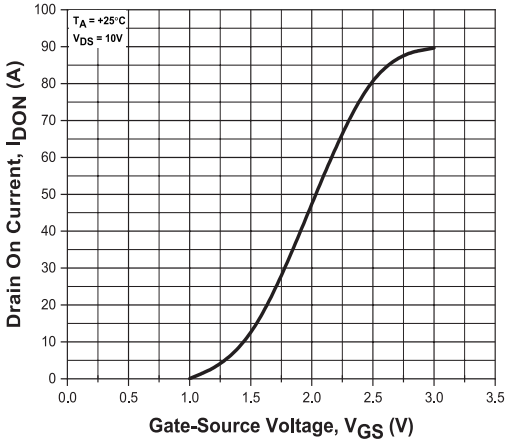
TYPICAL ELECTRICAL CHARACTERISTICS

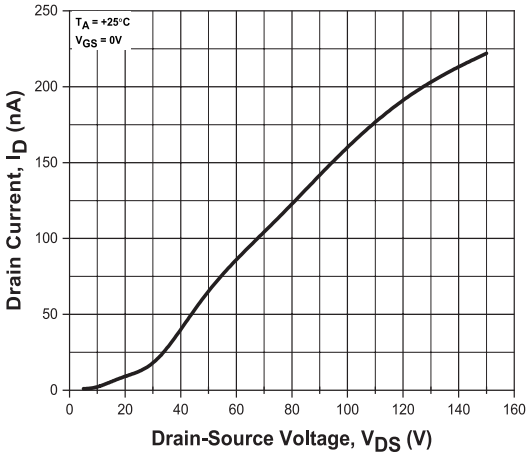
CCSPG1510N - ID vs V_{DS}



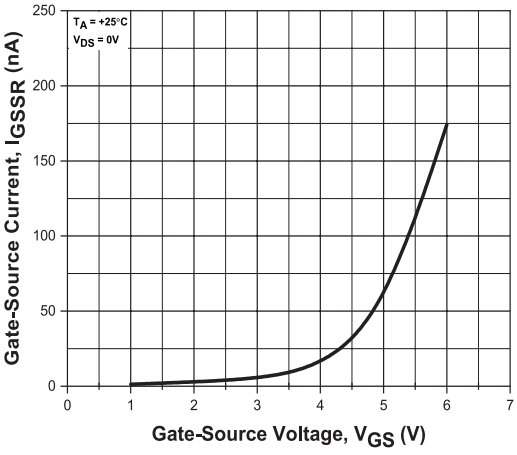
CCSPG1510N - I_{DON} vs V_{GS}



CCSPG1510N - I_{DSS} vs V_{DS}



CCSPG1510N - I_{GSSF} vs V_{GS}



R4 (13-January 2026)

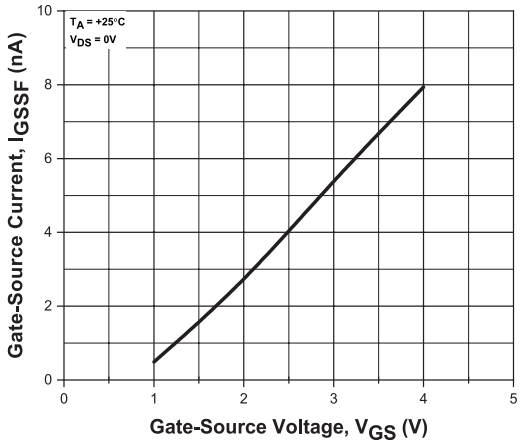
CCSPG1510N

**SURFACE MOUNT GaN
N-CHANNEL
POWER FET**

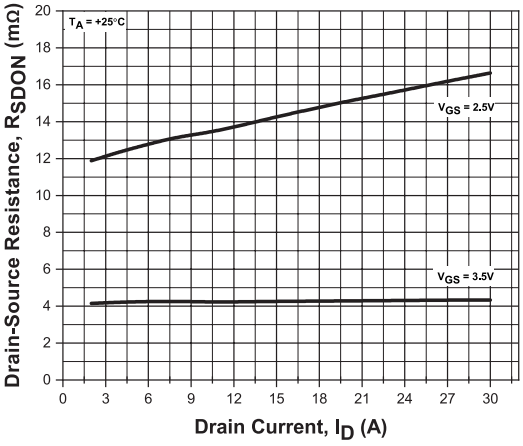
100 AMP, 150 VOLT

TYPICAL ELECTRICAL CHARACTERISTICS

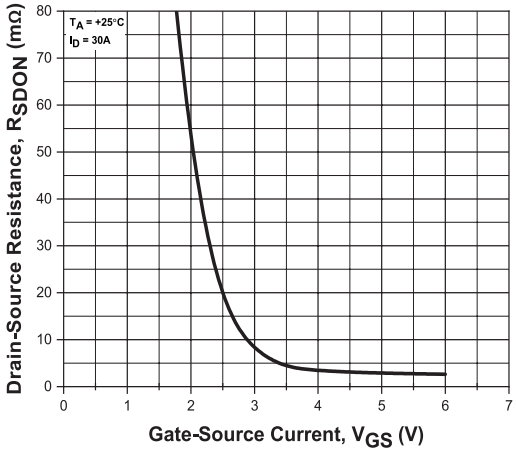
CCSPG1510N - I_{GSSR} vs V_{GS}



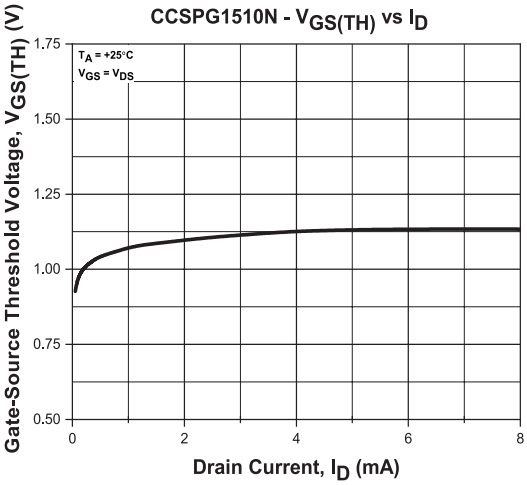
CCSPG1510N - RDS_{ON} vs I_D



CCSPG1510N - RDS_{ON} vs V_{GS}



CCSPG1510N - $V_{GS(TH)}$ vs I_D



R4 (13-January 2026)

CCSPG1510N

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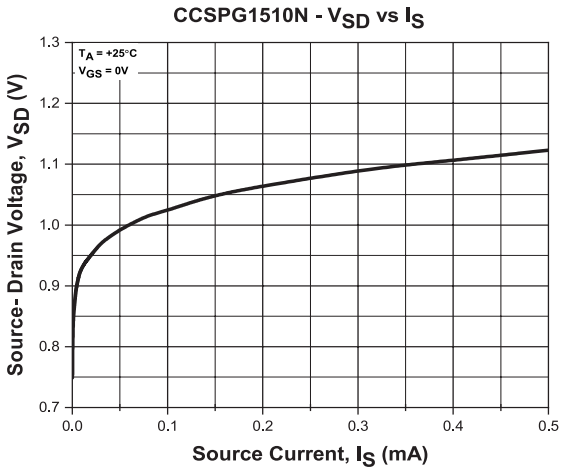
N-CHANNEL
POWER FET**

100 AMP, 150 VOLT

TYPICAL ELECTRICAL CHARACTERISTICS

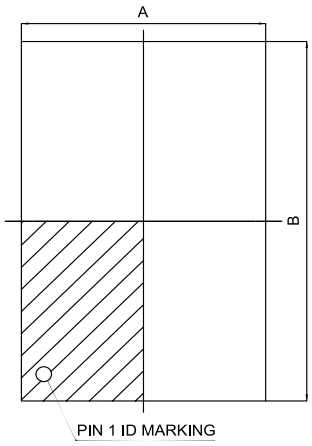


R4 (13-January 2026)

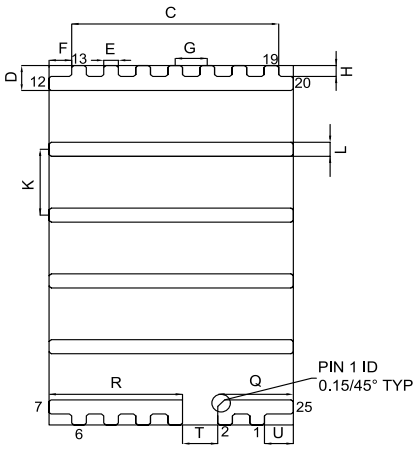
Package Details
CSP4X6 Case

Mechanical Drawing

TOP VIEW



BOTTOM VIEW



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U	0.018		0.45	
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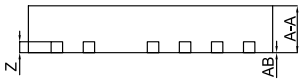
AB	0.000	0.002	0.00	0.05

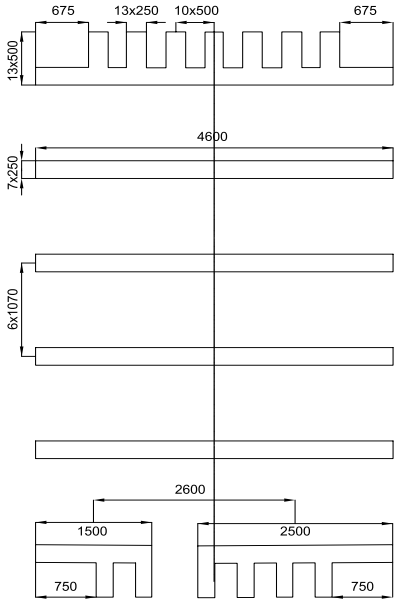
CSP4X6 (REV:R0)

SIDE VIEW



R0

Mounting Pad Geometry (Dimensions in µm)



TOP VIEW

R0 (20-February 2024)

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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