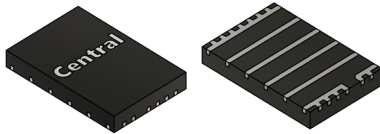


CCSPG1510N

SURFACE MOUNT GaN
N-CHANNEL
POWER FET

100 AMP, 150 VOLT



CSP4X6 CASE



www.centrasemi.com

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

Drain-Source Voltage
Gate-Source Voltage
Continuous Drain Current
Power Dissipation ($T_A=25^{\circ}\text{C}$)
Operating and Storage Junction Temperature

SYMBOL

V_{DS} 150
 V_{GS} -4.0 to 6.0
 I_D 100
 P_D 0.2
 T_J, T_{stg} -40 to +150

UNITS

V
V
A
W
 $^{\circ}\text{C}$

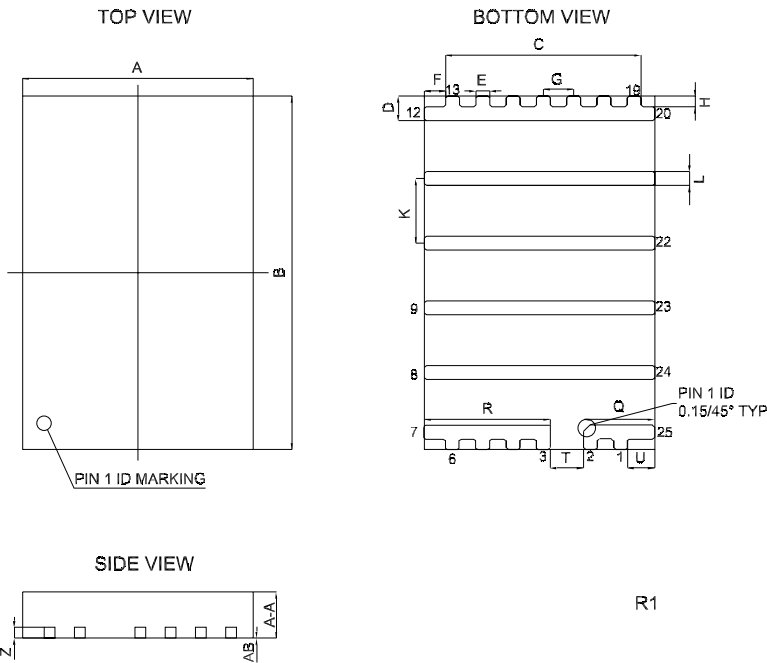
ELECTRICAL CHARACTERISTICS: ($T_J=25^{\circ}\text{C}$ unless otherwise noted)

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

CCSPG1510N
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CSP4X6 CASE - MECHANICAL OUTLINE



DIMENSIONS				
SYMBOL	INCHES		MILLIMETERS	
	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)

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

R3 (24-July 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).

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