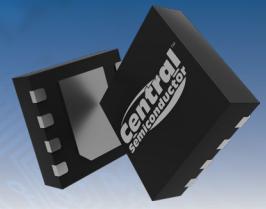


Product Brief

W I D E B A N D G A P

Gallium Nitride (GaN) N-Channel FETs

100V | 60A
650V | 11A, 17A



Combining high voltage capability with low $r_{DS(ON)}$, Central's N-Channel GaN FETs are designed for soft switching applications with high standards of efficiency. These GaN FETs are offered in 100V that supports 60A or 650V that supports 11A or 17A are provided in a variety of practical surface-mount and chip scale packages. Bare dies are also available.

Features

- High voltage capability (650V)
- Low gate charge & $r_{DS(ON)}$ (as low as 3.2mΩ)
- Efficient fast switching
- Space-saving DFN and CSP
- Also available as bare die

Applications

- Wireless charging (high power)
- Defense/aerospace
- Healthcare
- Consumer
- Power Factor Correction (PFC)
- Electric vehicle inverters

Benefits

- Minimal power loss in conduction
- High frequency switching capability
- No reverse recovery losses

Central Item No.	Maximum Ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)					Electrical Characteristics: ($T_A = 25^\circ\text{C}$ unless otherwise noted)						Package	
	V_{DS} (V) MAX	V_{GS} (V) MAX	I_D (A) MAX	I_{DM} (A) MAX	T_J, T_{stg} ($^\circ\text{C}$) MAX	$r_{DS(ON)}$ (mΩ) MAX	$V_{GS(th)}$ (V) MAX	Q_g (nC) TYP	Q_{gd} (nC) TYP	Q_{gs} (nC) TYP			
CCSPG1060N	100	-4.0 to +8.0	60	230	-40 to +150	5.5	2.5	9.2	1.9	1.7	CSP3.5X2	 	Top View Bottom View
CDF56G6511N	650	-1.4 to +7.0	11.5	20.5	-55 to +150	190	2.5	2.8	1.1	0.25	DFN5X6A	 	Top View Bottom View
CDF56G6517N	650	-1.4 to +7.0	17	32	-55 to +150	140	2.5	3.5	1.2	0.3	DFN5X6A	 	Top View Bottom View
CDFG6511N*	650	-1.4 to +7.0	11.5	20.5	-55 to +150	190	2.5	2.8	1.1	0.25	DFN8X8	 	Top View Bottom View
CDFG6517N*	650	-1.4 to +7.0	17	32	-55 to +150	140	2.5	3.5	1.2	0.3	DFN8X8	 	Top View Bottom View
CCSPG0420N*	40	6.0	20	100	-40 to +150	4.8	2.4	15.8	8.6	1.9	CSP2X2	 	Top View Bottom View
CCSPG0450N*	40	-4.0 to +6.0	50	200	-40 to +150	1.5	2.3	2.8	4.6	6.2	CSP5X4	 	Top View Bottom View

*Available on demand

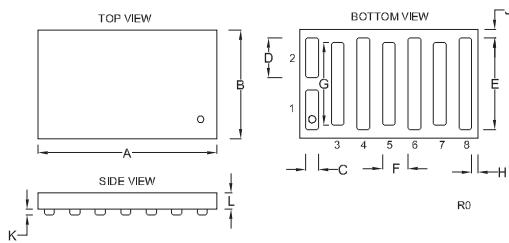
Bare Die - Available on Demand

Central Die Item No.	Central Pkg. Device Item #	Die Size (MILS)	Die Thickness (MILS)	Topside Metalization	Backside Metalization	Chip Tray Pkg. Base
CPG007	CCSPG1060N	138.9 X 85	46.02	Al-Cu 35,000 Å	Si 21,000 Å	88
CPG003	CDF56G6511N CDFG6511N*	132 X 55	45.2	Al-Cu 35,000 Å	Si 21,000 Å	104
CPG004	CDF56G6517N CDFG6517N*	165 X 65	45.2	Al-Cu 35,000 Å	Si 21,000 Å	60

Gallium Nitride (GaN) FETs

100V | 60A , 650V | 11A, 17A

CSP3.5X2



LEAD CODE:

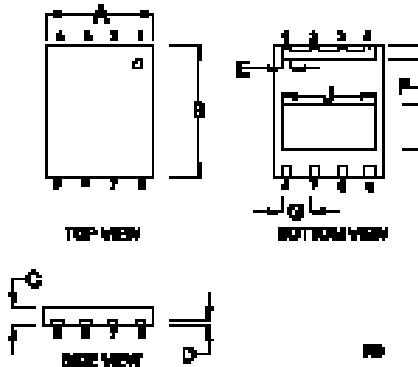
1) Gate	5) Drain
2) Source	6) Source
3) Drain	7) Drain
4) Source	8) Source

MARKING: CSP 1060

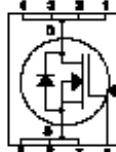
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.137	0.139	3.47	3.53
B	0.083	0.085	2.10	2.16
C	0.009	0.011	0.23	0.27
D	0.030	0.031	0.75	0.80
E	0.070	0.072	1.78	1.82
F		0.020		0.50
G	0.063	0.065	1.60	1.65
H		0.005		0.125
J		0.006		0.165
K	0.004	0.006	0.10	0.14
L	0.011	0.013	0.29	0.33

CSP3.5X2 (REV: R0)

DFN5X6A



PIN CONFIGURATION



LEAD CODE:

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

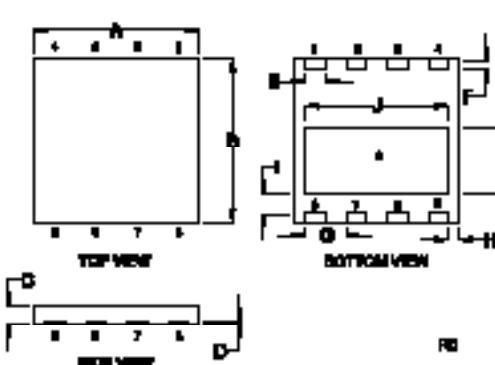
Pins 5, 6, 7 are common to the pad

MARKING: C6517 5X6

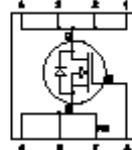
SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.197		5.00	
B	0.226		5.70	
C	0.001	0.003	0.03	0.08
D	0.008		0.20	
E	0.012	0.020	0.30	0.50
F	0.018	0.020	0.45	0.75
G	0.020		0.50	
H	0.077	0.085	1.95	2.15
J	0.14	0.175	4.10	4.45

DFN5X6A (REV: R0)

DFN8X8



PIN CONFIGURATION



LEAD CODE:

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

Pins 5, 6, 7 are common to the pad (9)

MARKING: C6517 8X8

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.307	0.326	7.80	8.20
B	0.307	0.326	7.80	8.20
C	0.001	0.003	0.03	0.08
D	0.009	0.010	0.24	0.25
E	0.037	0.041	0.95	1.05
F	0.018	0.021	0.45	0.52
G	0.001	0.007	0.02	0.20
H	0.018	0.022	0.45	0.55
J	0.037	0.041	0.95	1.05
K	0.229	0.242	5.80	7.20
L	0.120	0.133	3.05	3.35

DFN8X8 (REV: R0)

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