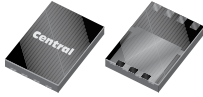


CDFM10-600N**SURFACE MOUNT SILICON
N-CHANNEL
MEDIUM POWER MOSFET
10A, 600 VOLT**www.centalsemi.com**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR CDFM10-600N is a 600 volt N-Channel MOSFET designed for high voltage, fast switching applications such as Power Factor Correction (PFC), lighting and power inverters. This MOSFET combines high voltage capability with low $r_{DS(ON)}$, low threshold voltage, and low gate charge for optimal efficiency.

MARKING: CM106

Top View Bottom View

DFN5X6 CASE**APPLICATIONS:**

- Power Factor Correction
- Alternative energy inverters
- Solid state lighting

FEATURES:

- High voltage capability
- Low $r_{DS(ON)}$

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Drain-Source Voltage	V_{DS}	600	V
Gate-Source Voltage	V_{GS}	30	V
Continuous Drain Current (Steady State)	I_D	10	A
Maximum Pulsed Drain Current, $t_p=10\mu\text{s}$	I_{DM}	40	A
Continuous Source Current (Body Diode)	I_S	10	A
Maximum Pulsed Source Current (Body Diode)	I_{SM}	40	A
Operating and Storage Junction Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{GSSF}, I_{GSSR}	$V_{GS}=30\text{V}, V_{DS}=0$			100	nA
I_{DSS}	$V_{DS}=600\text{V}, V_{GS}=0$			1.0	μA
BV_{DSS}	$V_{GS}=0, I_D=250\mu\text{A}$	600			V
$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu\text{A}$	2.0		4.0	V
V_{SD}	$V_{GS}=0, I_S=10\text{A}$			1.4	V
$r_{DS(ON)}$	$V_{GS}=10\text{V}, I_D=5.5\text{A}$			0.4	Ω
C_{rss}	$V_{DS}=100\text{V}, V_{GS}=0, f=1.0\text{MHz}$		3.0		pF
C_{iss}	$V_{DS}=100\text{V}, V_{GS}=0, f=1.0\text{MHz}$		800		pF
C_{oss}	$V_{DS}=100\text{V}, V_{GS}=0, f=1.0\text{MHz}$		60		pF

CDFM10-600N

**SURFACE MOUNT SILICON
N-CHANNEL
MEDIUM POWER MOSFET
10A, 600 VOLT**

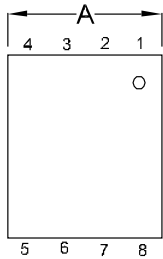


ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

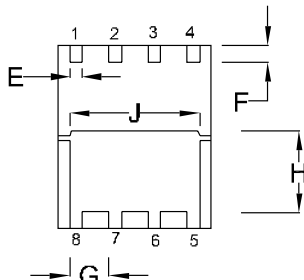
SYMBOL	TEST CONDITIONS	TYP	UNITS
$Q_{g(\text{tot})}$	$V_{DS}=480\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$ (Note 1)	28	nC
Q_{gs}	$V_{DS}=480\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$ (Note 1)	6.0	nC
Q_{gd}	$V_{DS}=480\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$ (Note 1)	12	nC
$t_{d(\text{on})}$	$V_{DD}=300\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$, $R_G=25\Omega$ (Note 1)	13	ns
t_r	$V_{DD}=300\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$, $R_G=25\Omega$ (Note 1)	28	ns
$t_{d(\text{off})}$	$V_{DD}=300\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$, $R_G=25\Omega$ (Note 1)	40	ns
t_f	$V_{DD}=300\text{V}$, $V_{GS}=10\text{V}$, $I_D=10\text{A}$, $R_G=25\Omega$ (Note 1)	25	ns

Notes: (1) Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

DFN5X6 CASE - MECHANICAL OUTLINE



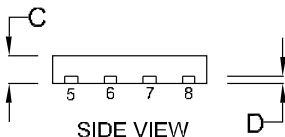
TOP VIEW



BOTTOM VIEW

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.197		5.00	
B	0.236		6.00	
C	0.031	0.039	0.80	1.00
D	0.008		0.20	
E	0.012	0.020	0.30	0.50
F	0.018	0.030	0.45	0.75
G	0.050		1.27	
H	0.099	0.109	2.52	2.77
J	0.165	0.175	4.20	4.45

DFN5X6 (REV: R0)



SIDE VIEW

R0

LEAD CODE:

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

MARKING: CM106

R0 (15-February 2023)

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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