LN068N030G

30V N-Channel Enhancement Mode MOSFET

1.Product Information

1.1 Features

- ◇ Surface-mounted package
- ◇ Advanced TRENCH cell design

1.2 Applications

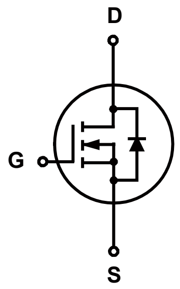
- ◇ Motor appliances
- ◇ High power inverter system

1.3 Quick reference

- ◇ BV ≧ 30 V
- ◇ P_{tot} ≦ 35 W
- ◇ I_D ≦ 72 A
- ◇ $R_{DS(ON)}$ ≦ 6.8mΩ @ V_{GS} = 10 V
- ◇ $R_{DS(ON)}$ ≦ 8.5mΩ @ V_{GS} = 4.5 V

2.Pin Description

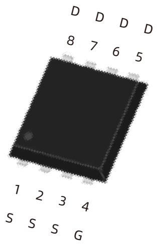
Symbol



Simplified Outline

Top View

PDFN5*6-8L



3.Marking Information

Product Name	Marking
LN068N030G	**LN068N030G** **CYWWZZ** **XXXXXX**

4.Limiting Values

Symbol	Parameter	Conditions	Min	Max	Unit
V_{DS}	Drain-Source Voltage	T_A = 25 ℃	30	-	V
V_{GS}	Gate-Source Voltage	T_A = 25 ℃	-	± 20	V
I_D*	Drain Current	T_A = 25 ℃, V_{GS} = 10 V	-	72	A
		T_A = 100 ℃, V_{GS} = 10 V	-	45	A
I_{DM}*,**	Pulsed Source Current	T_A = 25 ℃, V_{GS} = 10 V	-	150	A
P_{tot}	Total Power Dissipation	T_A = 25 ℃	-	35	W
T_{stg}	Storage Temperature		- 55	150	℃
T_J	Junction Temperature		- 55	150	℃
I_S	Diode Forward Current	T_A = 25 ℃	-	80	A
$R_{θJA}$*	Thermal Resistance- Junction to Ambient		-	42	℃/W

Notes：

* Surface Mounted on 1 in^2 pad area, t ≤ 10 sec

** Pulse width ≤ 300 μs, duty cycle ≤ 2 %

5.Ordering Code

Product Name	Package	Reel Size	Tape width	Quantity	Note
LN068N030G	**PDFN5*6**			**5000**	

Note: COMTECH defines “ Green ” as lead-free (RoHS compliant) and halogen free (Br or Cl does not exceed900 ppm by weight in homogeneous material and total of Br and Cl does not exceed 1500 ppm by weight;Follow IEC 61249-2-21 and IPC / JEDEC J-STD-020C)

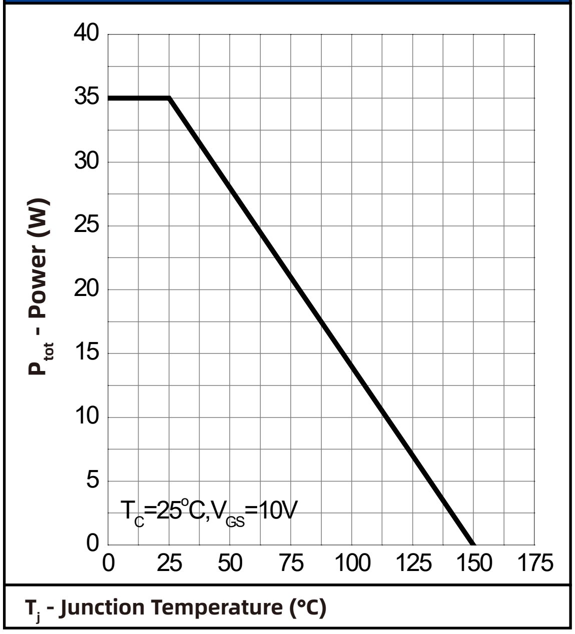
6. Electrical Characteristics (TA=25 ° Unless Otherwise Noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
Static Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS} = 0 V, I_{DS} = 250 μA	30	-	-	V
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS} = V_{GS}, I_{DS} = 250 μA	1.0	-	2.0	V
I_{DSS}	Drain Leakage Current	V_{DS} = 24 V, V_{GS} = 0 V	-	-	1	μA
		T_J = 85℃	-	-	30	μA
I_{GSS}	Gate Leakage Current	V_{GS} = ±20 V, V_{DS} = 0 V	-	-	± 100	nA
$R_{DS(ON)}{}^{a}$	On-State Resistance	V_{GS} = 10 V, I_{DS} = 10 A	-	5.7	6.8	mΩ
		V_{GS} = 4.5 V, I_{DS} = 5 A	-	7.5	8.5	
Diode Characteristics						
$V_{SD}{}^{a}$	Diode Forward Voltage	I_{SD} = 10 A, V_{GS} = 0 V	-	-	1.3	V
t_{rr}	Reverse Recovery Time	I_{DS} = 10 A, V_{GS} = 0 V	-	34	-	nS
Q_{rr}	Reverse Recovery Charge	dI_{SD}/dt = 100 A/μs	-	7.1	-	nC
Dynamic Characteristics^{b}						
C_{iSS}	Input Capacitance	V_{GS} = 0 V, V_{DS} = 15V Frequency = 1 MHz	-	1145	-	pF
C_{OSS}	Output Capacitance		-	106	-	
C_{rSS}	Reverse Transfer Capacitance		-	87	-	
t_d(on)	Turn-on Delay Time	V_{DS} = 15 V, V_{GEN} = 10 V, R_G = 4.5 Ω, R_L = 1.5 Ω, I_{DS} = 10 A	-	7	-	nS
t_r	Turn-on Rise Time		-	30	-	
t_d(off)	Turn-off Delay Time		-	19	-	
t_f	Turn-off Fall Time		-	18	-	
Gate Charge Characteristics^{b}						
Q_g	Total Gate Charge	V_{GS} = 15 V, V_{DS} = 10 V, I_{DS} = 10 A	-	22	-	nC
Q_{gs}	Gate-Source Charge		-	5	-	
Q_{gd}	Gate-Drain Charge		-	3.3	-	

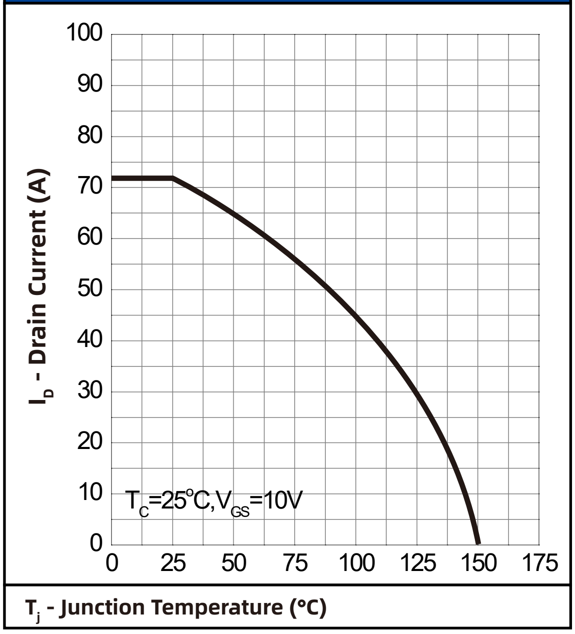
Notes：
a : Pulse test ; pulse width ≤ 300 μs, duty cycle ≤ 2%
b : Guaranteed by design, not subject to production testing

7. Typical Characteristics

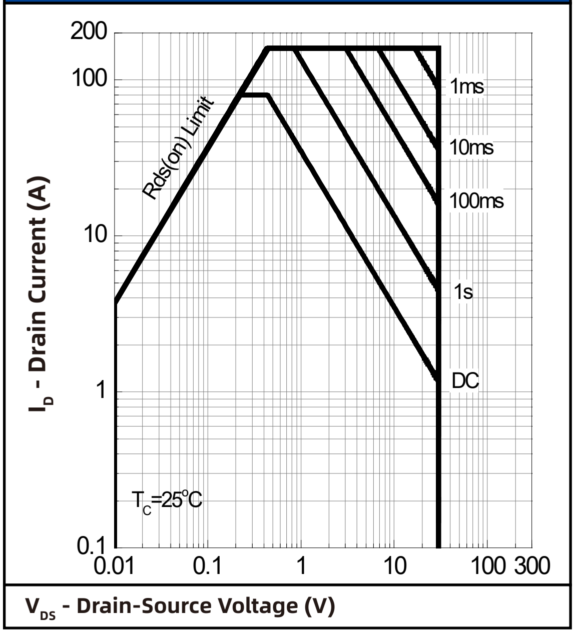
Power Capability



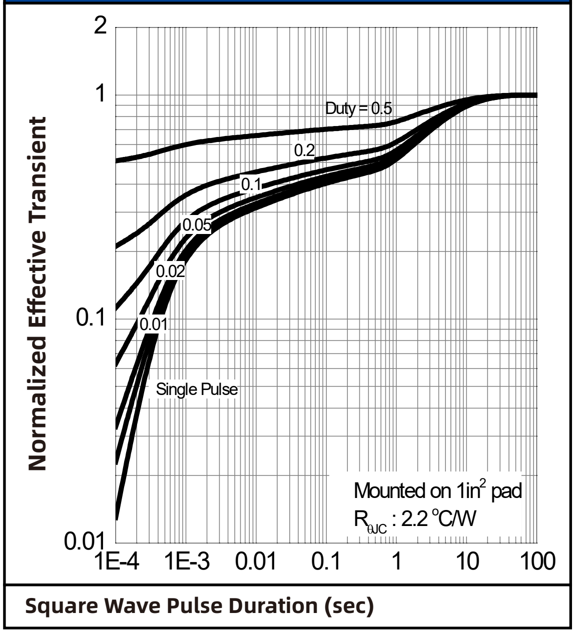
Current Capability



Safe Operating Area

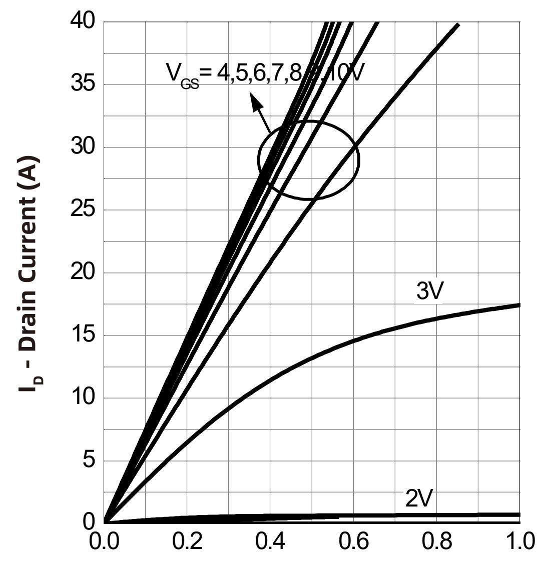


Transient Thermal Impedance



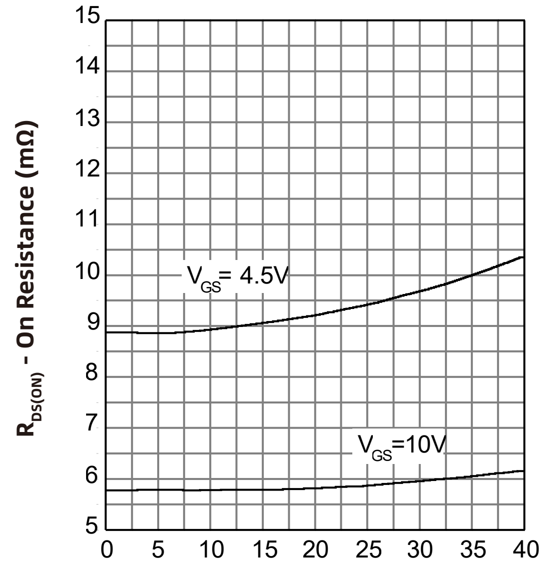
7. Typical Characteristics (cont.)

Output Characteristics



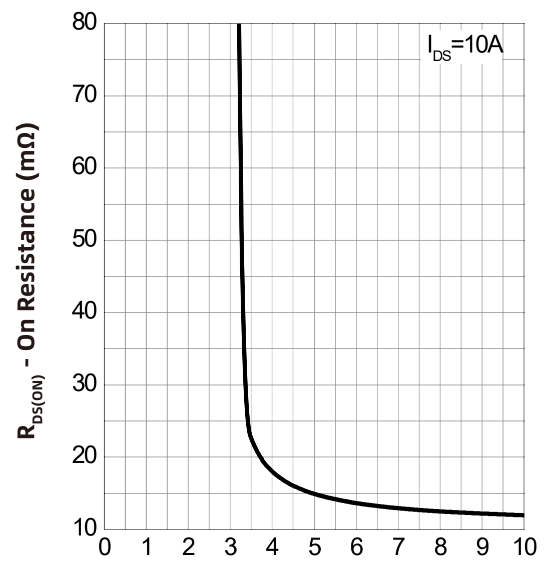
V_{DS} - Drain-Source Voltage (V)

On Resistance



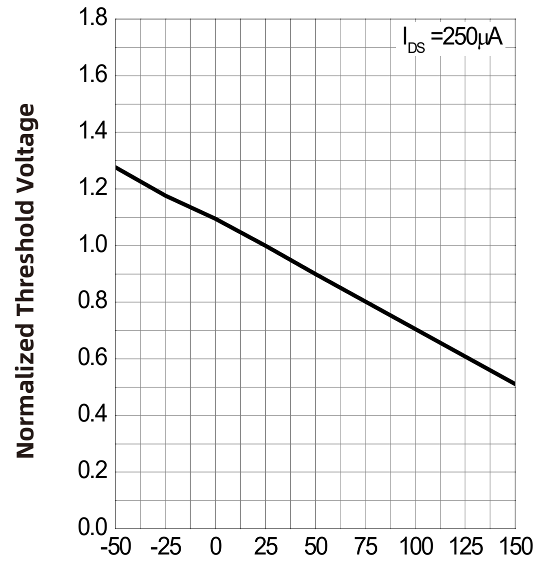
I_D - Drain Current (A)

Transfer Characteristics



V_{GS} - Gate-Source Voltage (V)

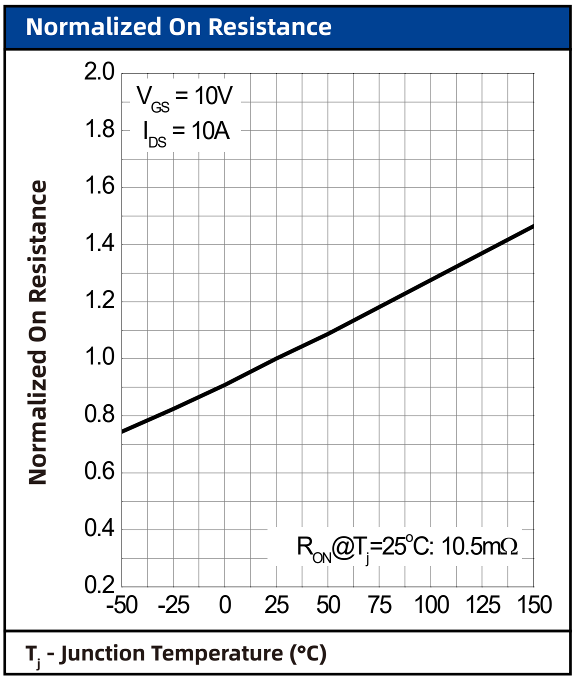
Normalized Threshold Voltage



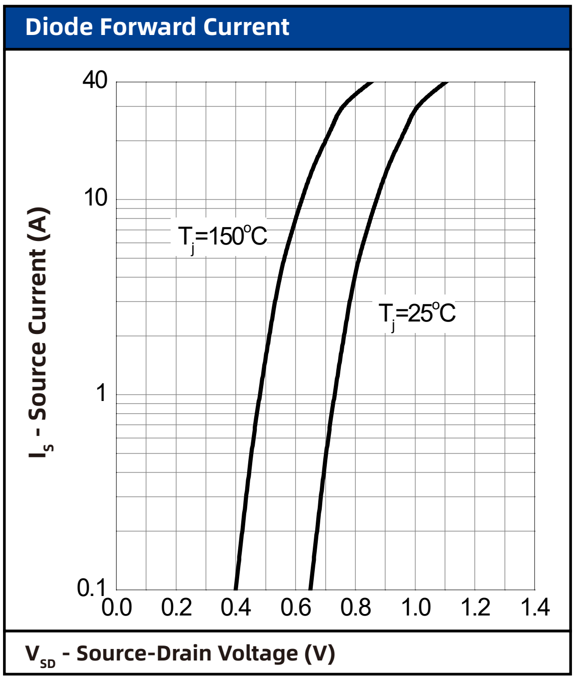
T_j - Junction Temperature (°C)

7. Typical Characteristics (cont.)

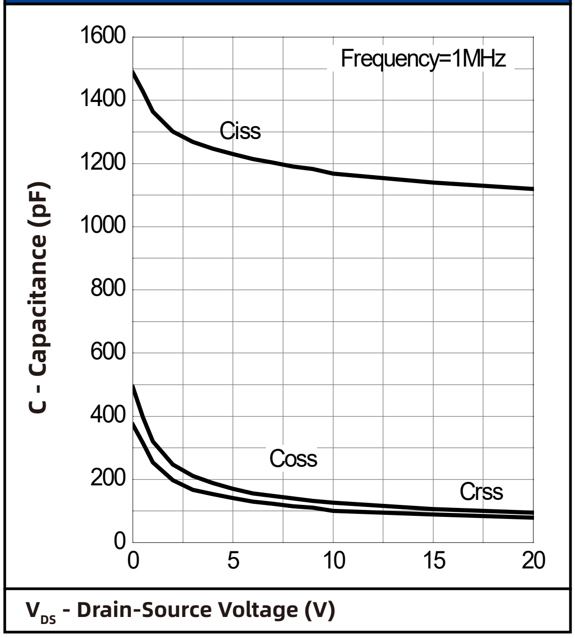
Normalized On Resistance



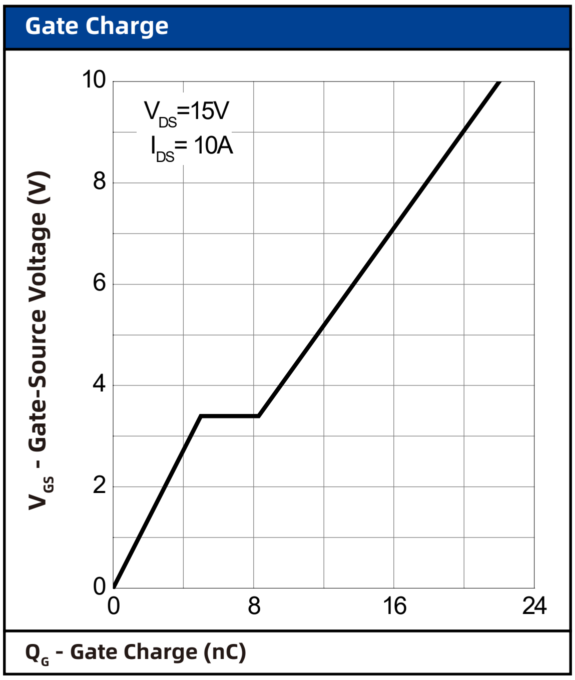
Diode Forward Current



Capacitance

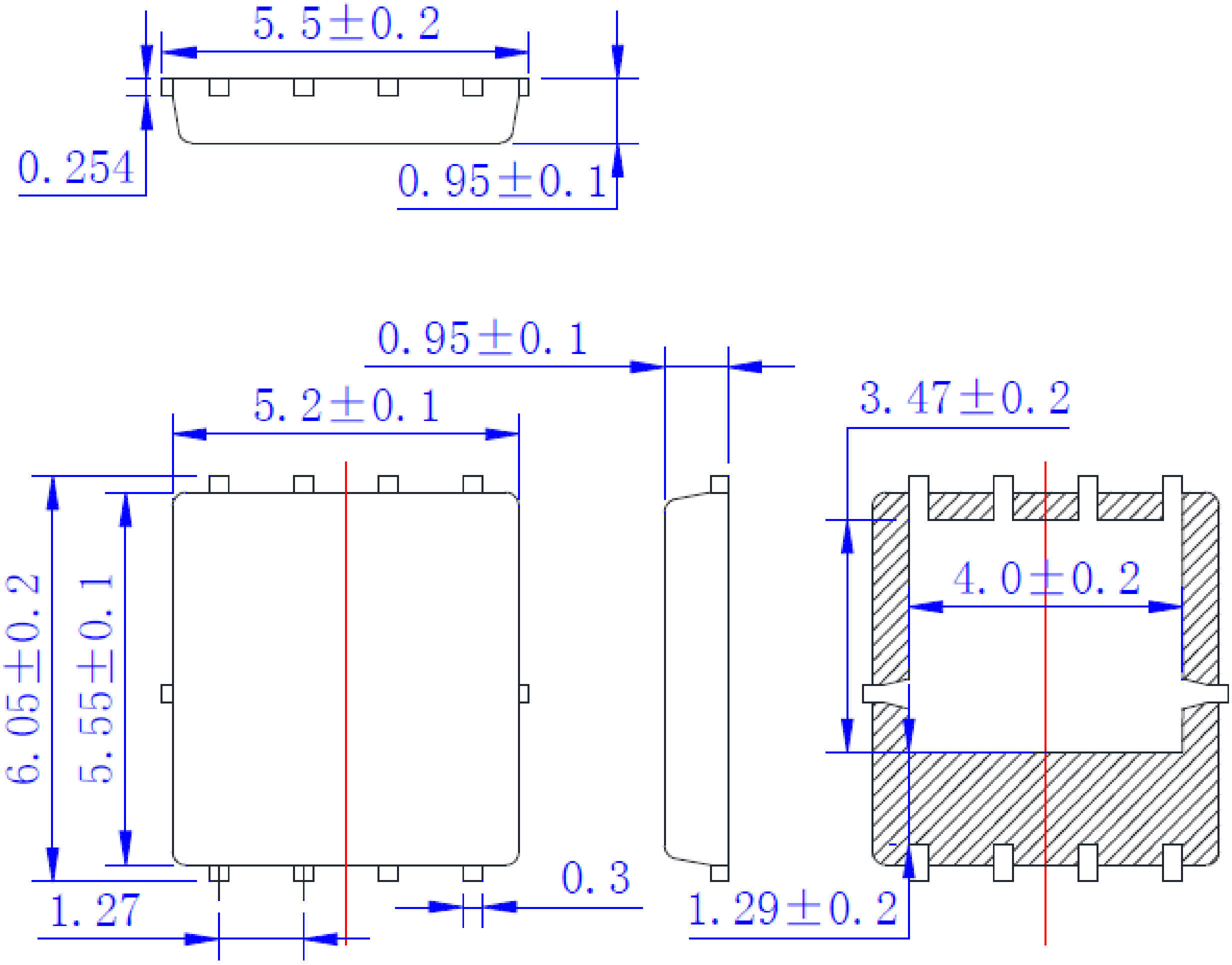


Gate Charge



8. Package Dimensions

PDFN5*6-8L Package


5. 5±0. 2
0. 254
0. 95±0. 1
0. 95±0. 1
5. 2±0. 1
3. 47±0. 2
4. 0±0. 2
6. 05±0. 2
5. 55±0. 1
1. 27
0. 3
1. 29±0. 2