




Power MOSFETS


DATASHEET

LM30036NAI8A

N-Channel
Enhancement Mode MOSFET

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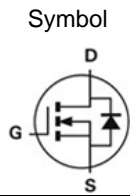
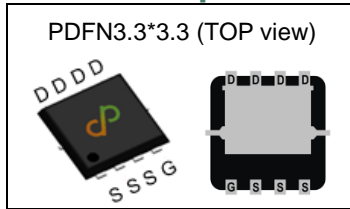


Quality Management Systems

ISO 9001:2015 Certificate

N-Channel Enhancement Mode MOSFET

Pin Description



Ordering Information

Symbol	N-Channel	Unit
V_{DSS}	30	V
$R_{DS(ON)-Max}$	3.6	mΩ
I_D	70	A

Feature

- Fast switching speed
- Reliable and Rugged
- ROHS Compliant & Halogen-Free
- 100% UIS and Rg Tested

Applications

- Portable Equipment
- Battery Powered System
- Power Load Switch

Ordering Information

Orderable Part Number	Package Type	Form	Shipping	Marking
LM30036NAI8A	PDFN3.3*3.3	Tape & Reel	5000 / Tape & Reel	30036 □□□□□□

Absolute Maximum Ratings (T_J=25°C Unless Otherwise Noted)

Symbol	Parameter		N-Channel	Unit
V_{DSS}	Drain-Source Voltage		30	V
V_{GSS}	Gate-Source Voltage		±20	
T_J	Maximum Junction Temperature		150	°C
T_{STG}	Storage Temperature Range		-55 to 150	°C
$I_{DM}^{①}$	Pulse Drain Current Tested	T _c =25°C	70	A
I_D	Continuous Drain Current	T _c =25°C	70 ^①	A
		T _c =100°C	50	
P_D	Maximum Power Dissipation	T _c =25°C	41	W
		T _c =100°C	16	
$I_{AS}^{②}$	Avalanche Current, Single pulse	L=0.1mH	31	A
$E_{AS}^{②}$	Avalanche Energy, Single pulse	L=0.1mH	48	mJ

Thermal Characteristics

Symbol	Parameter		Rating	Unit
$R_{θJC}$	Thermal Resistance-Junction to Case	Steady State	3	°C/W
$R_{θJA}^{③}$	Thermal Resistance-Junction to Ambient	Steady State	80	°C/W

Note ① : Max. current is limited by bonding wire .

Note ② : UIS tested and pulse width are limited by maximum junction temperature 150°C

Note ③ : Surface Mounted on 1in² FR-4 board with 1oz

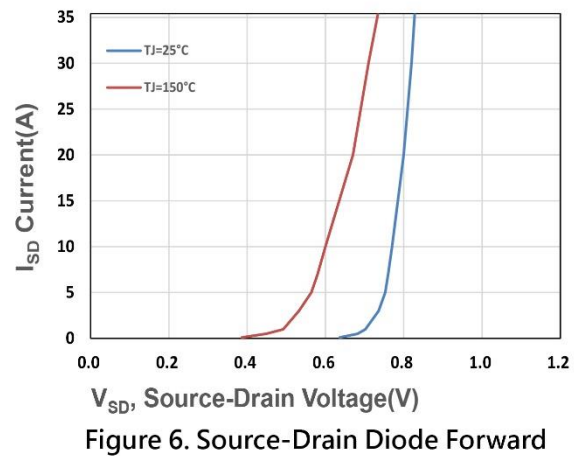
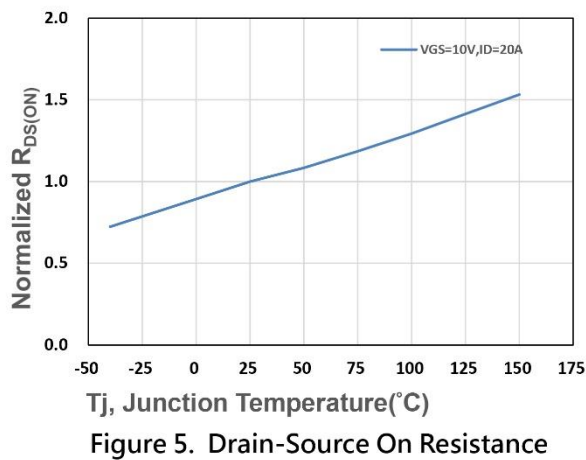
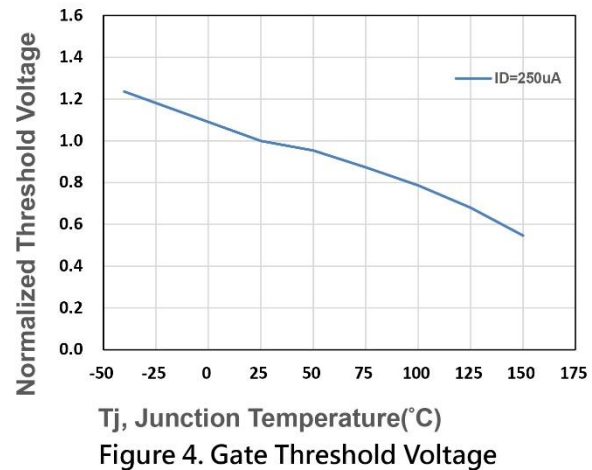
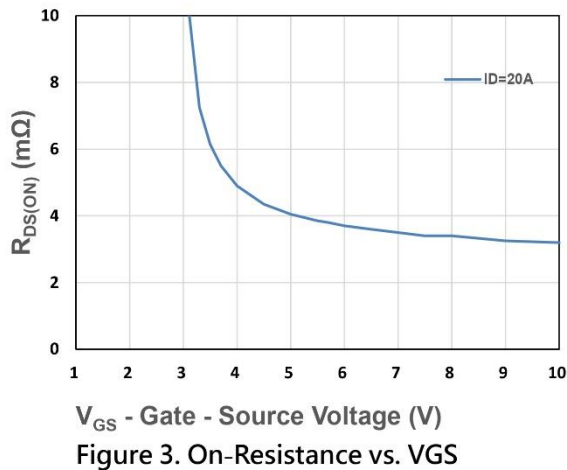
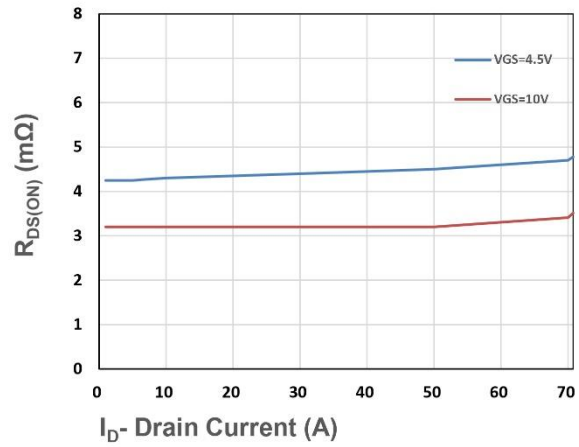
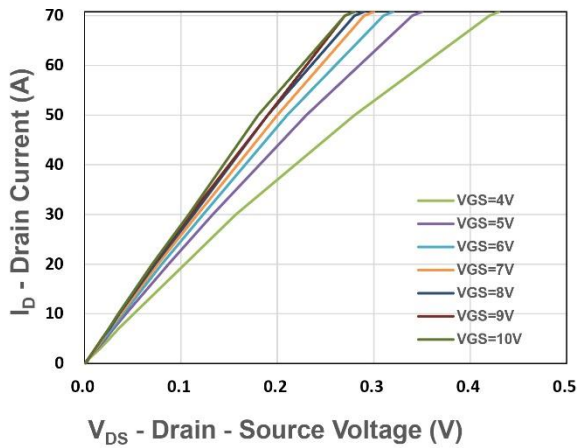
N-Channel Electrical Characteristics (T_J=25°C Unless Otherwise Noted)

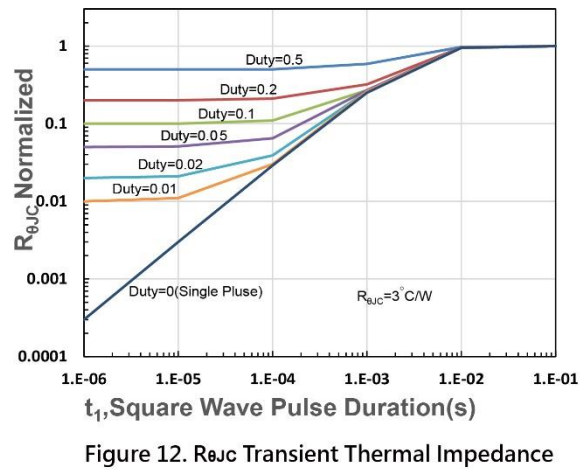
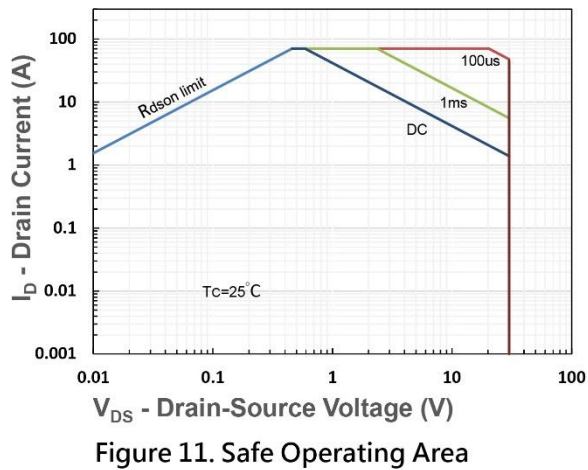
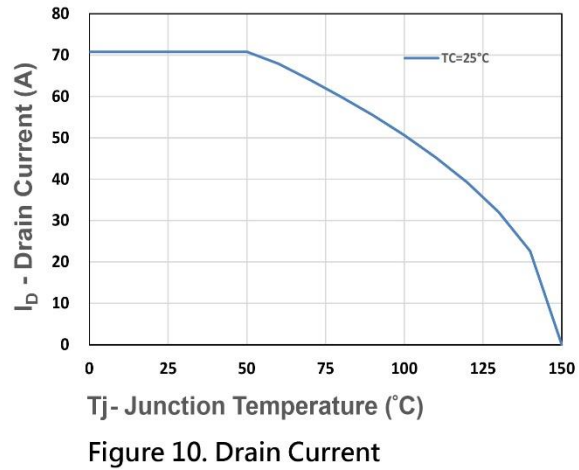
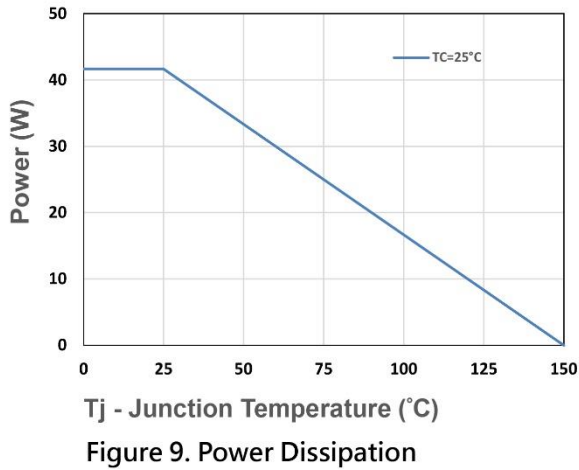
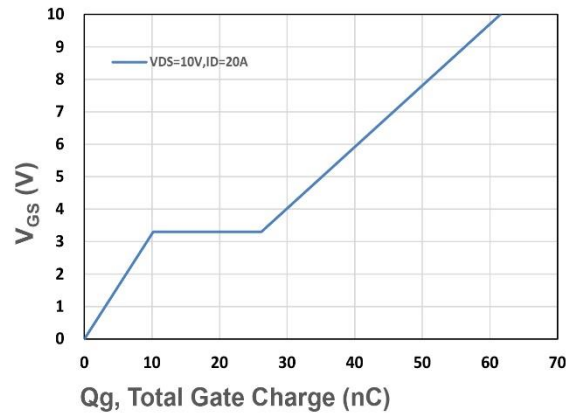
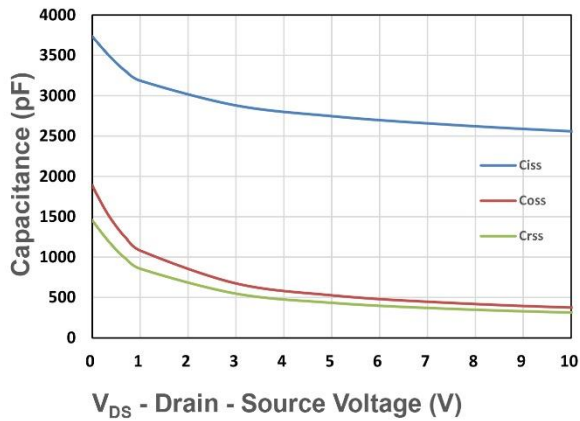
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Electrical Characteristics						
BV_{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250uA	30	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V	-	-	1	uA
V_{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250uA	1	1.5	2	V
I_{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
R_{DS(on)} ^④	Drain-Source On-state Resistance	V _{GS} =10V, I _{DS} =20A	-	3.2	3.6	mΩ
		V _{GS} =4.5V, I _{DS} =20A	-	4.2	5.5	
gfs	Forward Transconductance	V _{DS} =5V, I _{DS} =20A	-	25.2	-	S
Dynamic Characteristics ^⑥						
R_G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, Freq.=1MHz	-	1.0	-	Ω
C_{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =15V, Freq.=1MHz	-	2435	-	pF
C_{oss}	Output Capacitance		-	308	-	
C_{rss}	Reverse Transfer Capacitance		-	259	-	
td(ON)	Turn-on Delay Time	V _{GS} =10V, V _{DS} =15V, I _D =1A, R _{GEN} =3Ω	-	10.3	-	nS
t_r	Turn-on Rise Time		-	17.6	-	
t_{d(OFF)}	Turn-off Delay Time		-	43.2	-	
t_f	Turn-off Fall Time		-	31.7	-	
Q_g	Total Gate Charge	V _{GS} =4.5V, V _{DS} =15V, I _D =20A	-	33.0	-	nC
Q_g	Total Gate Charge	V _{GS} =10V, V _{DS} =15V, I _D =20A	-	62.0	-	
Q_{gs}	Gate-Source Charge		-	10.19	-	
Q_{gd}	Gate-Drain Charge		-	16.01	-	
Source-Drain Characteristics						
V_{SD} ^④	Diode Forward Voltage	I _{SD} =1A, V _{GS} =0V	-	0.69	1.1	V
t_{rr}	Reverse Recovery Time	I _F =1A, V _{GS} =0	-	20	-	nS
Q_{rr}	Reverse Recovery Charge	di _F /dt=100A/μs	-	12	-	nC

Note ④ : Pulse test (pulse width≤300us, duty cycle≤2%).

Note ⑤ : Guaranteed by design, not subject to production testing.

N-Channel Typical Characteristics





单击下面可查看定价，库存，交付和生命周期等信息

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