

Product Specification

XBLW NTTFS5826NL

N-Channel Enhancement Mode MOSFET

WEB | www.xinboleic.com



Description

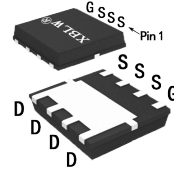
The NTTFS5826NL uses advanced trench technology to provide excellent RDS(ON), low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application

General Features

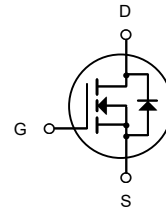
- VDS = 60V ID =30 A
- RDS(ON) < 37mΩ @ VGS=10V

Application

- Battery protection
- Load switch
- Uninterruptible power supply



DFN3X3-8L



N-Channel MOSFET

Package Marking and Ordering Information

Product Model	Package Type	Marking	Packing	Packing Qty
XBLW NTTFS5826NL	DFN3X3-8L	5826	Tape	5000Pcs/Reel

Absolute Maximum Ratings (TC=25°C unless otherwise noted)

Symbol	Parameter	Rating	Units
VDS	Drain-Source Voltage	60	V
VGS	Gate-Source Voltage	± 20	V
Id@Tc=25°C	Continuous Drain Current, VGS @ 10V ¹	30	A
Id@Tc=100°C	Continuous Drain Current, VGS @ 10V ¹	15	A
IDM	Pulsed Drain Current ²	46	A
EAS	Single Pulse Avalanche Energy ³	25.5	mJ
IAS	Avalanche Current	22.6	A
Pd@Tc=25°C	Total Power Dissipation ⁴	34.7	W
TSTG	Storage Temperature Range	-55 to 150	°C
TJ	Operating Junction Temperature Range	-55 to 150	°C
RθJA	Thermal Resistance Junction-ambient ¹	62	°C/W
RθJC	Thermal Resistance Junction-Case ¹	3.6	°C/W

Electrical Characteristics (T_J=25 °C, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	60	---	---	V
ΔBV _{DSS} /ΔT _J	BV _{DSS} Temperature Coefficient	Reference to 25°C, I _D =1mA	---	0.063	---	V/°C
R _{DS(on)}	Static Drain-Source On-Resistance ²	V _{GS} =10V, I _D =15A	---	31	37	mΩ
		V _{GS} =4.5V, I _D =10A	---	38	46	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1.2	---	2.5	V
ΔV _{GS(th)}	V _{GS(th)} Temperature Coefficient		---	-5.24	---	mV/°C
I _{DSS}	Drain-Source Leakage Current	V _{DS} =48V, V _{GS} =0V, T _J =25°C	---	---	1	uA
		V _{DS} =48V, V _{GS} =0V, T _J =55°C	---	---	5	
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =5V, I _D =15A	---	17	---	S
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	3.2	---	Ω
Q _g	Total Gate Charge (4.5V)	V _{DS} =48V, V _{GS} =4.5V, I _D =12A	---	12.6	---	nC
Q _{gs}	Gate-Source Charge		---	3.2	---	
Q _{gd}	Gate-Drain Charge		---	6.3	---	
T _{d(on)}	Turn-On Delay Time	V _{DD} =30V, V _{GS} =10V, R _G =3.3Ω, I _D =10A	---	8	---	ns
T _r	Rise Time		---	14.2	---	
T _{d(off)}	Turn-Off Delay Time		---	24.4	---	
T _f	Fall Time		---	4.6	---	
C _{iss}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	---	1378	---	pF
C _{oss}	Output Capacitance		---	86	---	
C _{rss}	Reverse Transfer Capacitance		---	64	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current ^{1,5}	V _G =V _D =0V, Force Current	---	---	30	A
I _{SM}	Pulsed Source Current ^{2,5}		---	---	46	A
V _{SD}	Diode Forward Voltage ²	V _{GS} =0V, I _S =1A, T _J =25°C	---	---	1.2	V

Note :

- 1.The data tested by surface mounted on a 1 inch² FR-4 board with 20Z copper.
- 2.The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%
- 3.The EAS data shows Max. rating . The test condition is V_{DD}=25V,V_{GS}=10V,L=0.1mH,I_{AS}=22.6A
- 4.The power dissipation is limited by 150°C junction temperature
- 5.The data is theoretically the same as I_D and I_{DM} , in real applications , should be limited by total power dissipation.

Typical Characteristics

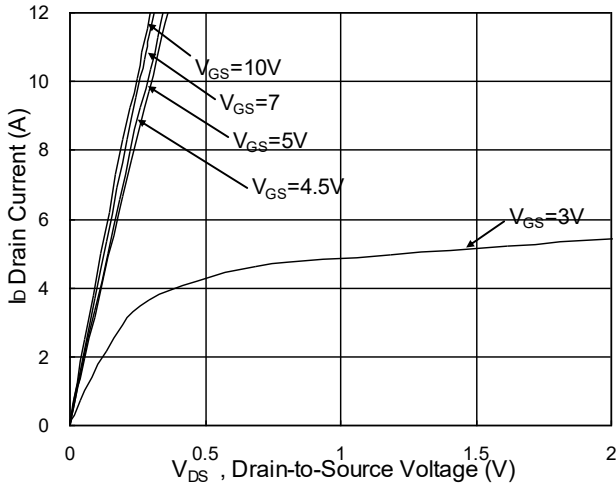


Fig.1 Typical Output Characteristics

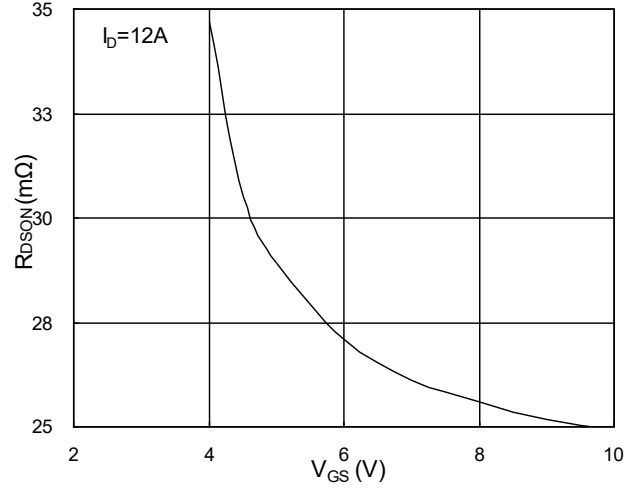


Fig.2 On-Resistance v.s Gate-Source

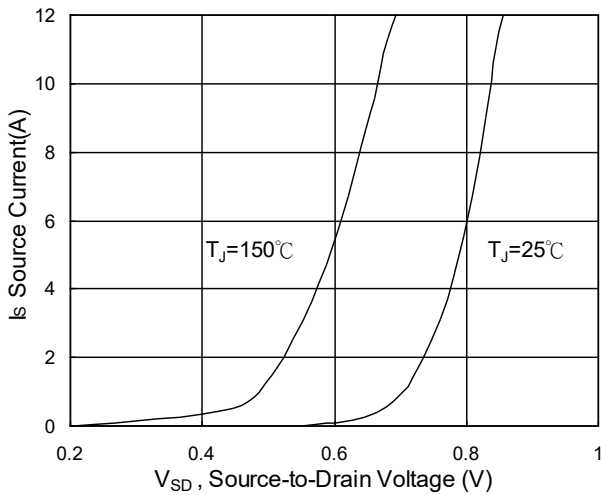


Fig.3 Forward Characteristics of Reverse

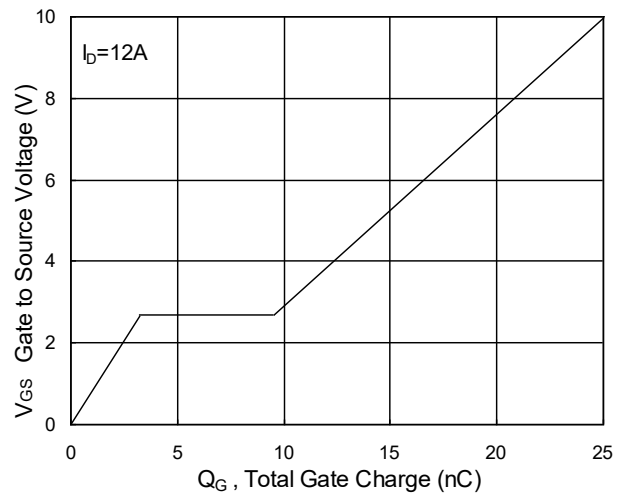


Fig.4 Gate-Charge Characteristics

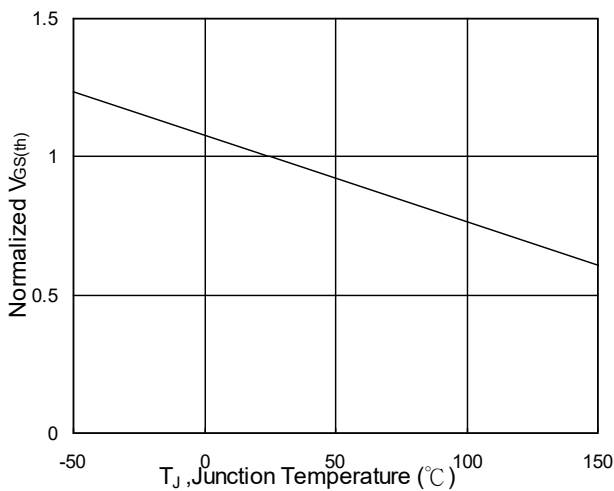


Fig.5 Normalized $V_{GS(th)}$ v.s T_J

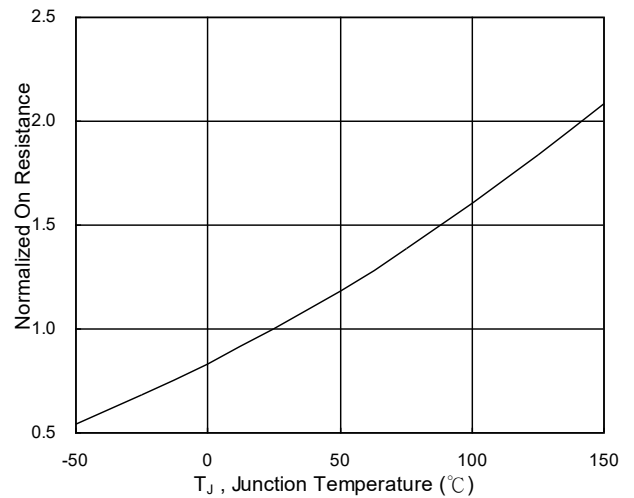


Fig.6 Normalized $R_{DS(on)}$ v.s T_J

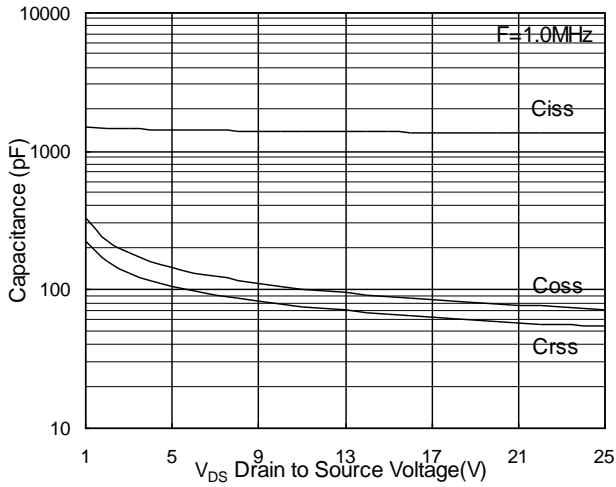


Fig.7 Capacitance

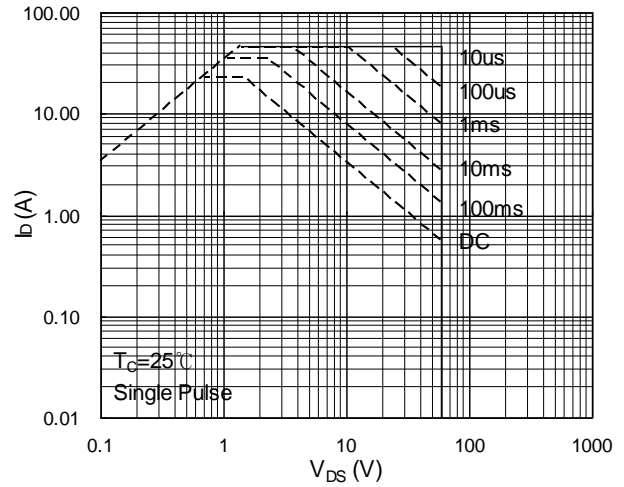


Fig.8 Safe Operating Area

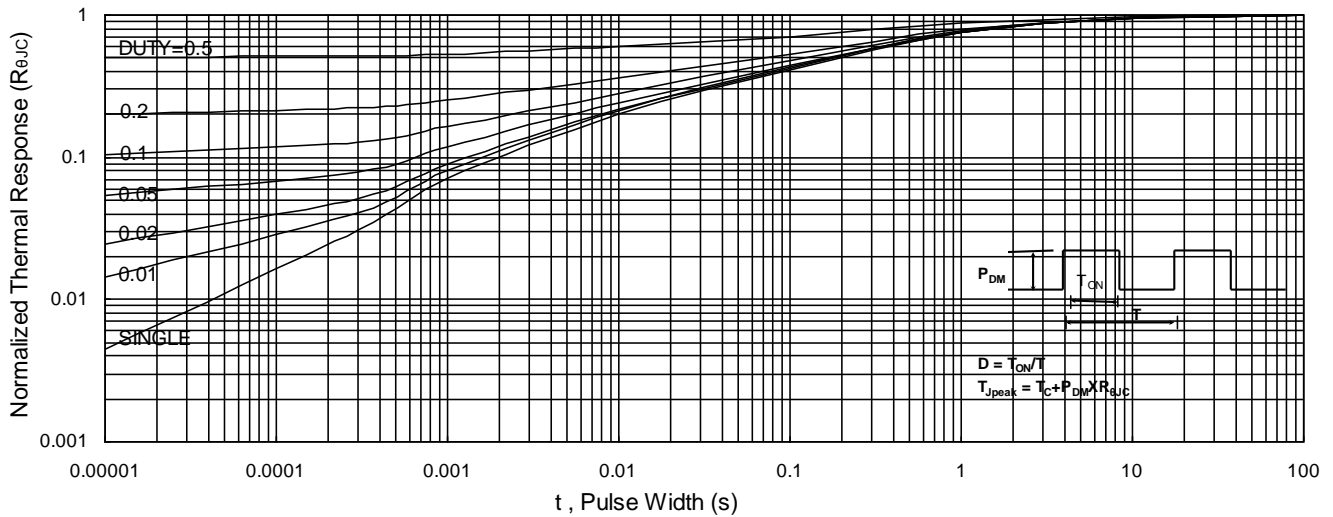


Fig.9 Normalized Maximum Transient Thermal Impedance

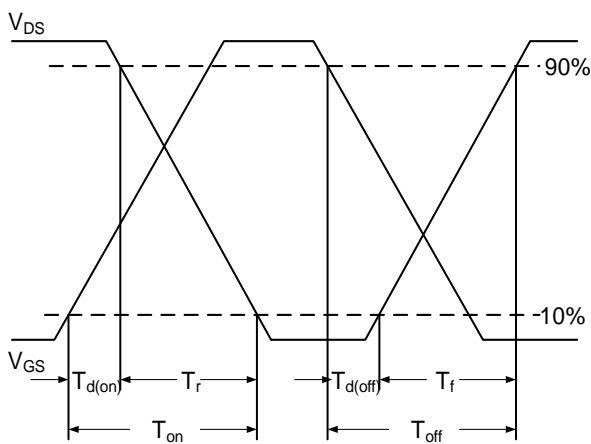


Fig.10 Switching Time Waveform

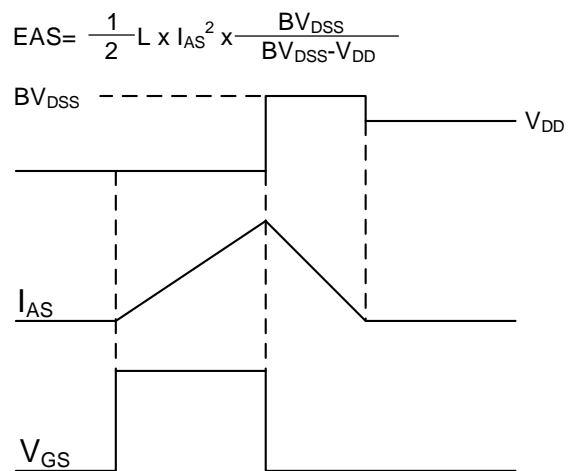
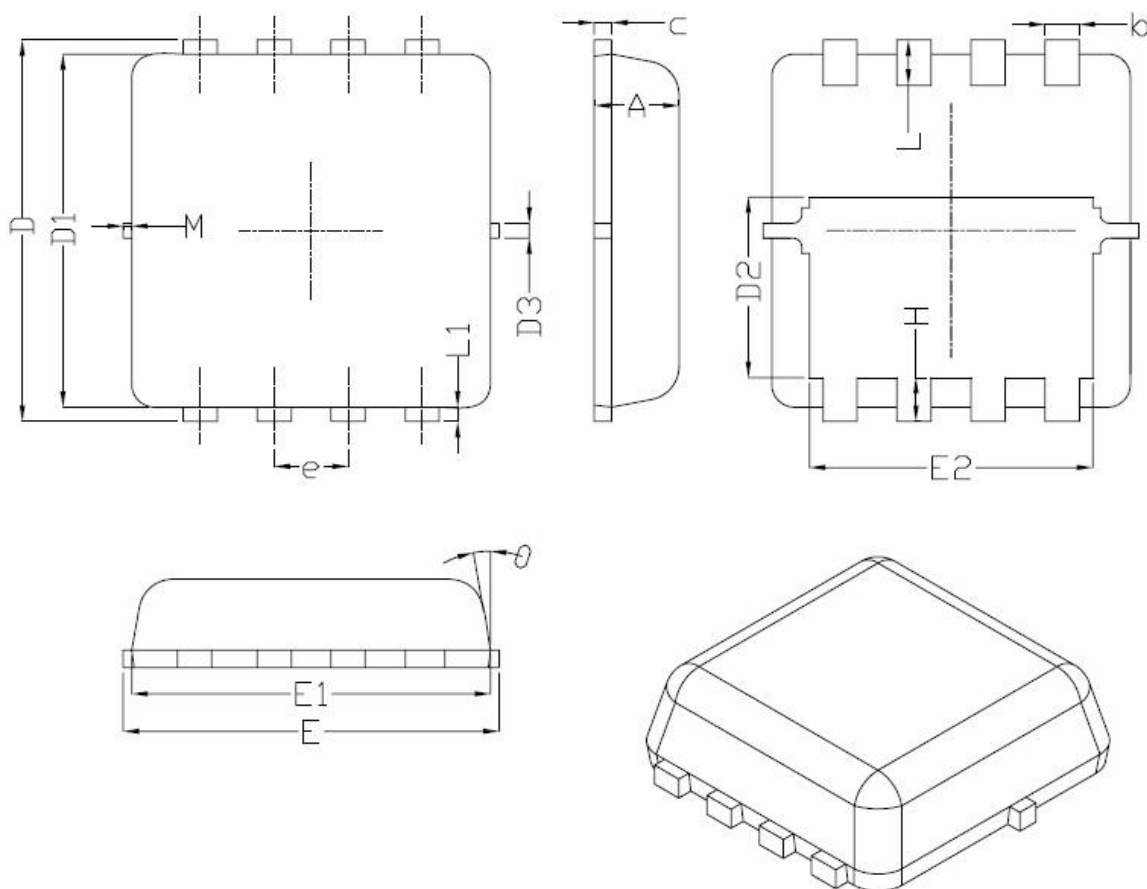


Fig.11 Unclamped Inductive Waveform

Package Information

DFN3X3-8L



Symbol	Dimensions In Millimeters		
	Min.	Nom.	Max.
A	0.70	0.75	0.80
b	0.25	0.30	0.35
c	0.10	0.15	0.25
D	3.25	3.35	3.45
D1	3.00	3.10	3.20
D2	1.48	1.58	1.68
D3	-	0.13	-
E	3.20	3.30	3.40
E1	3.00	3.15	3.20
E2	2.39	2.49	2.59
e	0.65BSC		
H	0.30	0.39	0.50
L	0.30	0.40	0.50
L1	-	0.13	-
M	*	*	0.15
θ		10°	12°

Statement:

- XBLW reserves the right to modify the product manual without prior notice! Before placing an order, customers need to confirm whether the obtained information is the latest version and verify the completeness of the relevant information.
- Any semi-guide product is subject to failure or malfunction under specified conditions. It is the buyer's responsibility to comply with safety standards when using XBLW products for system design and whole machine manufacturing. And take the appropriate safety measures to avoid the potential in the risk of loss of personal injury or loss of property situation!
- XBLW products have not been licensed for life support, military, and aerospace applications, and therefore XBLW is not responsible for any consequences arising from the use of this product in these areas.
- If any or all XBLW products (including technical data, services) described or contained in this document are subject to any applicable local export control laws and regulations, they may not be exported without an export license from the relevant authorities in accordance with such laws.
- The specifications of any and all XBLW products described or contained in this document specify the performance, characteristics, and functionality of said products in their standalone state, but do not guarantee the performance, characteristics, and functionality of said products installed in Customer's products or equipment. In order to verify symptoms and conditions that cannot be evaluated in a standalone device, the Customer should ultimately evaluate and test the device installed in the Customer's product device.
- XBLW documentation is only allowed to be copied without any alteration of the content and with the relevant authorization. XBLW assumes no responsibility or liability for altered documents.
- XBLW is committed to becoming the preferred semiconductor brand for customers, and XBLW will strive to provide customers with better performance and better quality products.

单击下面可查看定价，库存，交付和生命周期等信息

[>>XBLW\(芯伯乐\)](#)