

NVMFS5826NL

ELECTRICAL CHARACTERISTICS (T_J = 25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0 V, I _D = 250 μA	60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} = 0 V, V _{DS} = 60 V	T _J = 25°C		1.0	μA
			T _J = 125°C		10	
Gate-to-Source Leakage Current	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V			±100	nA

ON CHARACTERISTICS (Note 5)

Gate Threshold Voltage	V _{GS(TH)}	V _{GS} = V _{DS} , I _D = 250 μA	1.5		2.5	V
Drain-to-Source On Resistance	R _{DS(on)}	V _{GS} = 10 V, I _D = 10 A		18	24	mΩ
		V _{GS} = 4.5 V, I _D = 10 A		24	32	
Forward Transconductance	g _{FS}	V _{DS} = 15 V, I _D = 5 A		8.0		S

CHARGES AND CAPACITANCES

Input Capacitance	C _{iss}	V _{GS} = 0 V, f = 1 MHz, V _{DS} = 25 V		850		pF
Output Capacitance	C _{oss}			85		
Reverse Transfer Capacitance	C _{rss}			50		
Total Gate Charge	Q _{G(TOT)}	V _{GS} = 4.5 V, V _{DS} = 48 V, I _D = 10 A		9.1		nC
Threshold Gate Charge	Q _{G(TH)}			1.0		
Gate-to-Source Charge	Q _{GS}			3.0		
Gate-to-Drain Charge	Q _{GD}			4.0		
Total Gate Charge	Q _{G(TOT)}	V _{GS} = 10 V, V _{DS} = 48 V, I _D = 10 A		17		nC

SWITCHING CHARACTERISTICS (Note 6)

Turn-On Delay Time	t _{d(ON)}	V _{GS} = 4.5 V, V _{DS} = 48 V, I _D = 10 A, R _G = 2.5 Ω		9.0		ns
Rise Time	t _r			32		
Turn-Off Delay Time	t _{d(OFF)}			15		
Fall Time	t _f			24		

DRAIN-SOURCE DIODE CHARACTERISTICS

Forward Diode Voltage	V _{SD}	V _{GS} = 0 V, I _S = 10 A	T _J = 25°C		0.8	1.2	V
			T _J = 125°C		0.7		
Reverse Recovery Time	t _{RR}	V _{GS} = 0 V, dI _S /dt = 100 A/μs, I _S = 10 A		15		ns	
Charge Time	t _a			11			
Discharge Time	t _b			4.0			
Reverse Recovery Charge	Q _{RR}			11			nC

5. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2%.

6. Switching characteristics are independent of operating junction temperatures.

TYPICAL CHARACTERISTICS

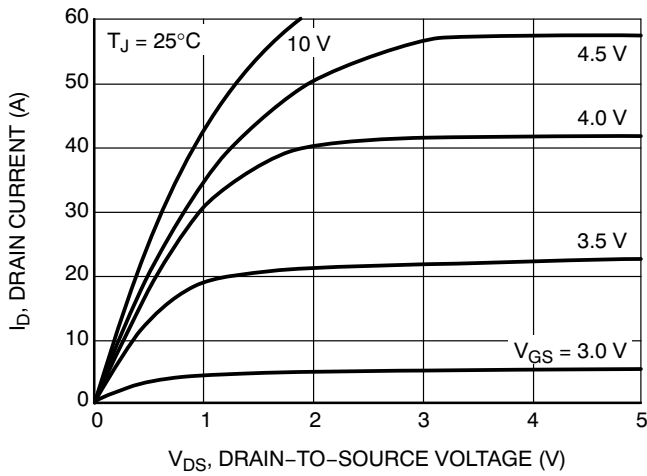


Figure 1. On-Region Characteristics

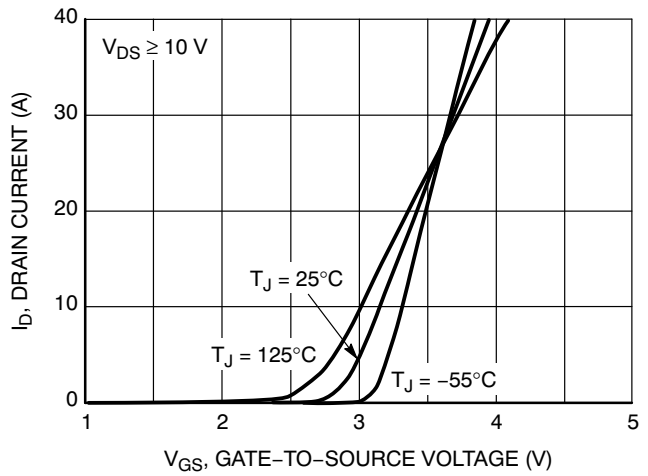


Figure 2. Transfer Characteristics

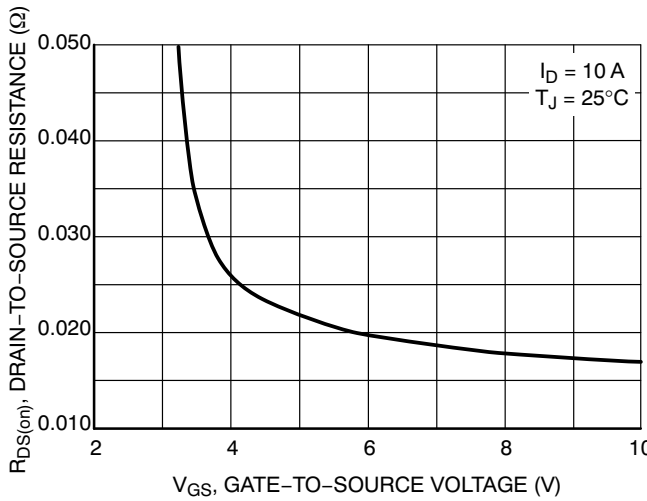


Figure 3. On-Resistance vs. Gate-to-Source Voltage

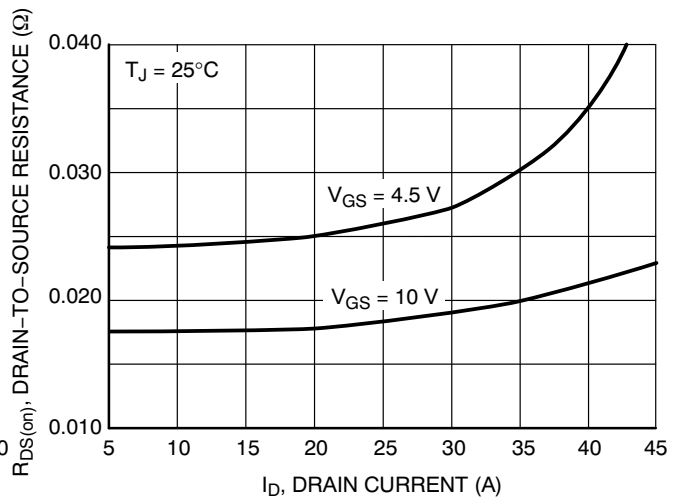


Figure 4. On-Resistance vs. Drain Current and Gate Voltage

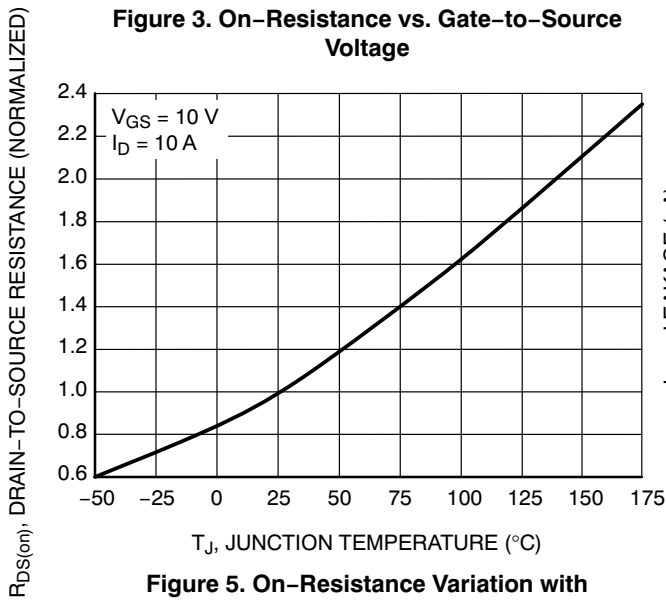


Figure 5. On-Resistance Variation with Temperature

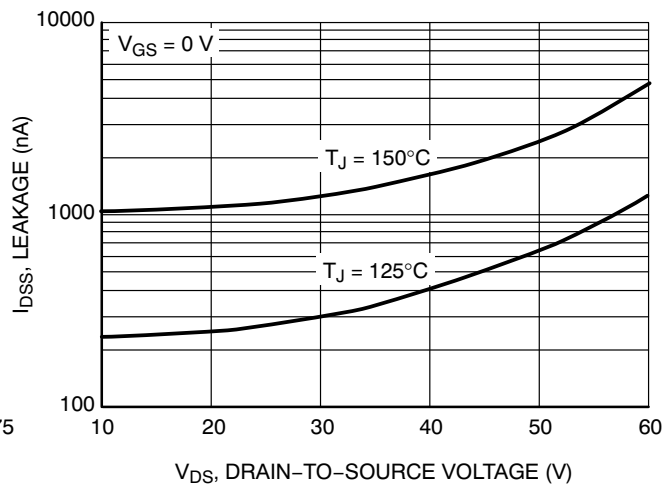


Figure 6. Drain-to-Source Leakage Current vs. Voltage

TYPICAL CHARACTERISTICS

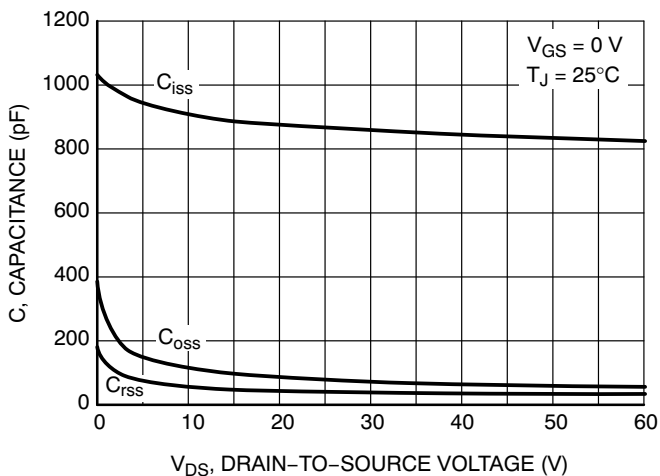


Figure 7. Capacitance Variation

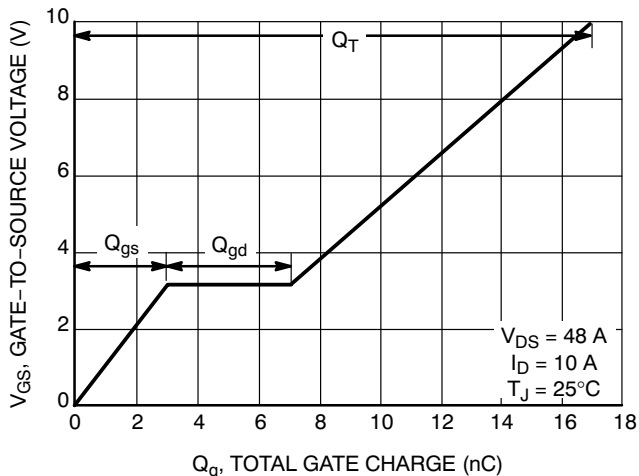


Figure 8. Gate-to-Source Voltage vs. Total Charge

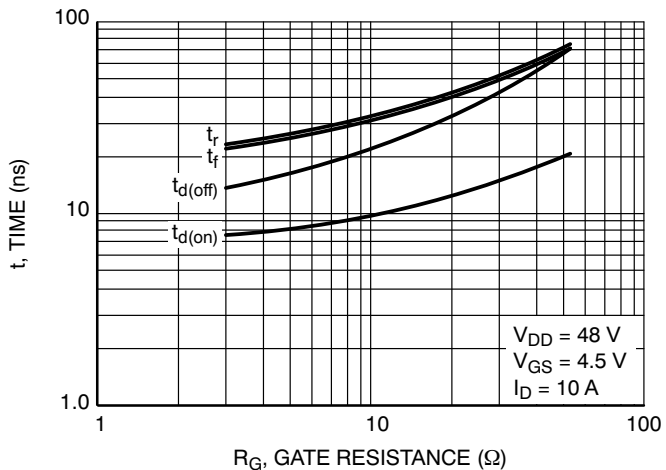


Figure 9. Resistive Switching Time Variation vs. Gate Resistance

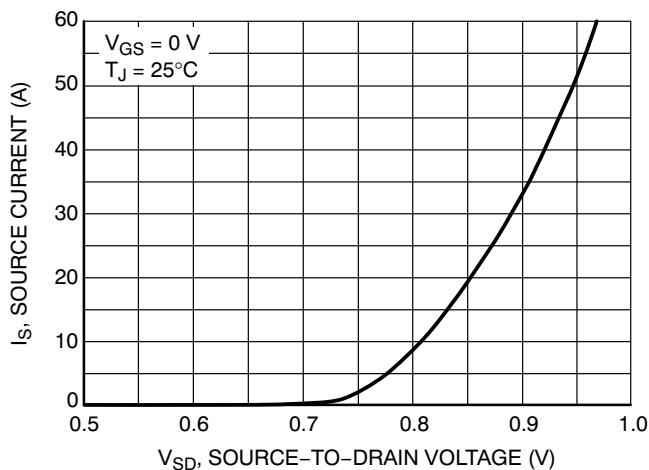


Figure 10. Diode Forward Voltage vs. Current

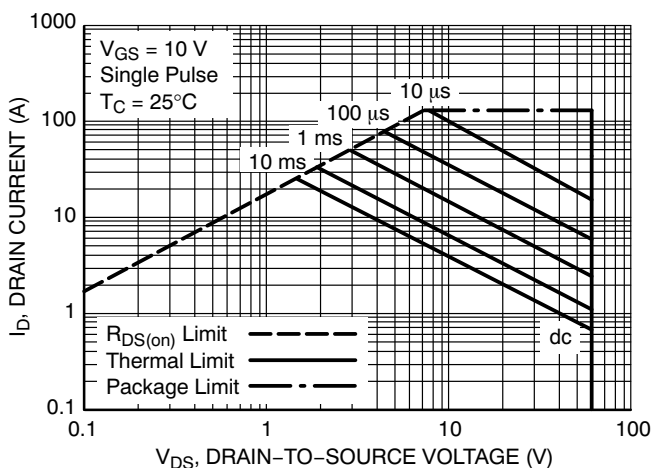


Figure 11. Maximum Rated Forward Biased Safe Operating Area

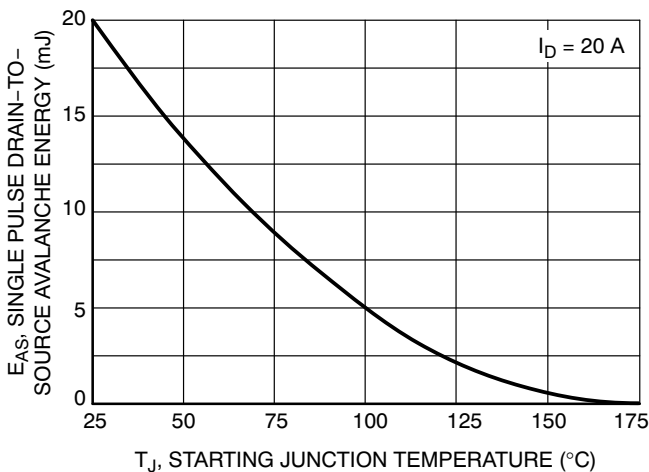


Figure 12. Maximum Avalanche Energy vs. Starting Junction Temperature

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TYPICAL CHARACTERISTICS

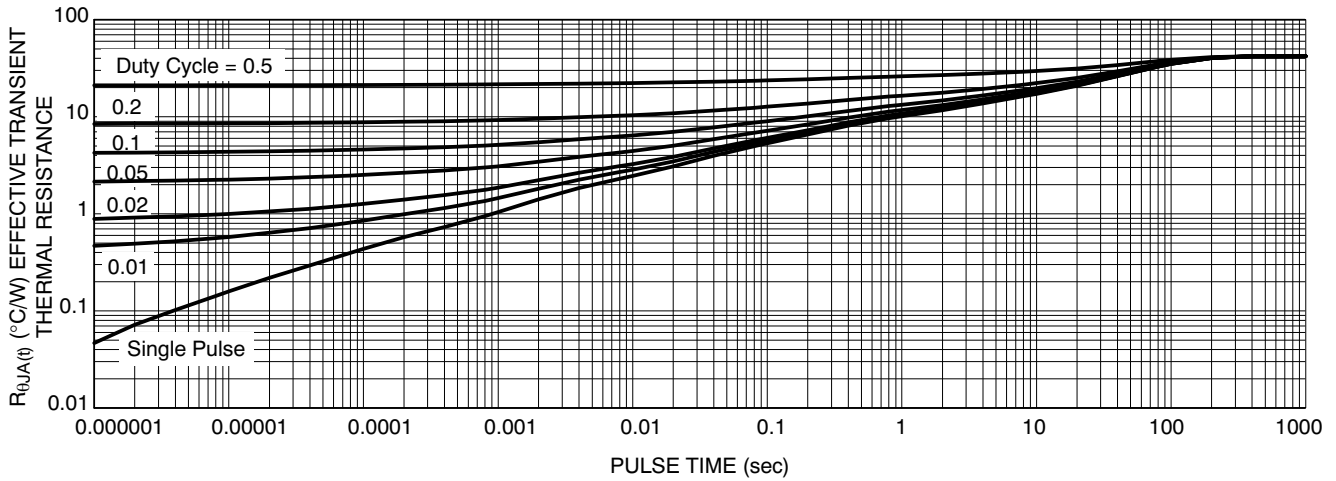


Figure 13. Thermal Response

DEVICE ORDERING INFORMATION

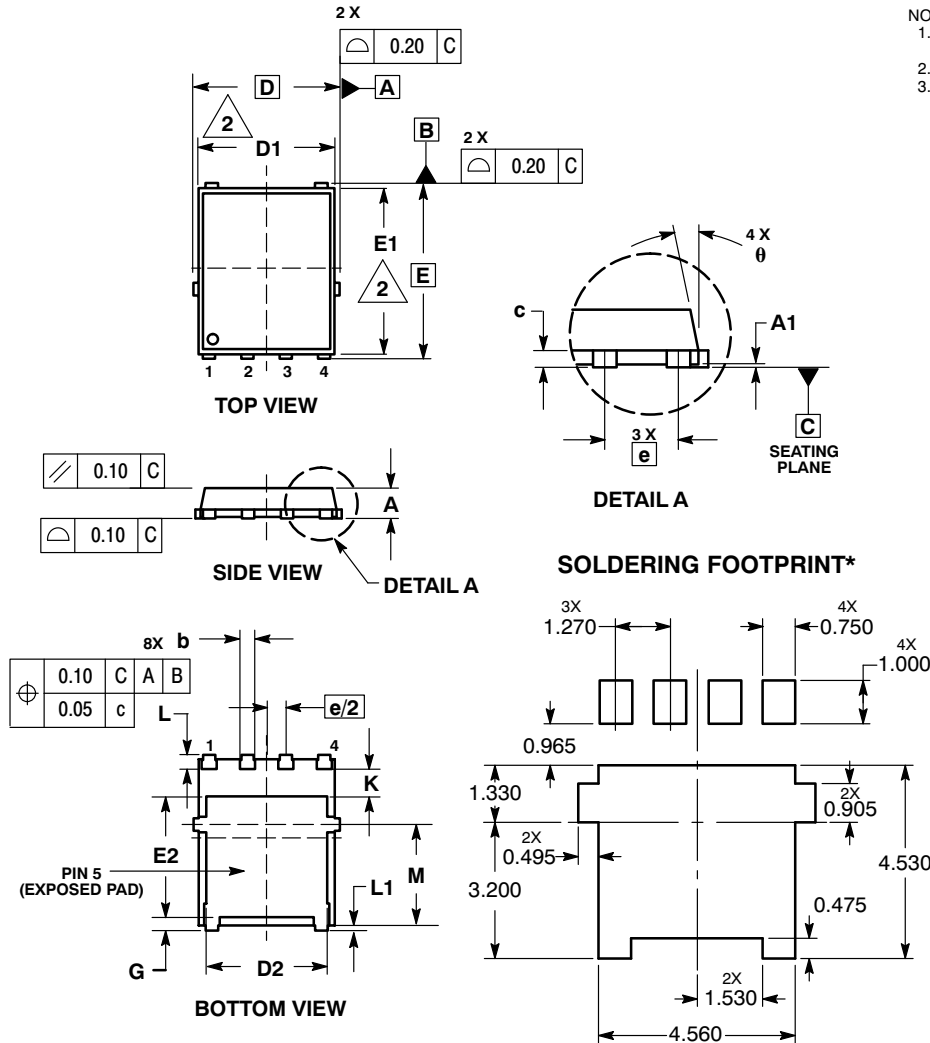
Device	Marking	Package	Shipping†
NVMFS5826NLT1G	V5826L	DFN5 (Pb-Free)	1500 / Tape & Reel
NVMFS5826NLWFT1G	5826LW	DFN5 (Pb-Free)	1500 / Tape & Reel
NVMFS5826NLT3G	V5826L	DFN5 (Pb-Free)	5000 / Tape & Reel
NVMFS5826NLWFT3G	5826LW	DFN5 (Pb-Free)	5000 / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

NVMFS5826NL

PACKAGE DIMENSIONS

DFN5 5x6, 1.27P
(SO-8FL)
CASE 488AA
ISSUE H



NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETER.
3. DIMENSION D1 AND E1 DO NOT INCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS.

DIM	MILLIMETERS		
	MIN	NOM	MAX
A	0.90	1.00	1.10
A1	0.00	---	0.05
b	0.33	0.41	0.51
c	0.23	0.28	0.33
D	5.15 BSC		
D1	4.70	4.90	5.10
D2	3.80	4.00	4.20
E	6.15 BSC		
E1	5.70	5.90	6.10
E2	3.45	3.65	3.85
e	1.27 BSC		
G	0.51	0.61	0.71
K	1.20	1.35	1.50
L	0.51	0.61	0.71
L1	0.05	0.17	0.20
M	3.00	3.40	3.80
θ	0°	---	12°

STYLE 1:

1. SOURCE
2. SOURCE
3. SOURCE
4. GATE
5. DRAIN

*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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