

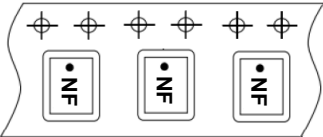
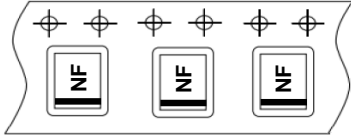

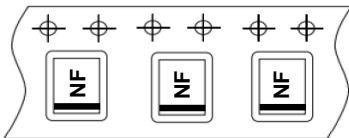


Marking Information

DMN3730UFB4-7	<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Top View Dot Denotes Drain Side</p> </div> <div style="text-align: center;"> <p>From date code 1527 (YYWW), this changes to:</p>  <p>Top View Bar Denotes Gate and Source Side</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div>
DMN3730UFB4-7B	<div style="text-align: center; margin-bottom: 10px;">  <p>Top View Bar Denotes Gate and Source Side</p> </div> <div style="display: flex; justify-content: space-around; align-items: center; margin-bottom: 10px;">  <p>NF = Part Marking Code</p> </div>

Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic			Symbol	Value	Unit
Drain-Source Voltage			V _{DSS}	30	V
Gate-Source Voltage			V _{GSS}	±8	
Continuous Drain Current	V _{GS} = 4.5V	(Note 6)	I _D	0.91	A
		T _A = +70°C (Note 6)		0.73	
		(Note 5)		0.75	
Pulsed Drain Current		(Note 7)	I _{DM}	3	

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic		Symbol	Value	Unit
Power Dissipation	(Note 6)	P _D	0.69	W
	(Note 5)		0.47	
Thermal Resistance, Junction to Ambient	(Note 6)	R _{θJA}	180	°C/W
	(Note 5)		258	
Operating and Storage Temperature Range		T _J , T _{STG}	-55 to +150	°C

- Notes:
- For a device surface mounted on a minimum recommended pad layout of an FR4 PCB, in still air conditions; the device is measured when operating in steady-state condition.
 - Same as note 4, except the device measured at t ≤ 10 seconds.
 - Same as note 4, except the device is pulsed at duty cycle of 1% for a pulse width of 10μs.

Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV _{DSS}	30	—	—	V	V _{GS} = 0V, I _D = 10μA
Zero Gate Voltage Drain Current	I _{DSS}	—	—	1	μA	V _{DS} = 30V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	—	—	3	μA	V _{GS} = ±8V, V _{DS} = 0V
ON CHARACTERISTICS						
Gate Threshold Voltage	V _{GS(th)}	0.45	—	0.95	V	V _{DS} = V _{GS} , I _D = 250μA
Static Drain-Source On-Resistance (Note 8)	R _{DS(on)}	—	—	460	mΩ	V _{GS} = 4.5V, I _D = 200mA
		—	—	560		V _{GS} = 2.5V, I _D = 100mA
		—	—	730		V _{GS} = 1.8V, I _D = 75mA
Forward Transfer Admittance	Y _{fs}	40	—	—	mS	V _{DS} = 3V, I _D = 10mA
Diode Forward Voltage (Note 8)	V _{SD}	—	0.7	1.2	V	V _{GS} = 0V, I _S = 300mA
DYNAMIC CHARACTERISTICS (Note 9)						
Input Capacitance	C _{iss}	—	64.3	—	pF	V _{DS} = 25V, V _{GS} = 0V, f = 1.0MHz
Output Capacitance	C _{oss}	—	6.1	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	4.5	—	pF	
Gate Resistance	R _g	—	70	—	Ω	V _{DS} = 0V, V _{GS} = 0V, f = 1MHz
Total Gate Charge	Q _g	—	1.6	—	nC	V _{GS} = 4.5V, V _{DS} = 15V, I _D = 1A
Gate-Source Charge	Q _{gs}	—	0.2	—	nC	
Gate-Drain Charge	Q _{gd}	—	0.2	—	nC	
Turn-On Delay Time	t _{D(on)}	—	3.5	—	ns	V _{DS} = 10V, I _D = 1A V _{GS} = 10V, R _G = 6Ω
Turn-On Rise Time	t _r	—	2.8	—	ns	
Turn-Off Delay Time	t _{D(off)}	—	38	—	ns	
Turn-Off Fall Time	t _f	—	13	—	ns	

Notes: 8. Measured under pulsed conditions to minimize self-heating effect. Pulse width ≤ 300μs; duty cycle ≤ 2%
 9. For design aid only, not subject to production testing.

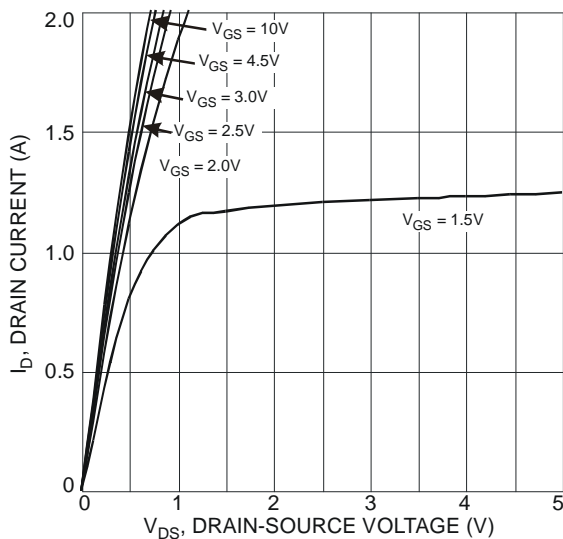


Fig. 1 Typical Output Characteristic

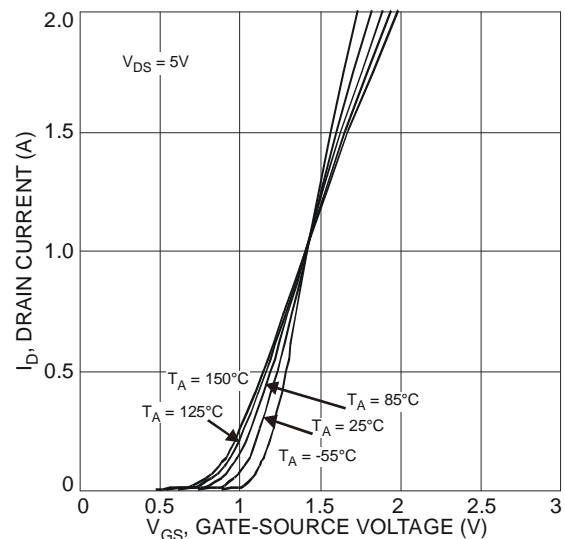


Fig. 2 Typical Transfer Characteristic

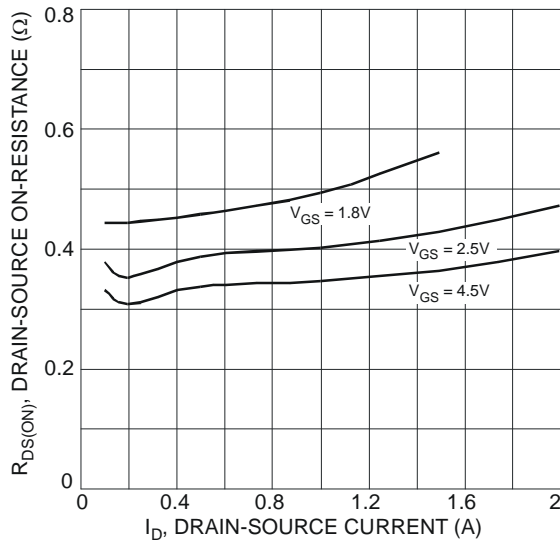


Fig. 3 Typical On-Resistance
vs. Drain Current and Gate Voltage

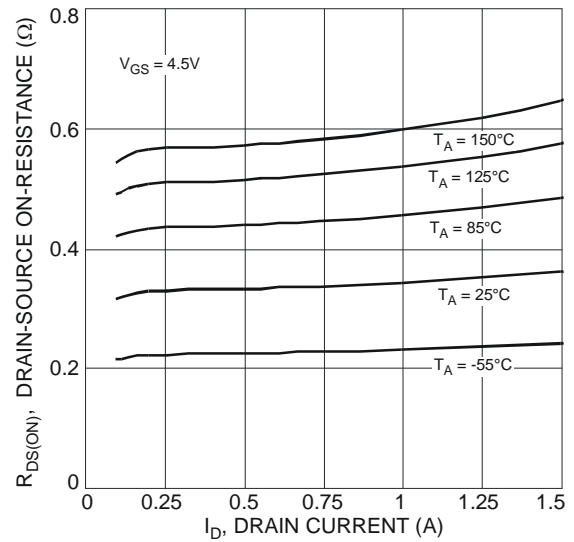


Fig. 4 Typical On-Resistance
vs. Drain Current and Temperature

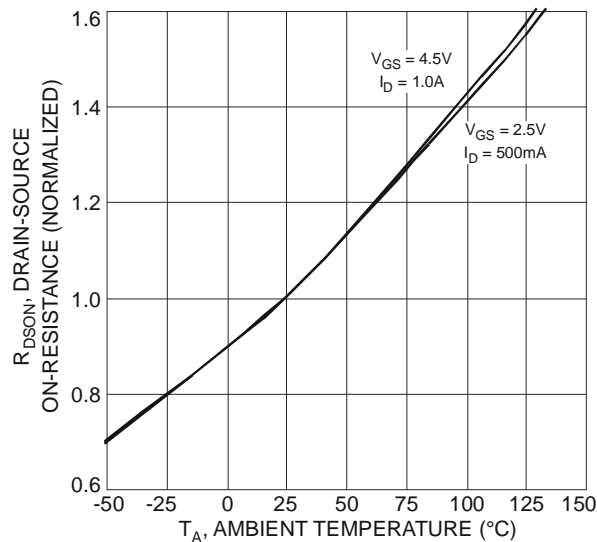


Fig. 5 On-Resistance Variation with Temperature

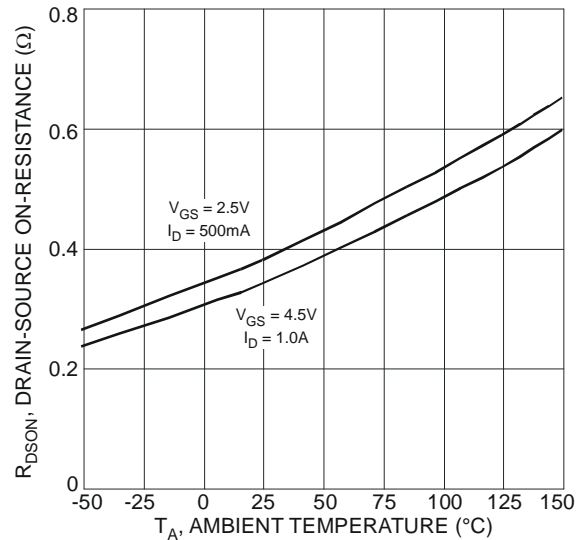


Fig. 6 On-Resistance Variation with Temperature

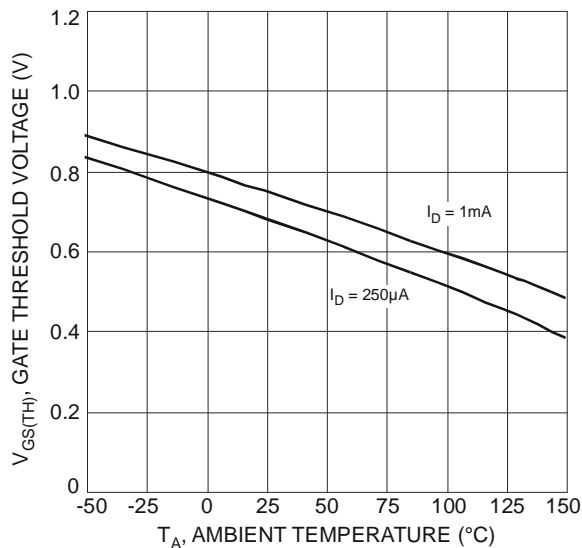


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

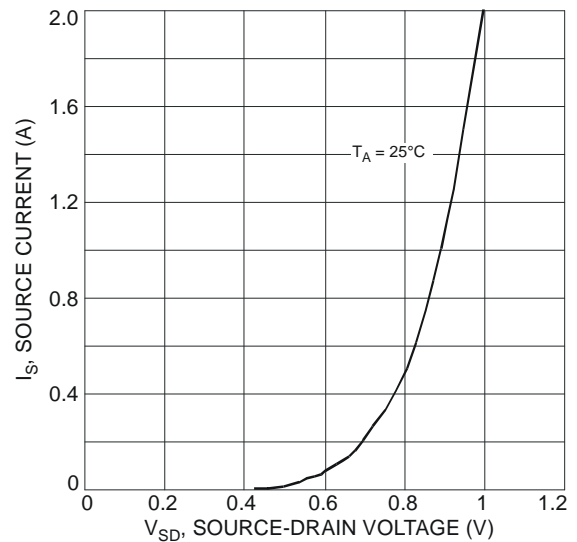


Fig. 8 Diode Forward Voltage vs. Current

DMN3730UFB4

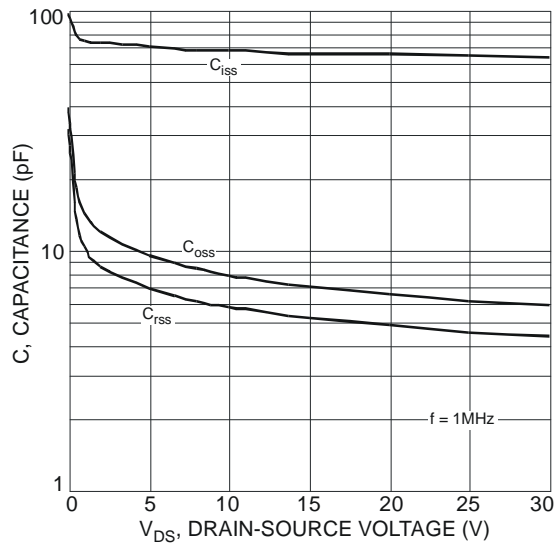


Fig. 9 Typical Total Capacitance

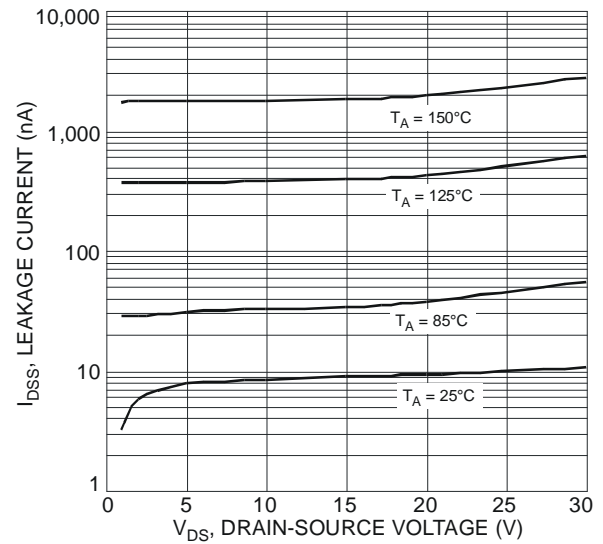


Fig. 10 Typical Leakage Current vs. Drain-Source Voltage

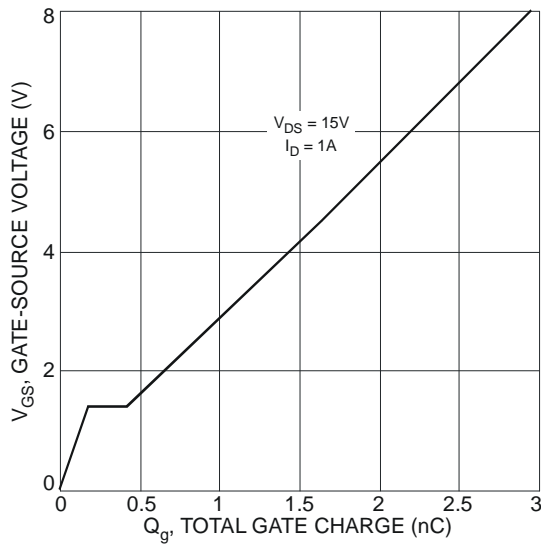


Fig. 11 Gate-Charge Characteristics

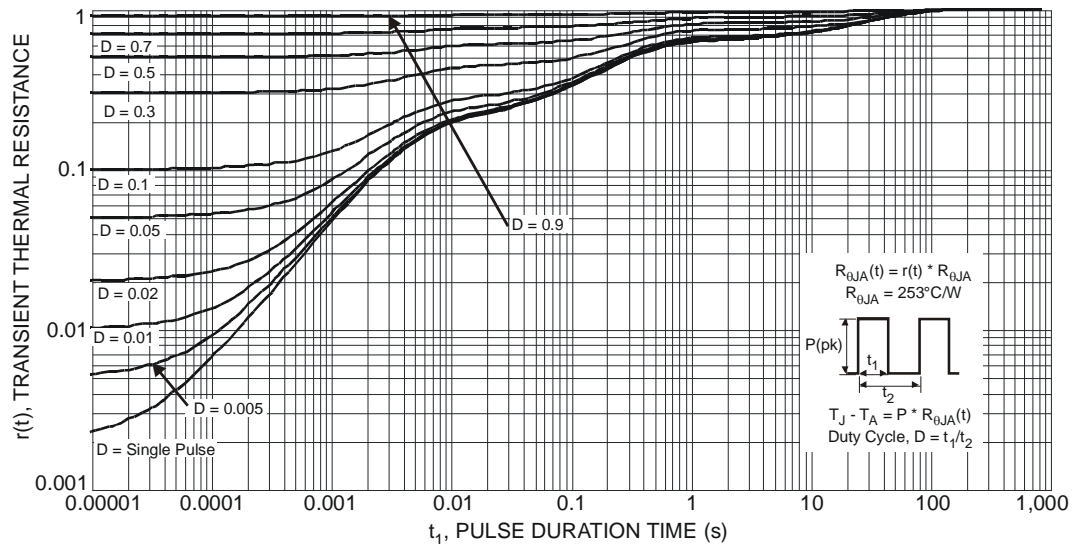
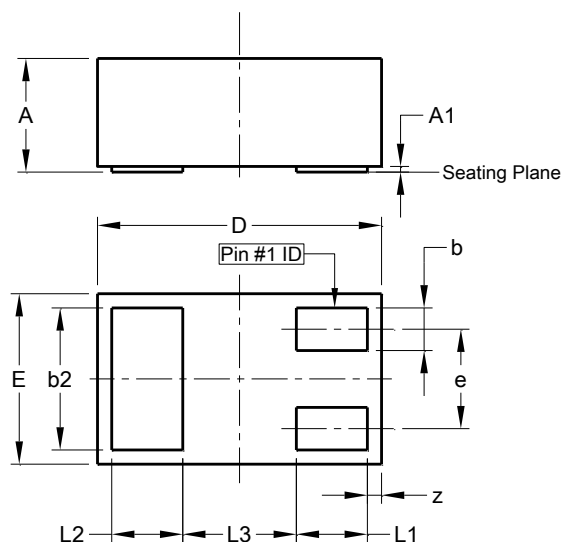


Fig. 12 Transient Thermal Response

Package Outline Dimensions

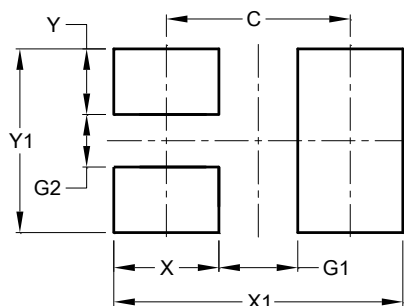
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



X2-DFN1006-3			
Dim	Min	Max	Typ
A	—	0.40	—
A1	0.00	0.05	0.03
b	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.05	1.00
E	0.55	0.65	0.60
e	-	-	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	-	-	0.40
z	0.02	0.08	0.05
All Dimensions in mm			

Suggested Pad Layout

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	0.70
G1	0.30
G2	0.20
X	0.40
X1	1.10
Y	0.25
Y1	0.70

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