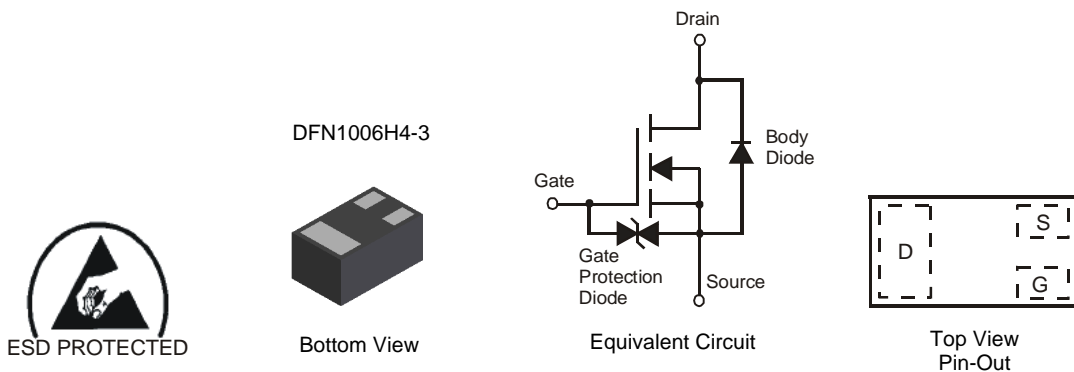


Features

- N-Channel MOSFET
- Low On-Resistance
- Very Low Gate Threshold Voltage, 1.2V max
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Ultra-Small Surface Mount Package
- ESD Protected Gate
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: DFN1006H4-3
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminal Connections: See Diagram
- Terminals: Finish – NiPdAu over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.001 grams (approximate)

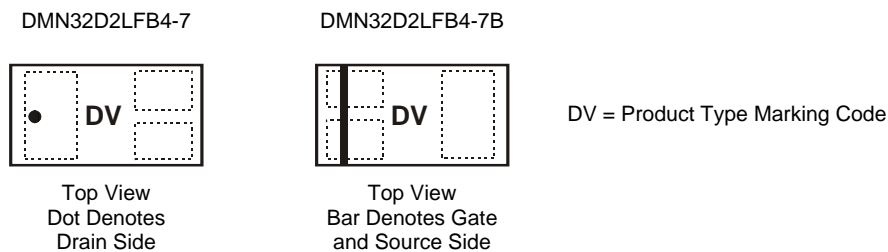


Ordering Information (Note 3)

Part Number	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
DMN32D2LFB4-7	DV	7	8	3000
DMN32D2LFB4-7B	DV	7	8	10,000

- Notes:
1. No purposefully added lead
 2. Diodes Inc's "Green" policy can be found on our website at <http://www.diodes.com>.
 3. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



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}	±10	V
Drain Current (Note 4)	I _D	300	mA

Thermal Characteristics @T_A = 25°C unless otherwise specified

Total Power Dissipation (Note 4) @T _A = 25°C	P _D	350	mW
Thermal Resistance, Junction to Ambient (Note 4)	R _{θJA}	357	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
OFF CHARACTERISTICS (Note 5)							
Drain-Source Breakdown Voltage	BV _{DSS}	30	—	—	V	V _{GS} = 0V, I _D = 10μA	
Zero Gate Voltage Drain Current @ T _C = 25°C	I _{DSS}	—	—	1	μA	V _{DS} = 30V, V _{GS} = 0V	
Gate-Body Leakage	I _{GSS}	—	—	±10 ±500	μA nA	V _{GS} = ±10V, V _{DS} = 0V V _{GS} = ±5V, V _{DS} = 0V	
ON CHARACTERISTICS (Note 5)							
Gate Threshold Voltage	V _{GS(th)}	0.6	—	1.2	V	V _{DS} = V _{GS} , I _D = 250μA	
Static Drain-Source On-Resistance	R _{DS(ON)}	—	—	2.2 1.5 1.2	Ω	V _{GS} = 1.8V, I _D = 20mA V _{GS} = 2.5V, I _D = 20mA V _{GS} = 4.0V, I _D = 100mA	
Forward Transconductance	Y _{fs}	100	—	—	mS	V _{DS} = 10V, I _D = 0.1A	
Source-Drain Diode Forward Voltage	V _{SD}	0.5	—	1.4	V	V _{GS} = 0V, I _S = 115mA	
DYNAMIC CHARACTERISTICS							
Input Capacitance	C _{iSS}	—	39	—	pF	V _{DS} = 3V, V _{GS} = 0V f = 1.0MHz	
Output Capacitance	C _{oSS}	—	10	—	pF		
Reverse Transfer Capacitance	C _{rSS}	—	3.6	—	pF		
Switching Time	Turn-on Time	t _{on}	—	11	—	nS	V _{DD} = 5V, I _D = 10 mA, V _{GS} = 0-5V
	Turn-off Time	t _{off}	—	51	—	nS	

- Notes: 4. Device mounted on FR-4 PCB, pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com>.
5. Short duration pulse test used to minimize self-heating effect.

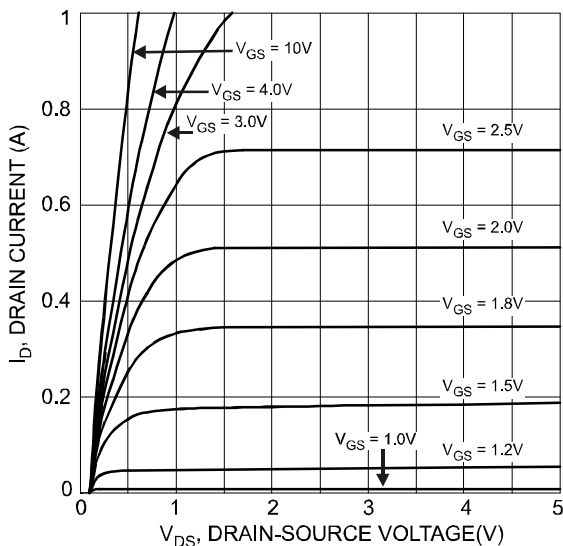


Fig. 1 Typical Output Characteristics

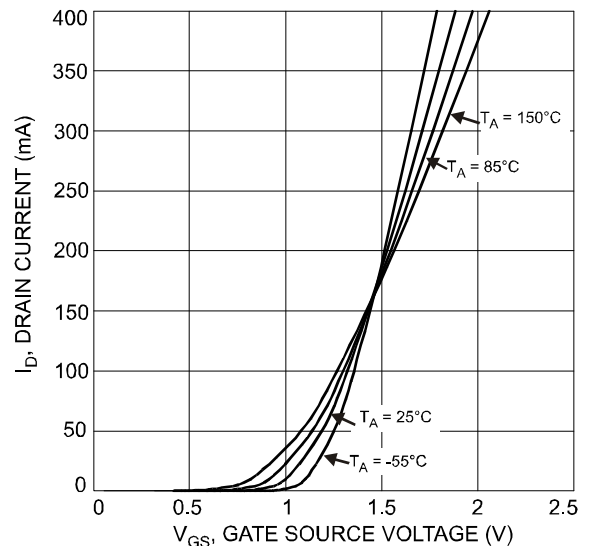


Fig. 2 Typical Transfer Characteristics

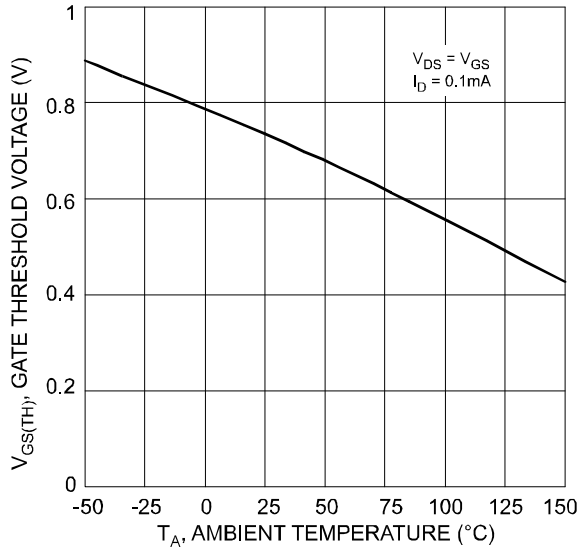


Fig. 3 Gate Threshold Voltage vs. Ambient Temperature

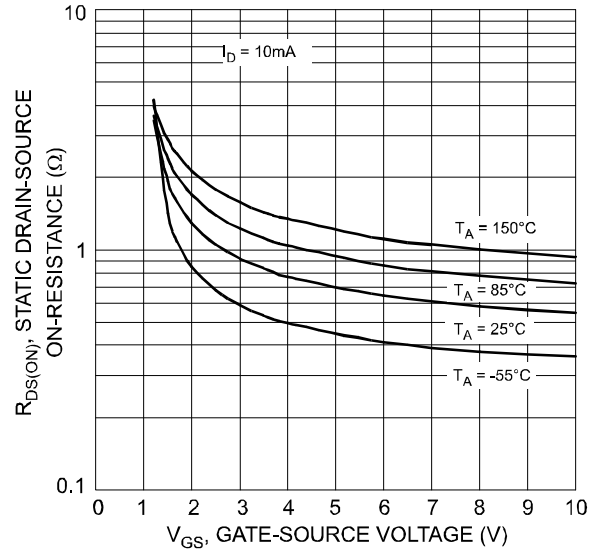


Fig. 4 Static Drain-Source On-Resistance vs. Gate-Source Voltage

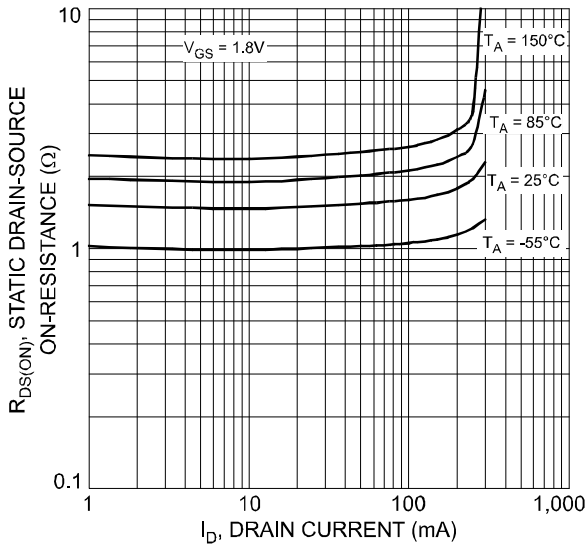


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

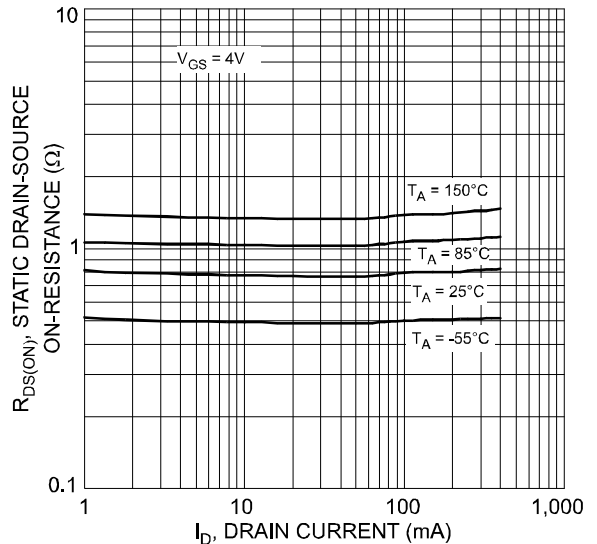


Fig. 6 Static Drain-Source On-Resistance vs. Drain Current

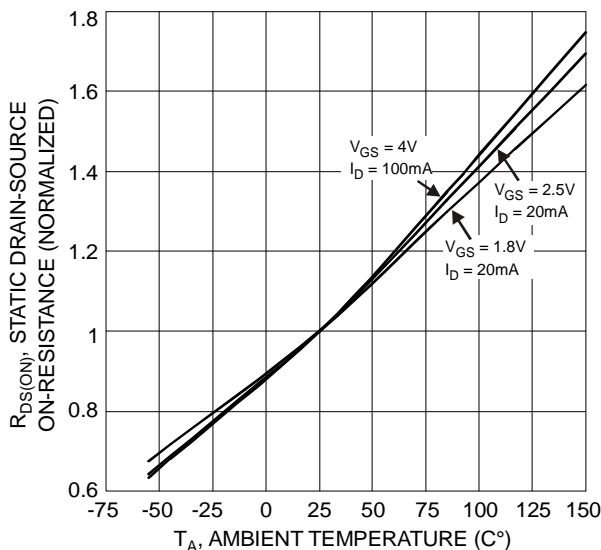


Fig. 7 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

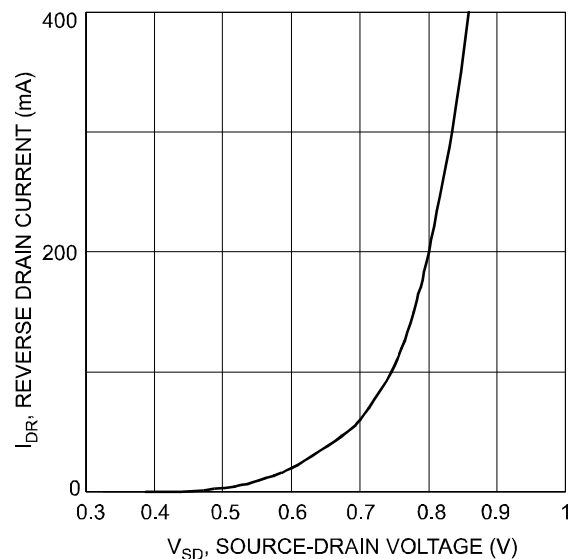


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

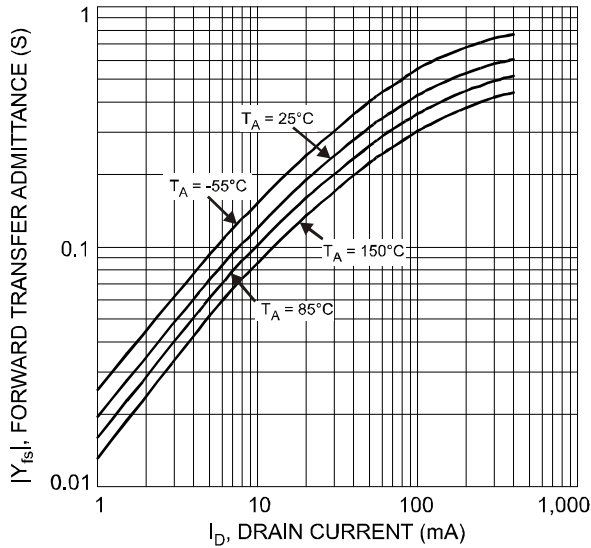


Fig. 9 Forward Transfer Admittance vs. Drain Current

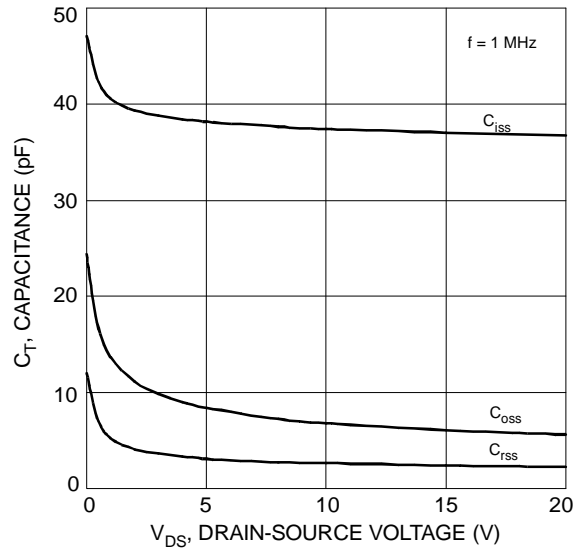
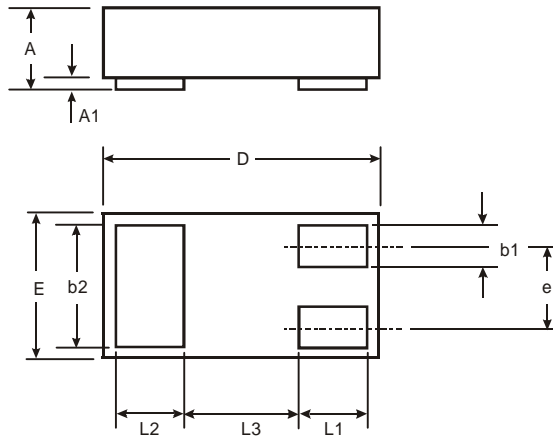


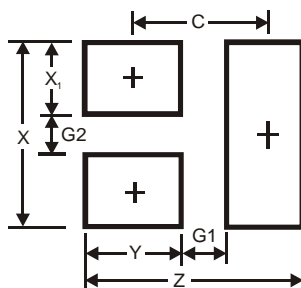
Fig. 10 Typical Capacitance

Package Outline Dimensions



DFN1006H4-3			
Dim	Min	Max	Typ
A	—	0.40	—
A1	0	0.05	0.02
b1	0.10	0.20	0.15
b2	0.45	0.55	0.50
D	0.95	1.075	1.00
E	0.55	0.675	0.60
e	—	—	0.35
L1	0.20	0.30	0.25
L2	0.20	0.30	0.25
L3	—	—	0.40
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	1.1
G1	0.3
G2	0.2
X	0.7
X1	0.25
Y	0.4
C	0.7

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