





N-CHANNEL ENHANCEMENT MODE MOSFET

Product Summary

BV _{DSS}	R _{DS(ON)}	I _D T _A = +25°C		
001/	2Ω @ V _{GS} = 4V	400mA		
60V	2.5Ω @ $V_{GS} = 2.5V$	350mA		

Description and Applications

This new generation MOSFET is designed to minimize the on-state resistance (R_{DS(ON)}) and yet maintain superior switching performance, making it ideal for high efficiency power management applications.

- DC-DC Converters
- Power Management Functions
- Battery Operated Systems and Solid-State Relays
- Drivers: Relays, Solenoids, Lamps, Hammers, Displays, Memories, Transistors, etc.

Features and Benefits

- Low On-Resistance
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- ESD Protected
- Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)
- Halogen and Antimony Free. "Green" Device (Note 3)
- Qualified to AEC-Q101 Standards for High Reliability

Mechanical Data

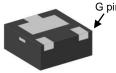
- Case: U-DFN1212-3 (Type C)
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: NiPdAu over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (e4)
- Terminal Connections: See Diagram
- Weight: 0.005 grams (Approximate)



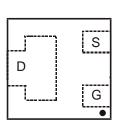




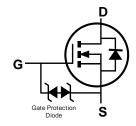
Top View



Bottom View



Pin-Out Top View



Equivalent Circuit

Ordering Information (Note 4)

Part Number	Compliance	Case	Packaging
DMN62D1LFD-7	Standard	U-DFN1212-3 (Type C)	3,000/Tape & Reel
DMN62D1LFD-13	Standard	U-DFN1212-3 (Type C)	10,000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
- 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
- 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 4. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information





K64 = Product Type Marking Code K63 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: E = 2017) M = Month (ex: 9 = September)

Date Code Kev

Date Code	Ney												
Year	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Code	Α	В	С	D	E	F	G	Н	1	J	K	L	М
Month	Jan	Feb	Mar	Apr	Ma	y J	un	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5		6	7	8	q	0	N	D



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

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V _{DSS}	60	V
Gate-Source Voltage	V _{GSS}	±20	V
Continuous Drain Current (Note 5) V _{GS} = 4V	I _D	400 310	mA
Pulsed Drain Current (Note 6)	I _{DM}	1	Α

Thermal Characteristics

Characteristic	Symbol	Max	Unit
Power Dissipation (Note 5)	P _D	0.5	W
Thermal Resistance, Junction to Ambient @T _A = +25°C (Note 5)	$R_{\theta JA}$	237	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

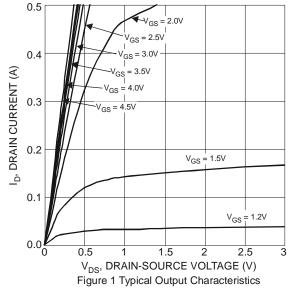
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

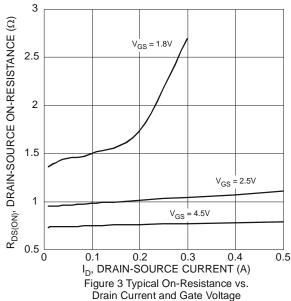
Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
OFF CHARACTERISTICS (Note 7)	•		•				
Drain-Source Breakdown Voltage	BV _{DSS}	60	_	_	V	V _{GS} = 0V, I _D = 250μA	
Zero Gate Voltage Drain Current T _J = +25°C	I _{DSS}	_	_	1	μΑ	$V_{DS} = 60V, V_{GS} = 0V$	
		_	_	±100	nA	$V_{GS} = \pm 5V$, $V_{DS} = 0V$	
Gate-Source Leakage	I _{GSS}	_	_	±500	nA	$V_{GS} = \pm 10V$, $V_{DS} = 0V$	
		_	_	±2	μA	$V_{GS} = \pm 15V, V_{DS} = 0V$	
ON CHARACTERISTICS (Note 7)							
Gate Threshold Voltage	V _{GS(TH)}	0.6	_	1	V	$V_{DS} = V_{GS}$, $I_D = 250\mu A$	
		-	0.8	2		$V_{GS} = 4V, I_D = 100mA$	
Static Drain-Source On-Resistance	D	1	1	2.5	Ω	$V_{GS} = 2.5V, I_D = 50mA$ $V_{GS} = 1.8V, I_D = 50mA$	
Static Dialii-Source Off-Resistance	R _{DS(ON)}	1	1.4	3			
		1	1.8	_		$V_{GS} = 1.5V, I_D = 10mA$	
Forward Transfer Admittance	Y _{fs}	_	1.8	_	S	$V_{DS} = 10V, I_D = 200mA$	
Diode Forward Voltage	V_{SD}	_	0.8	1.3	V	V _{GS} = 0V, I _S = 115mA	
DYNAMIC CHARACTERISTICS (Note 8)							
Input Capacitance	C _{iss}		36	_		051/1/ 01/	
Output Capacitance	Coss	1	4.6	_	pF	$V_{DS} = 25V$, $V_{GS} = 0V$, f = 1MHz	
Reverse Transfer Capacitance	Crss		3.6	_		1 - 11/11/2	
Gate Resistance	R_g	1	59.8	_	Ω	$V_{DS} = 0V$, $V_{GS} = 0V$, $f = 1MHz$	
Total Gate Charge	Qg	1	0.55	_		V 45V V 40V	
Gate-Source Charge	Q_{gs}	_	0.08	_	nC	$V_{GS} = 4.5V, V_{DS} = 10V,$ $I_{D} = 250 \text{mA}$	
Gate-Drain Charge	Q_{gd}	_	0.12	_		ID = ZOUIIA	
Turn-On Delay Time	t _{D(ON)}	_	2.1	_	ns		
Turn-On Rise Time		_	2.8	_	ns	$V_{GS} = 10V, V_{DS} = 30V,$	
Turn-Off Delay Time		-	21	_	ns	$R_L = 150\Omega$, $R_G = 25\Omega$, $R_D = 200$ mA	
Turn-Off Fall Time	t _F	_	13.9	_	ns	710 - 200111/	

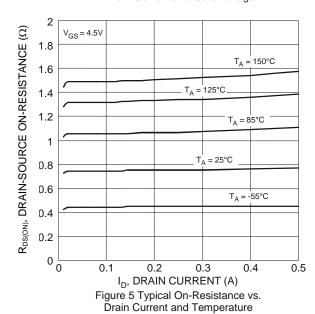
Notes:

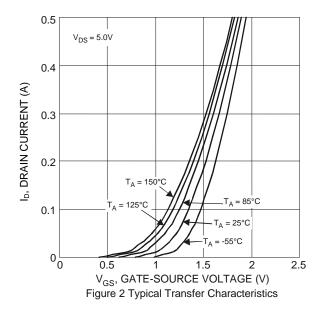
- 5. Device mounted on FR-4 PCB with minimum recommended pad layout, single sided.
- Severe minded of the control of

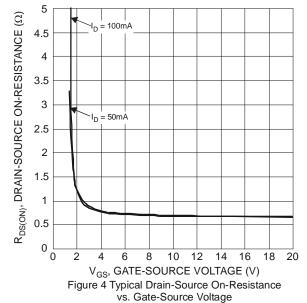












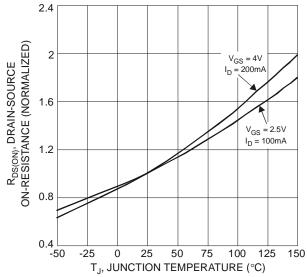
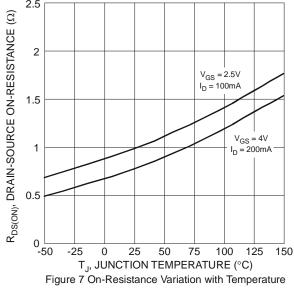
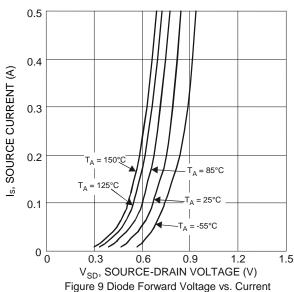


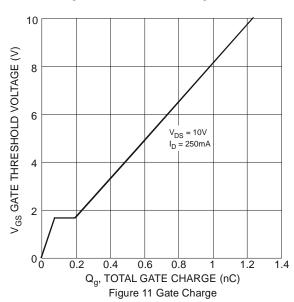
Figure 6 On-Resistance Variation with Temperature

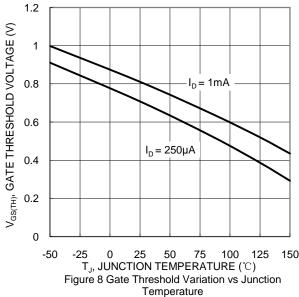


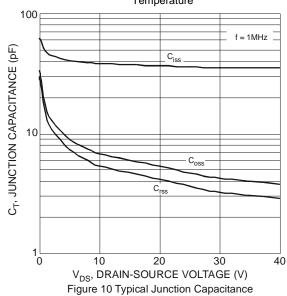


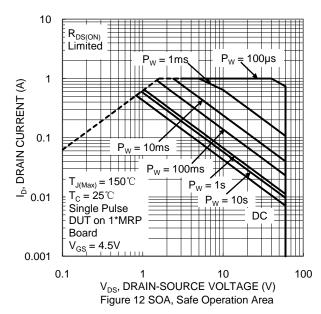




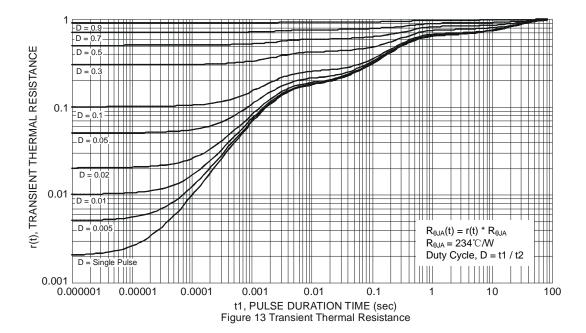










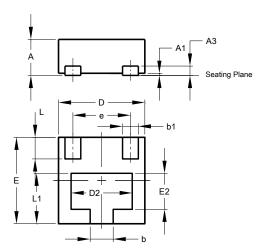




Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

U-DFN1212-3 (Type C)

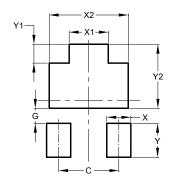


U-DFN1212-3								
Type C								
Dim	Min	Max	Тур					
Α	0.47	0.53	0.50					
A1	0	0.05	0.02					
A3	-	-	0.13					
b	0.27	0.37	0.32					
b1	0.17	0.27	0.22					
D	1.15	1.25	1.20					
D2	0.75	0.95	0.85					
е	-	-	0.80					
E	1.15	1.25	1.20					
E2	0.40	0.60	0.50					
L	0.25	0.35	0.30					
L1	0.65	0.75	0.70					
All Dimensions in mm								

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.

U-DFN1212-3 (Type C)



Dimensions	Value			
	(in mm)			
C	0.800			
G	0.200			
X	0.320			
X1	0.520			
X2	1.050			
Υ	0.450			
Y1	0.250			
Y2	0.850			



IMPORTANT NOTICE

DIODES INCORPORATED MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, WITH REGARDS TO THIS DOCUMENT, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (AND THEIR EQUIVALENTS UNDER THE LAWS OF ANY JURISDICTION).

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to this document and any product described herein. Diodes Incorporated does not assume any liability arising out of the application or use of this document or any product described herein; neither does Diodes Incorporated convey any license under its patent or trademark rights, nor the rights of others. Any Customer or user of this document or products described herein in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on Diodes Incorporated website, harmless against all damages.

Diodes Incorporated does not warrant or accept any liability whatsoever in respect of any products purchased through unauthorized sales channel. Should Customers purchase or use Diodes Incorporated products for any unintended or unauthorized application, Customers shall indemnify and hold Diodes Incorporated and its representatives harmless against all claims, damages, expenses, and attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized application.

Products described herein may be covered by one or more United States, international or foreign patents pending. Product names and markings noted herein may also be covered by one or more United States, international or foreign trademarks.

This document is written in English but may be translated into multiple languages for reference. Only the English version of this document is the final and determinative format released by Diodes Incorporated.

LIFE SUPPORT

Diodes Incorporated products are specifically not authorized for use as critical components in life support devices or systems without the express written approval of the Chief Executive Officer of Diodes Incorporated. As used herein:

- A. Life support devices or systems are devices or systems which:
 - 1. are intended to implant into the body, or
 - 2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.
- B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

Customers represent that they have all necessary expertise in the safety and regulatory ramifications of their life support devices or systems, and acknowledge and agree that they are solely responsible for all legal, regulatory and safety-related requirements concerning their products and any use of Diodes Incorporated products in such safety-critical, life support devices or systems, notwithstanding any devices- or systems-related information or support that may be provided by Diodes Incorporated. Further, Customers must fully indemnify Diodes Incorporated and its representatives against any damages arising out of the use of Diodes Incorporated products in such safety-critical, life support devices or systems.

Copyright © 2017, Diodes Incorporated

www.diodes.com

ПОСТАВКА ЭЛЕКТРОННЫХ КОМПОНЕНТОВ

многоканальный

Общество с ограниченной ответственностью «МосЧип» ИНН 7719860671 / КПП 771901001 Адрес: 105318, г.Москва, ул.Щербаковская д.3, офис 1107

Данный компонент на территории Российской Федерации Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

http://moschip.ru/get-element

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru moschip.ru_6 moschip.ru 4 moschip.ru 9