





N-CHANNEL ENHANCEMENT MODE MOSFET

Features

- Extremely Low On-Resistance: 170mΩ @ V_{GS} = 4.5V
- High Drain Current: 1.1A
- Ideal for Notebook Computer, Portable Phone, PCMCIA Cards, and Battery Powered Circuits
- ESD Protected Gate
- Lead Free By Design/RoHS Compliant (Note 1)
- "Green" Device (Note 2)
- Qualified to AEC-Q101 Standards for High Reliability

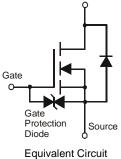
Mechanical Data

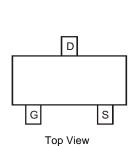
- Case: SC59
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.014 grams (approximate)

Drain









Top View Equivaler

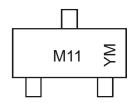
Ordering Information (Note 3)

Part Number	Case	Packaging
DMN100-7-F	SC59	3000/Tape & Reel

1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. No purposely added lead. Halogen and Antimony free.

- 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



M11 = Product Type Marking Code YM = Date Code Marking Y = Year (ex: T = 2006) M = Month (ex: 9 = September)

Date Code Key

Notes:

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Code	Т	U	V	W	Х	Υ	Z	Α	В	С	D	Е
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

March 2012

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Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V _{DSS}	30	V
Gate-Source Voltage Continuous	V _{GSS}	±20	V
Drain Current Continuous	1-	1.1	^
Pulsed	ID	4.0	A

Thermal Characteristics @TA = 25°C unless otherwise specified

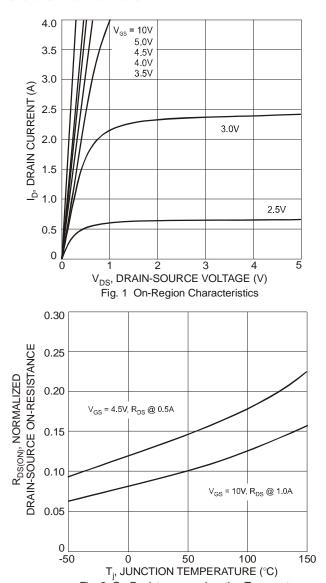
Characteristic	Symbol	Value	Units
Total Power Dissipation	P_{D}	500	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	250	K/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

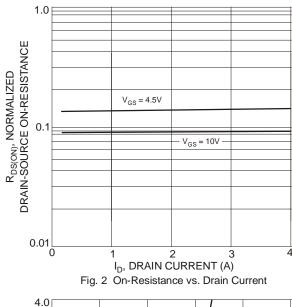
Electrical Characteristics @T_A = 25°C unless otherwise specified

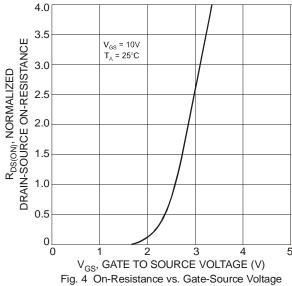
Characteristic		Symbol	Min	Тур	Max	Unit	Test Condition		
OFF CHARACTERISTICS (Note 4)							٠		
Drain-Source Breakdown Voltage		BV _{DSS}	30	_		V	$V_{GS} = 0V, I_D = 250 \mu A$		
Zero Gate Voltage Drain Current	@ T _J = 25°C @ T _J = 125°C	I _{DSS}	_	_	1.0 10	μА	V _{DS} = 24V, V _{GS} = 0V		
Gate-Body Leakage		I _{GSS}	_	_	± 100	nA	$V_{GS} = \pm 12V, V_{DS} = 0V$		
ON CHARACTERISTICS (Note 4)									
Gate Threshold Voltage		$V_{GS(th)}$	1.0	_	3.0	V	$V_{DS} = 10V, I_{D} = 1.0 \text{mA}$		
Static Drain-Source On-Resistance		R _{DS (ON)}	_	_	0.170 0.150	Ω	$V_{GS} = 4.5V, I_D = 0.5A$ $V_{GS} = 10V, I_D = 1.0A$		
Forward Transconductance		g _{FS}	1.3	2.4	_	S	$V_{DS} = 10V, I_{D} = 0.5A$		
DYNAMIC CHARACTERISTICS									
Input Capacitance		C _{iss}	_	150		pF	101/11/101/		
Output Capacitance		Coss	_	90		pF	pF $V_{DS} = 10V, V_{GS} = 0V$ $f = 1.0MHz$		
Reverse Transfer Capacitance		Crss	_	30		pF	1 = 1.0WII IZ		
Total Gate Charge		Q_{g}	_	5.5		nC	\/ 04\/ L 4.0A		
Gate-to-Source Charge			_	8.0	_	nC	$V_{DS} = 24V, I_D = 1.0A,$		
Gate-to-Drain Charge		Q_{gd}	_	1.3		nC	V _{GS} = 10V		
SWITCHING CHARACTERISTICS							•		
Turn-On Delay Time		t _{D(ON)}	_	10		ns			
Turn-Off Delay Time		t _{D(OFF)}	_	25		ns	$V_{DD} = 10V, I_D = 0.5A,$		
Turn-On Rise Time		t _r	_	15	_	ns	$V_{GS} = 5.0V$, $R_{GEN} = 50\Omega$		
Turn-Off Fall Time		t _f	_	45		ns			
SOURCE-DRAIN RATINGS (BODY DIODE)									
Continuous Source Current		Is	_	_	0.54	Α	_		
Pulse Source Current		I _{SM}	_	_	4.0	Α			
Forward Voltage	•	V _{SD}	_	_	1.2	V	$I_F = 1.0A, V_{GS} = 0V$		
Reverse Recovery Time		t _{rr}	_	35	_	ns	$I_F = 1.0A$, $di/dt = 50A/\mu s$		

Notes: 4. Pulse width $\leq 300 \mu s, \ duty \ cycle \leq 2\%.$









Package Outline Dimensions

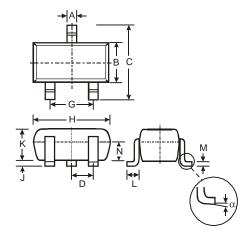


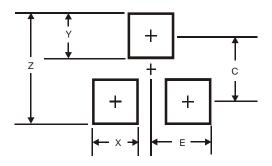
Fig. 3 On-Resistance vs. Junction Temperature

SC59							
Dim	Min	Max	Тур				
Α	0.35	0.50	0.38				
В	1.50	1.70	1.60				
C	2.70	3.00	2.80				
D	-	-	0.95				
G	-	-	1.90				
Н	2.90	3.10	3.00				
J	0.013	0.10	0.05				
K	1.00	1.30	1.10				
L	0.35	0.55	0.40				
М	0.10	0.20	0.15				
N	0.70	0.80	0.75				
α	0°	8°	-				
All Dimensions in mm							

March 2012



Suggested Pad Layout



Dimensions	Value (in mm)		
Z	3.4		
Х	0.8		
Y	1.0		
С	2.4		
E	1.35		

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многоканальный

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

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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