



DMN3112SSS

SINGLE N-CHANNEL ENHANCEMENT MODE MOSFET

Product Summary

V _{(BR)DSS}	R _{DS(ON)} max	I _D max T _A = +25°C
	57mΩ @ V _{GS} = 10V	6.0A
30V	112mΩ @ V _{GS} = 4.5V	3.8A

Description and Applications

This 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.

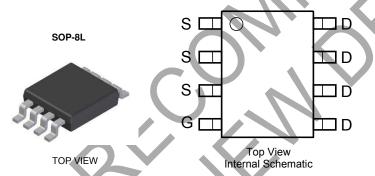
- Backlighting
- Power Management Functions
- DC-DC Converters

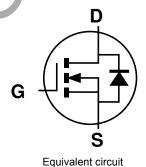
Features and Benefits

- Low On-Resistance
- Low Gate Threshold Voltage
- Low Input Capacitance
- · Fast Switching Speed
- Low Input/Output Leakage
- 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: SOP-8L
- Case Material: Molded Plastic, "Green" Molding Compound.
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals Connections: See Diagram
- Terminals: Finish Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (3)
- Weight: 0.074g (Approximate)





Ordering Information (Note 4)

_		400		
I	Part Number		Case	Packaging
Ī	DMN3112SSS-13		SOP-8L	2,500/Tape & Reel

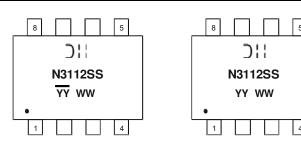
Notes:

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

Shanghai A/T Site

- 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 http://www.diodes.com/products/packages.html.

Marking Information



O!! = Manufacturer's Marking
N3112SS = Product Type Marking Code
YYWW = Date Code Marking
YY or YY = Year (ex: 13 = 2013)
WW = Week (01 - 53)
YY = Date Code Marking for SAT (Shano

YY = Date Code Marking for SAT (Shanghai Assembly/ Test site)
YY = Date Code Marking for CAT (Chengdu Assembly/ Test site)

Chengdu A/T Site



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

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V _{DSS}	30	V
Gate-Source Voltage			V _{GSS}	±20	V
Drain Current (Note 5)	Steady State	T _A = +25°C T _A = +70°C	I _D	6 4.5	А
Pulsed Drain Current (Note 6)			I _{DM}	24	Α

Thermal Characteristics

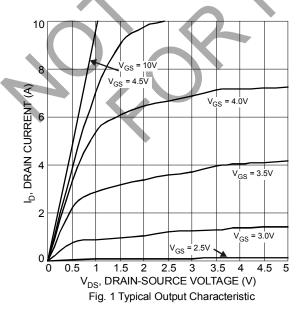
Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 5)	P_{D}	2.5	W
Thermal Resistance, Junction to Ambient (Note 5)	$R_{ hetaJA}$	50	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

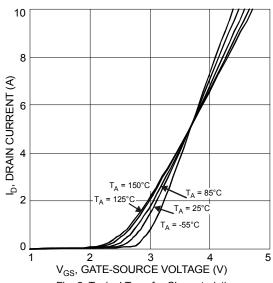
Electrical Characteristics (@TA = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
OFF CHARACTERISTICS (Note 7)	OFF CHARACTERISTICS (Note 7)						
Drain-Source Breakdown Voltage	BV_{DSS}	30	1	V -	V	$V_{GS} = 0V, I_D = 250\mu A$	
Zero Gate Voltage Drain Current	I _{DSS}	I.	+	800	nA	$V_{DS} = 30V, V_{GS} = 0V$	
Gate-Source Leakage	I _{GSS}	4	1	±80 ±800	I DA 🦇	$V_{GS} = \pm 20V, V_{DS} = 0V$ $V_{GS} = \pm 25V, V_{DS} = 0V$	
ON CHARACTERISTICS (Note 7)							
Gate Threshold Voltage	V _{GS(th)}	7	_	2.2	>	$V_{DS} = V_{GS}, I_D = 250 \mu A$	
Static Drain-Source On-Resistance	R _{DS(ON)}		43 83	57 112	mΩ	$V_{GS} = 10V, I_D = 5.8A$ $V_{GS} = 4.5V, I_D = 3.7A$	
Forward Transconductance	9 _{fs}		2.8	4	S	V _{DS} = 10V, I _D = 3.7A	
Diode Forward Voltage (Note 7)	V _{SD}	0.5	0.8	1.2	V	$V_{GS} = 0V, I_S = 2.1A$	
DYNAMIC CHARACTERISTICS							
Input Capacitance	C _{iss}		268	_	pF	1/ 45)/)/ 0)/	
Output Capacitance	Coss		73	_	pF	V _{DS} = 15V, V _{GS} = 0V f = 1.0MHz	
Reverse Transfer Capacitance	C _{rss}		50	_	pF	1 - 1.0001112	

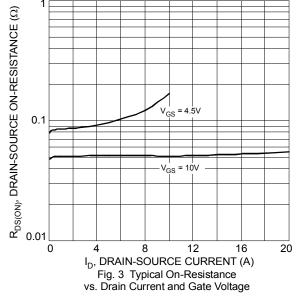
Notes:

- 5. Device mounted on 2 oz copper pad layout with $R_{0JA} = 50^{\circ} C/W$. 6. Pulse width $\leq 10 \mu S$, Duty Cycle $\leq 1\%$. 7. Short duration pulse test used to minimize self-heating effect.









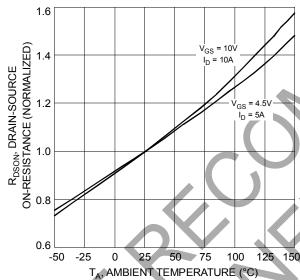
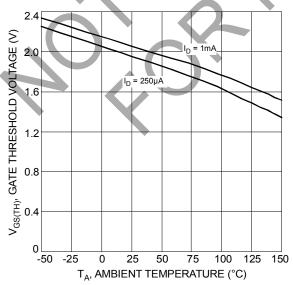
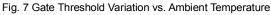
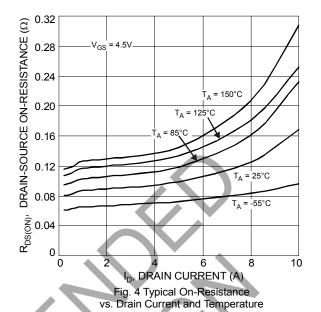


Fig. 5 On-Resistance Variation with Temperature







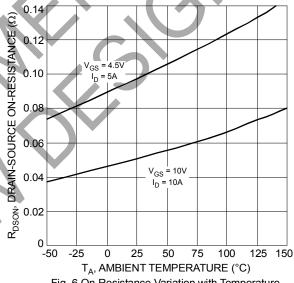
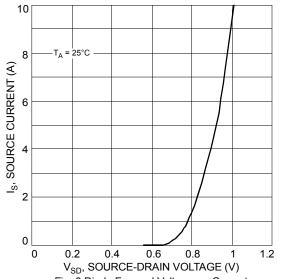
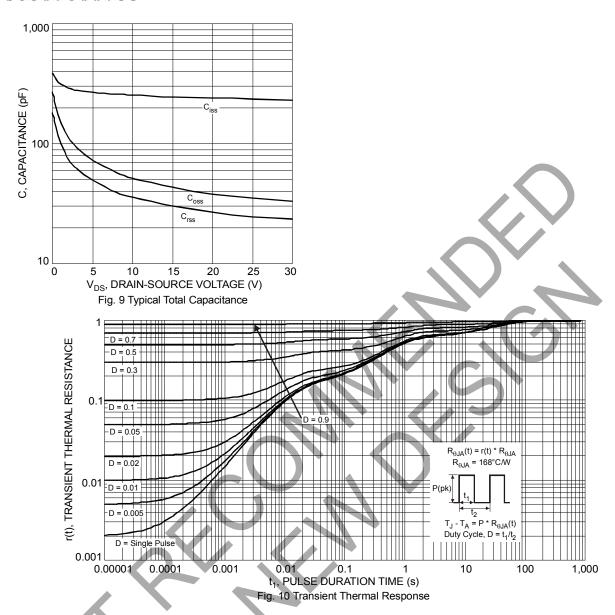


Fig. 6 On-Resistance Variation with Temperature

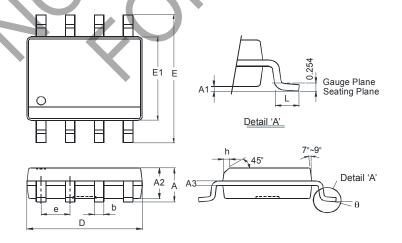






Package Outline Dimensions

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

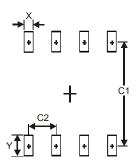


SOP-8L				
All Dimensions in mm				



Suggested Pad Layout

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



Dimensions	Value (in mm)
X	0.60
Υ	1.55
C1	5.4
C2	1.27

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