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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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## Contact us

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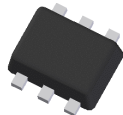
Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



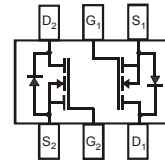
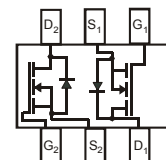
## Features

- Dual N-Channel MOSFET
- Low On-Resistance
- Very Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Ultra-Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 2)**
- **“Green” Device (Note 3)**



TOP VIEW

SOT-563


 DMN5L06V  
(KAH Marking Code)

 DMN5L06VA  
(KAG Marking Code)

## Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See Diagram
- Terminals: Finish — Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.006 grams (approximate)

## Maximum Ratings @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V <sub>DSS</sub>	50	V
Drain-Gate Voltage R <sub>GS</sub> ≤ 1.0MΩ	V <sub>DGR</sub>	50	V
Gate-Source Voltage	V <sub>GSS</sub>	±20	V
		±40	
Drain Current (Note 1)	I <sub>D</sub>	280	mA
Drain Current (Note 1)	I <sub>DM</sub>	1.5	A

## Thermal Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 1)	P <sub>d</sub>	150	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	833	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150	°C

## Electrical Characteristics @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 4)</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	50	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = 10μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	—	—	0.1	μA	V <sub>DS</sub> = 50V, V <sub>GS</sub> = 0V
				500		
Gate-Body Leakage	I <sub>GSS</sub>	—	—	±20	nA	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0V
<b>ON CHARACTERISTICS (Note 4)</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	0.49	—	1.2	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = 250μA
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	—	1.6	3	Ω	V <sub>GS</sub> = 2.7V, I <sub>D</sub> = 0.2A, V <sub>GS</sub> = 1.8V, I <sub>D</sub> = 50mA
			2.2	4		
On-State Drain Current	I <sub>D(ON)</sub>	0.5	1.0	—	A	V <sub>GS</sub> = 10V, V <sub>DS</sub> = 7.5V
Forward Transconductance	Y <sub>fs</sub>	200	—	—	mS	V <sub>DS</sub> = 10V, I <sub>D</sub> = 0.2A
Source-Drain Diode Forward Voltage	V <sub>SD</sub>	0.5	—	1.4	V	V <sub>GS</sub> = 0V, I <sub>S</sub> = 115mA
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	C <sub>iSS</sub>	—	—	50	pF	V <sub>DS</sub> = 25V, V <sub>GS</sub> = 0V, f = 1.0MHz
Output Capacitance	C <sub>oss</sub>	—	—	25	pF	
Reverse Transfer Capacitance	C <sub>rss</sub>	—	—	5.0	pF	

- Notes:
1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. No purposefully added lead.
  3. Diodes Inc's "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).
  4. Short duration pulse test used to minimize self-heating effect.

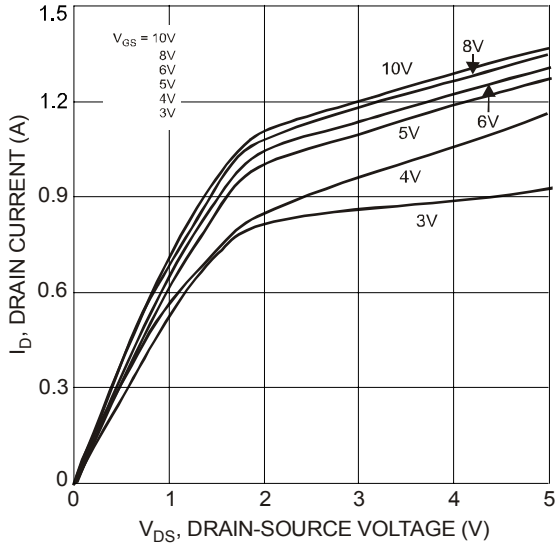


Fig. 1 Typical Output Characteristics

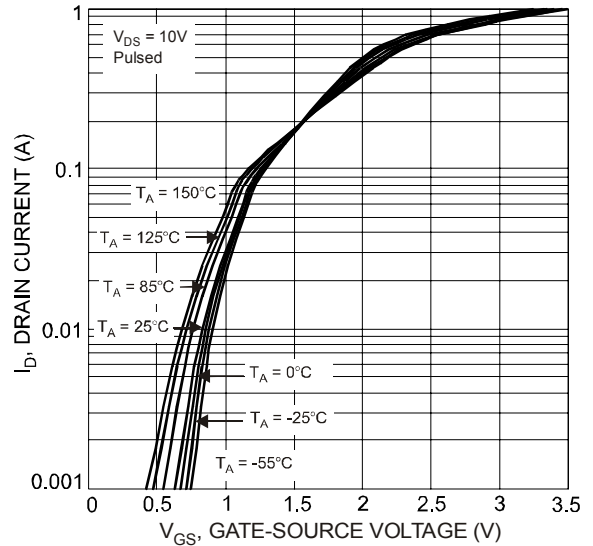


Fig. 2 Typical Transfer Characteristics

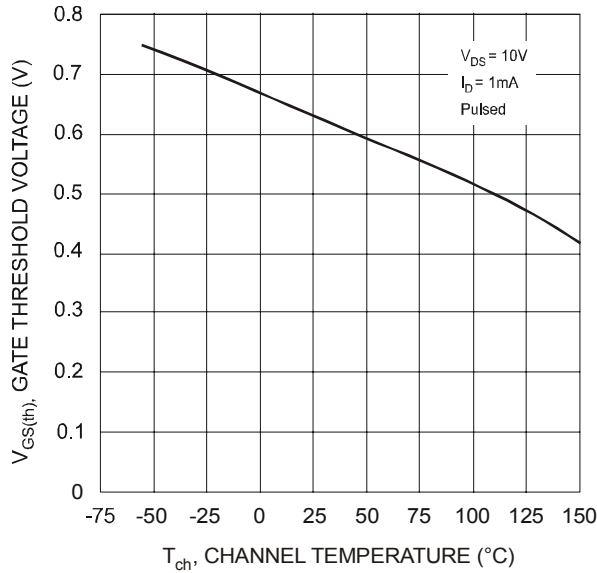


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

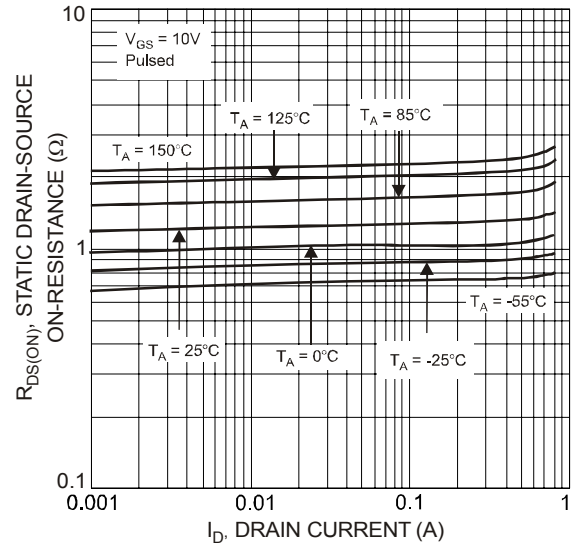


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

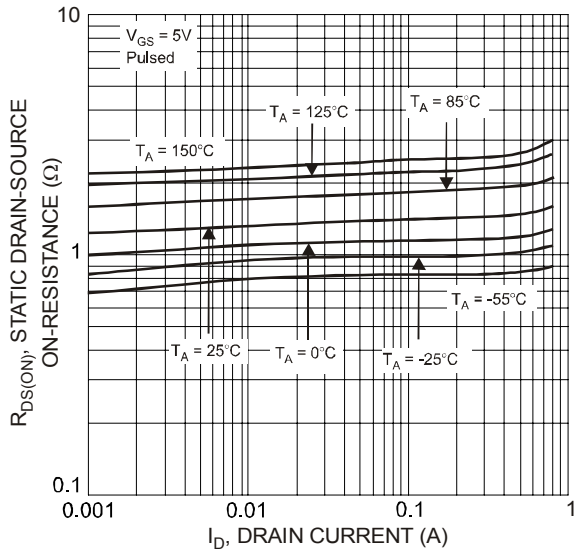


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

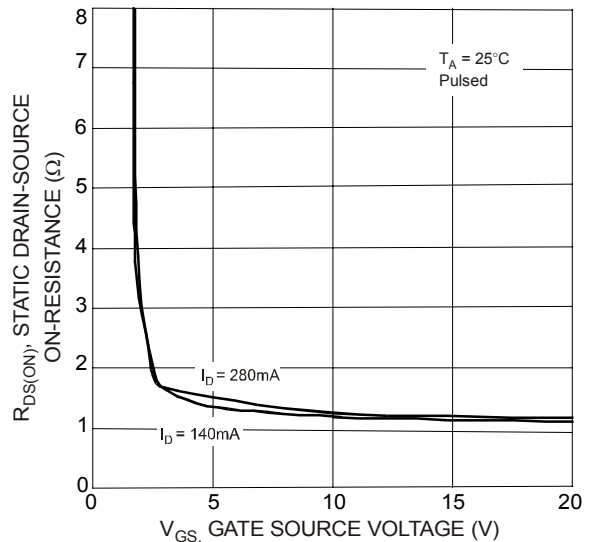


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

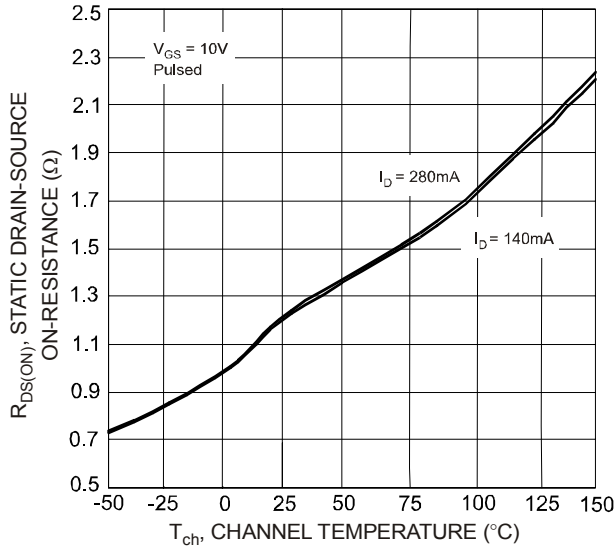


Fig. 7 Static Drain-Source On-State Resistance vs. Channel Temperature

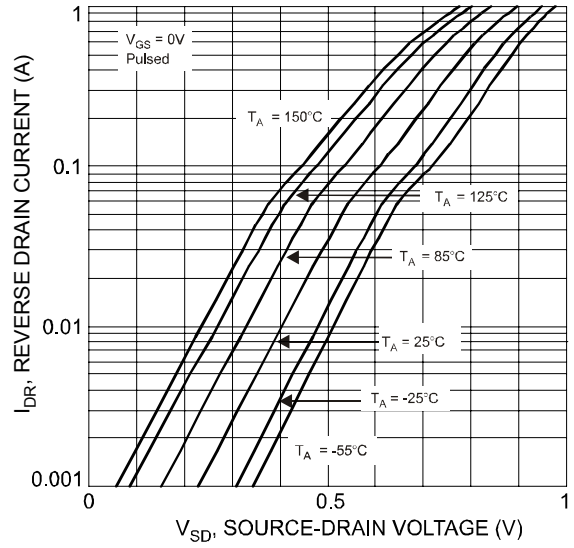


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

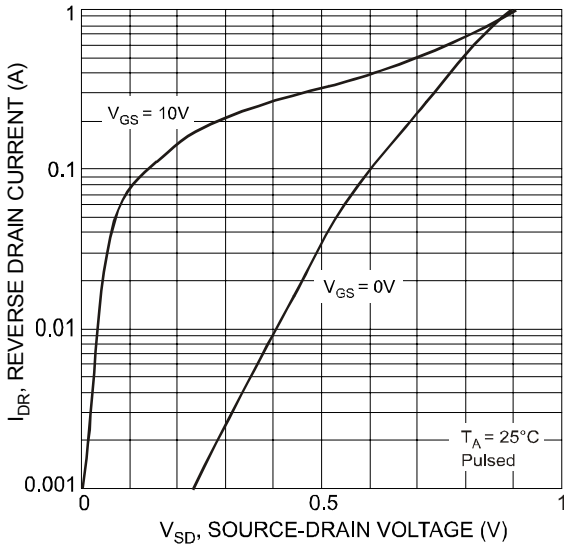


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

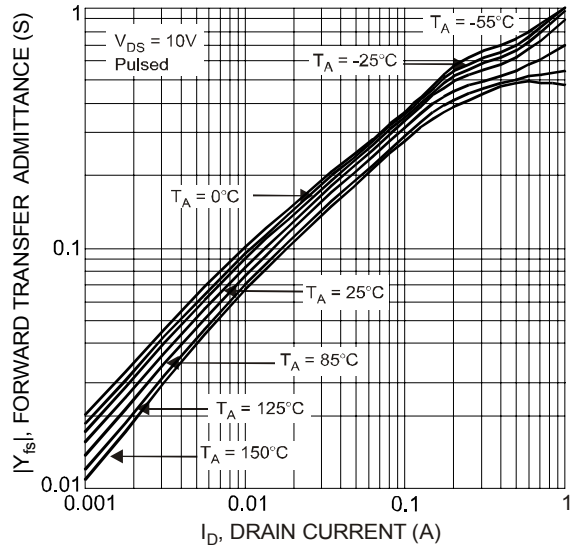


Fig. 10 Forward Transfer Admittance vs. Drain Current

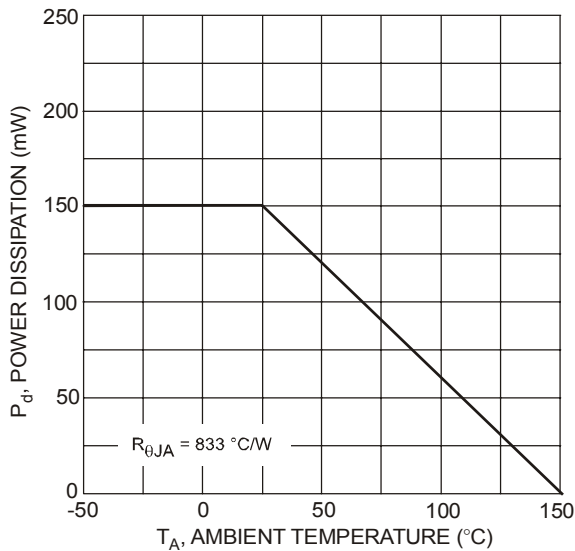


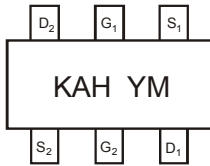
Fig. 11 Derating Curve - Total

**Ordering Information** (Note 5)

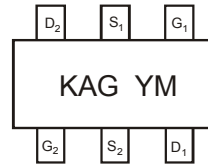
Part Number	Case	Packaging
DMN5L06V-7	SOT-563	3000/Tape & Reel
DMN5L06VA-7	SOT-563	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information** (Note 6)



KAH = DMN5L06V Product Type  
Marking Code (See Note 6)  
YM = Date Code Marking  
Y = Year ex: S = 2005  
M = Month ex: 9 = September



KAG = DMN5L06VA Product Type  
Marking Code(See Note 6)  
YM = Date Code Marking  
Y = Year ex: S = 2005  
M = Month ex: 9 = September

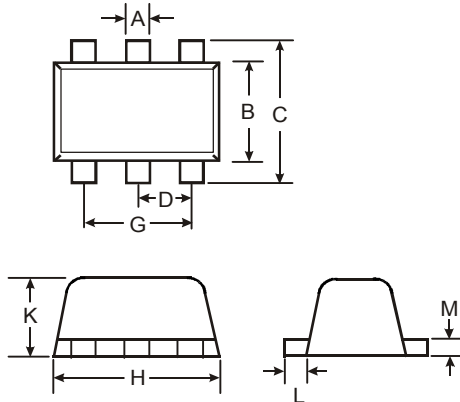
Notes: 6. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).

**Date Code Key**

Year	2005	2006	2007	2008	2009	2010	2011	2012
Code	S	T	U	V	W	X	Y	Z

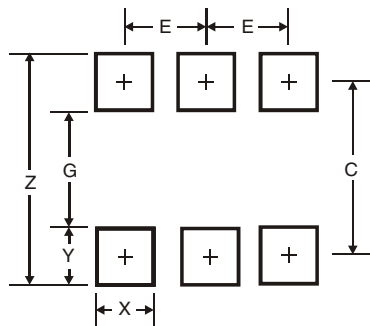
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

**Package Outline Dimensions**



SOT-563			
Dim	Min	Max	Typ
A	0.15	0.30	0.20
B	1.10	1.25	1.20
C	1.55	1.70	1.60
D	0.50		
G	0.90	1.10	1.00
H	1.50	1.70	1.60
K	0.55	0.60	0.60
L	0.10	0.30	0.20
M	0.10	0.18	0.11
All Dimensions in mm			

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	2.2
G	1.2
X	0.375
Y	0.5
C	1.7
E	0.5

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