



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

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.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

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

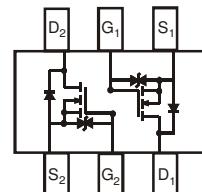
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

- Dual N-Channel MOSFET
- Low On-Resistance
- Very Low Gate Threshold Voltage (1.0V max)
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Small Surface Mount Package
- **Lead Free By Design/RoHS Compliant (Note 2)**
- **ESD Protected up to 2kV**
- "Green" Device (Note 4)
- Qualified to AEC-Q101 standards for High Reliability



SOT-26


 TOP VIEW
 Internal Schematic

Mechanical Data

- Case: SOT-26
- 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 4
- Ordering Information: See Page 4
- Weight: 0.015 grams (approximate)

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Drain Source Voltage	V_{DSS}	50	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Note 1)	I_D	305 800	mA

Thermal Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 1)	P_D	400	mW
Thermal Resistance, Junction to Ambient	R_{thJA}	313	°C/W
Operating and Storage Temperature Range	T_j, T_{STG}	-65 to +150	°C

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 5)						
Drain-Source Breakdown Voltage	BV_{DSS}	50	—	—	V	$V_{GS} = 0\text{V}, I_D = 10\mu\text{A}$
Zero Gate Voltage Drain Current @ $T_C = 25^\circ\text{C}$	I_{DSS}	—	—	60	nA	$V_{DS} = 50\text{V}, V_{GS} = 0\text{V}$
Gate-Body Leakage	I_{GSS}	—	—	1 500 50	μA nA nA	$V_{GS} = \pm 12\text{V}, V_{DS} = 0\text{V}$ $V_{GS} = \pm 10\text{V}, V_{DS} = 0\text{V}$ $V_{GS} = \pm 5\text{V}, V_{DS} = 0\text{V}$
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	$V_{GS(\text{th})}$	0.49	—	1.0	V	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$
Static Drain-Source On-Resistance	$R_{DS(\text{ON})}$	— — —	— — —	3.0 2.5 2.0	Ω	$V_{GS} = 1.8\text{V}, I_D = 50\text{mA}$ $V_{GS} = 2.5\text{V}, I_D = 50\text{mA}$ $V_{GS} = 5.0\text{V}, I_D = 50\text{mA}$
On-State Drain Current	$I_{D(\text{ON})}$	0.5	1.4	—	A	$V_{GS} = 10\text{V}, V_{DS} = 7.5\text{V}$
Forward Transconductance	$ Y_{fs} $	200	—	—	mS	$V_{DS} = 10\text{V}, I_D = 0.2\text{A}$
Source-Drain Diode Forward Voltage	V_{SD}	0.5	—	1.4	V	$V_{GS} = 0\text{V}, I_S = 115\text{mA}$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	—	50	pF	$V_{DS} = 25\text{V}, V_{GS} = 0\text{V}$ $f = 1.0\text{MHz}$
Output Capacitance	C_{oss}	—	—	25	pF	
Reverse Transfer Capacitance	C_{rss}	—	—	5.0	pF	

Notes:

1. Device mounted on FR-4 PCB.
2. No purposefully added lead.
3. Pulse width $\leq 10\mu\text{s}$, Duty Cycle $\leq 1\%$.
4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
5. Short duration pulse test used to minimize self-heating effect.

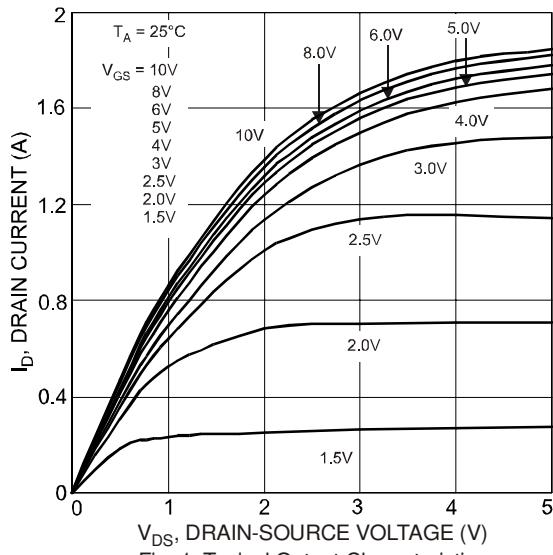


Fig. 1 Typical Output Characteristics

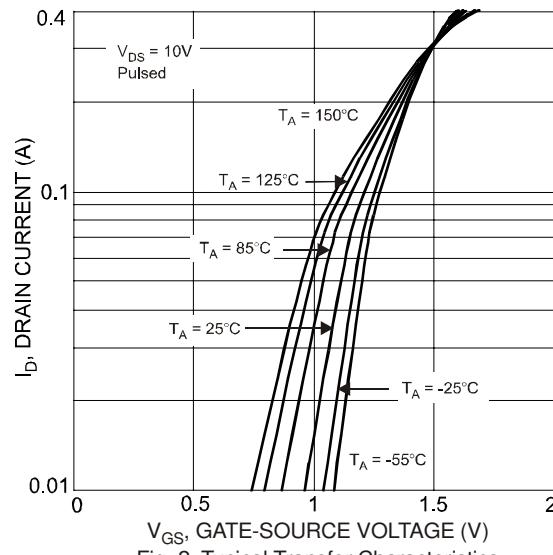


Fig. 2 Typical Transfer Characteristics

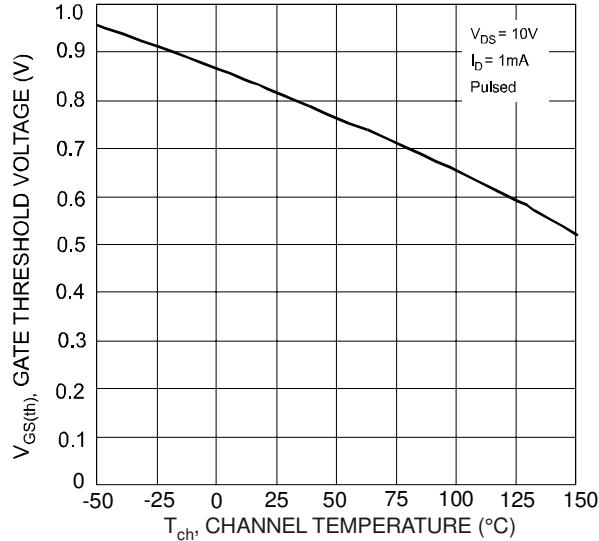


Fig. 3 Gate Threshold Voltage vs. Channel Temperature

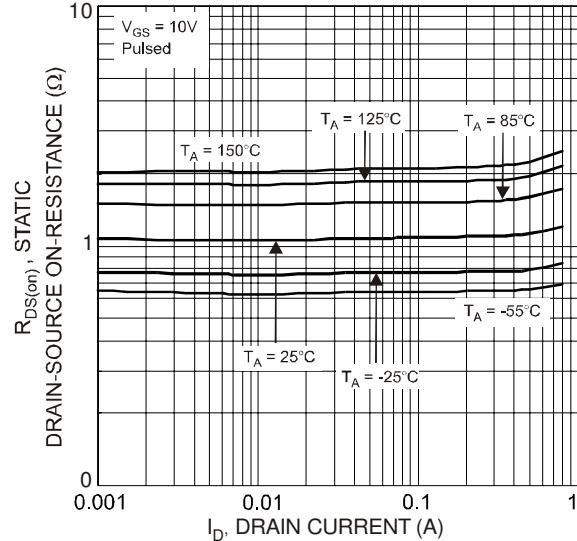


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

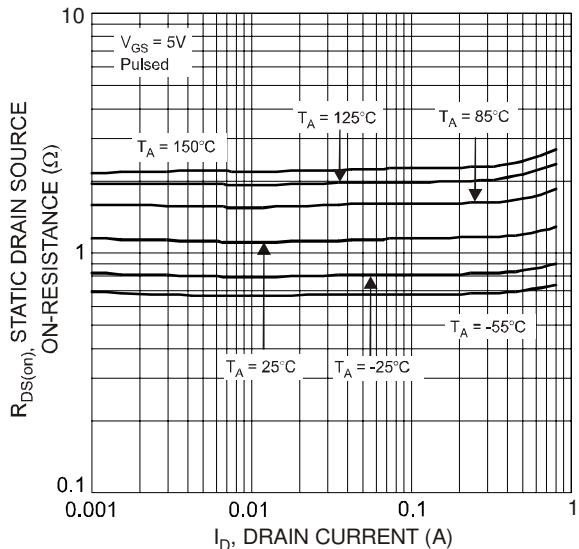


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

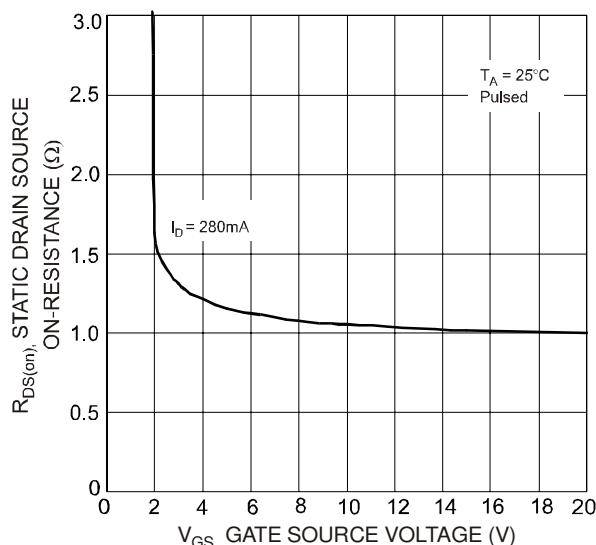


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage

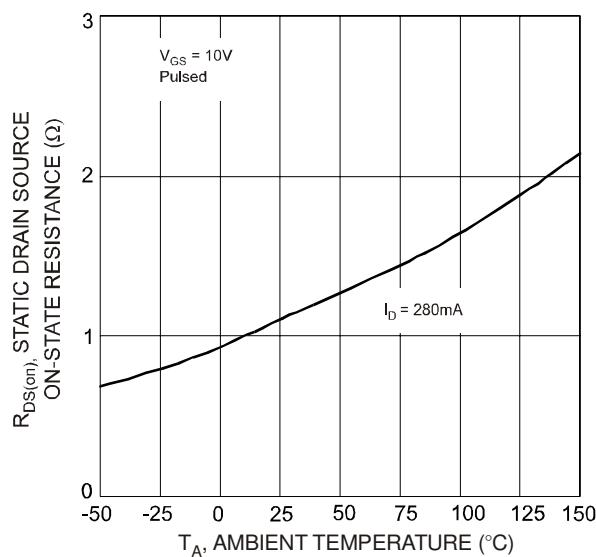


Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

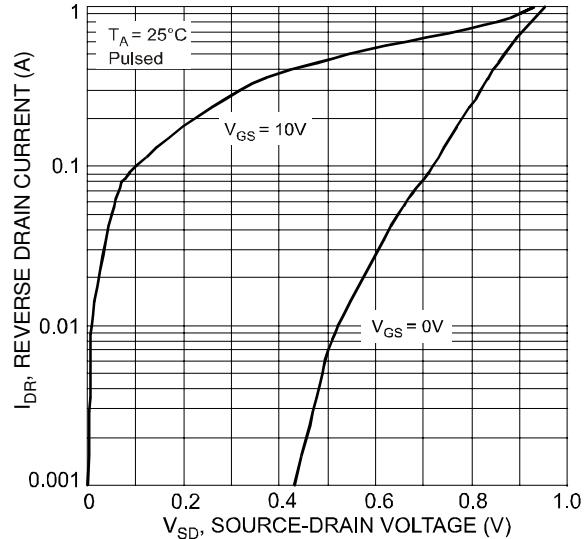


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage

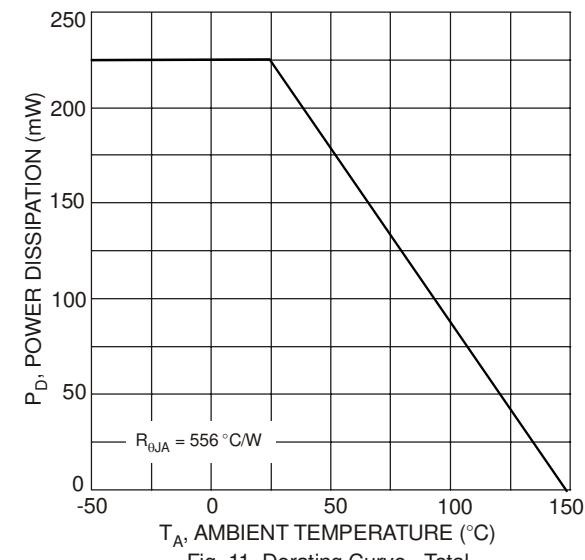


Fig. 11 Derating Curve - Total

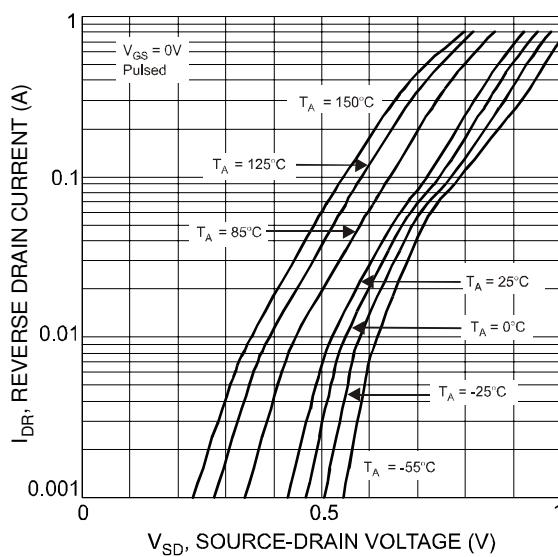


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

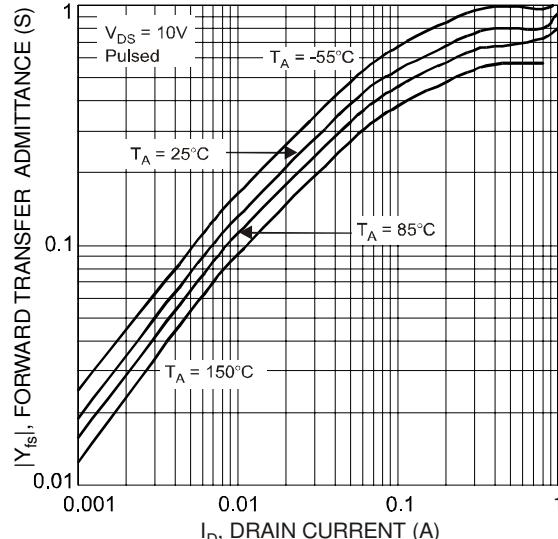
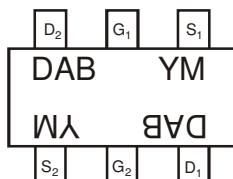


Fig. 10 Forward Transfer Admittance vs. Drain Current

Ordering Information (Note 6)

Part Number	Case	Packaging
DMN5L06DMK-7	SOT-26	3000/Tape & Reel

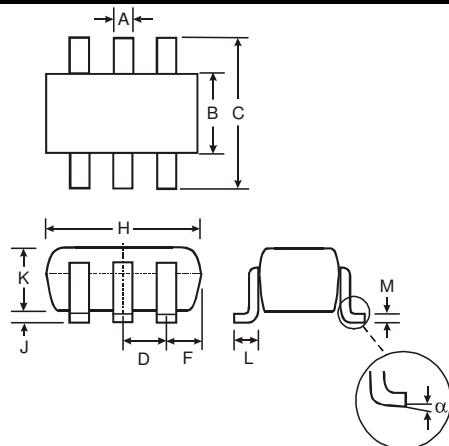
 Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information


DAB = Marking Code
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

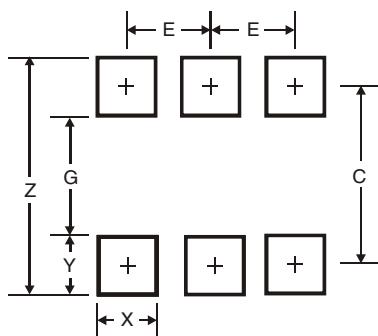
Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012					
Code	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-26			
Dim	Min	Max	Typ
A	0.35	0.50	0.38
B	1.50	1.70	1.60
C	2.70	3.00	2.80
D	—	—	0.95
F	—	—	0.55
H	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
M	0.10	0.20	0.15
α	0°	8°	—

All Dimensions in mm

Suggested Pad Layout


Dimensions	Value (in mm)
Z	3.20
G	1.60
X	0.55
Y	0.80
C	2.40
E	0.95

IMPORTANT NOTICE

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