



DMN5L06DMKQ

DUAL N-CHANNEL ENHANCEMENT MODE FIELD EFFECT TRANSISTOR

Product Summary

BV _{DSS}	R _{DS(ON)} max	I_D max $T_A = +25$ °C
	2.0Ω @ $V_{GS} = 5V$	305mA
50V	$2.5\Omega @ V_{GS} = 2.5V$	280mA
	$3.0\Omega @ V_{GS} = 1.8V$	265mA

Features

- Low On-Resistance
- Very Low Gate Threshold Voltage
- Low Input Capacitance
- · Fast Switching Speed
- Low Input/Output Leakage
- . ESD Protected up to 2kV
- 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
- PPAP Capable

Description and Applications

This MOSFET is designed to minimize the on-state resistance and yet maintain superior switching performance, making it ideal for high efficiency power management applications.

- General Purpose Interfacing Switch
- Power Management Functions

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
- Terminals: Finish Matte Tin Annealed over Copper Leadframe. Solderable per MIL-STD-202, Method 208 (3)
- Weight: 0.015 grams (Approximate)

SOT-26

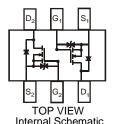




TOP VIEW



BOTTOM VIEW



Ordering Information (Note 5)

Part Number	Case	Packaging
DMN5L06DMKQ-7	SOT-26	3,000/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. Automotive products are AEC-Q101 qualified and are PPAP capable. Automotive, AEC-Q101 and standard products are electrically and thermally the same, except where specified. For more information, please refer to http://www.diodes.com/quality/product_grade_definitions/.
- 5. For packaging details, go to our website at http://www.diodes.com/products/packages.html.

Marking Information

SOT-26

D₂ G₁ S₁

DAB YM

WA 8VO

S₂ G₂ D₁

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

Date Code Key

Year	2006	2007		2	2015	2016	2017	2018	20	19	2020	2021
Code	Т	U			С	D	Е	F	G	;	Н	I
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	0	N	D



Characteristic		Symbol	Value	Unit
Drain Source Voltage		V_{DSS}	50	V
Gate-Source Voltage		V _{GSS}	±20	V
Drain Current (Note 6)	Continuous Pulsed (Note 7)	I _D	305 800	mA

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

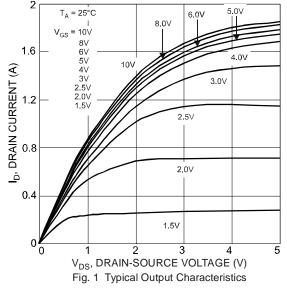
Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 6)	P_{D}	400	mW
Thermal Resistance, Junction to Ambient	$R_{ hetaJA}$	313	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-65 to +150	°C

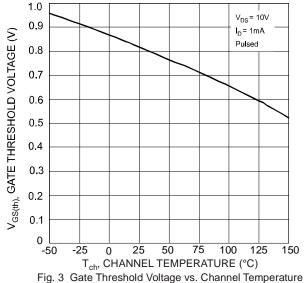
Electrical Characteristics (@T_A = +25°C unless otherwise specified.)

Characteristic		Symbol	Min	Тур	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 8)							
Drain-Source Breakdown Voltage		BV_{DSS}	50	_		V	$V_{GS} = 0V, I_D = 10\mu A$
Zero Gate Voltage Drain Current	@ $T_C = +25^{\circ}C$	I _{DSS}	_	_	60	nA	$V_{DS} = 50V, V_{GS} = 0V$
					1	μΑ	$V_{GS} = \pm 12V, V_{DS} = 0V$
Gate-Body Leakage		IGSS	_	_	500	nA	$V_{GS} = \pm 10V$, $V_{DS} = 0V$
					50	nA	$V_{GS} = \pm 5V$, $V_{DS} = 0V$
ON CHARACTERISTICS (Note 8)							
Gate Threshold Voltage		$V_{GS(th)}$	0.49	_	1.0	V	$V_{DS} = V_{GS}, I_{D} = 250 \mu A$
			_	_	3.0		$V_{GS} = 1.8V, I_D = 50mA$
Static Drain-Source On-Resistance		R _{DS} (ON)	_	_	2.5	Ω	$V_{GS} = 2.5V, I_D = 50mA$
			_	_	2.0		$V_{GS} = 5.0V, I_D = 50mA$
On-State Drain Current		I _{D(ON)}	0.5	1.4	_	Α	$V_{GS} = 10V, V_{DS} = 7.5V$
Forward Transconductance		Y _{fs}	200	_	_	mS	$V_{DS} = 10V, I_D = 0.2A$
Source-Drain Diode Forward Voltage		V_{SD}	0.5	_	1.4	V	$V_{GS} = 0V, I_{S} = 115mA$
DYNAMIC CHARACTERISTICS							
Input Capacitance		C _{iss}	_	_	50	рF	., 05),), 0),
Output Capacitance		Coss	_	_	25	pF	$V_{DS} = 25V, V_{GS} = 0V$ f = 1.0MHz
Reverse Transfer Capacitance			_	_	5.0	pF	T = T.OIVII IZ

- Notes: 6. Device mounted on FR-4 PCB.
 7. Pulse width ≤10μS, Duty Cycle ≤1%.
 8. Short duration pulse test used to minimize self-heating effect.







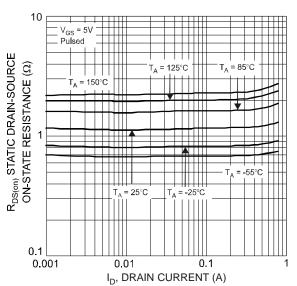
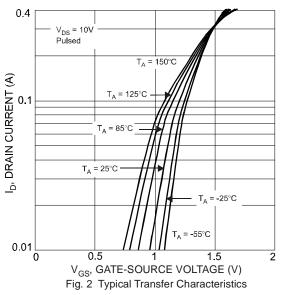


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current



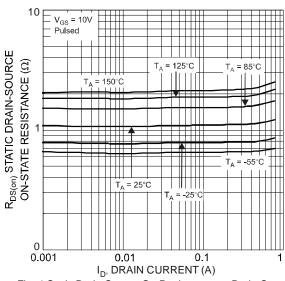


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

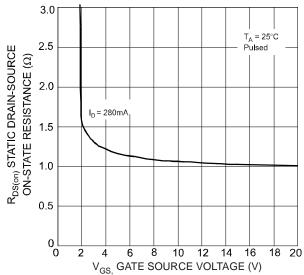


Fig. 6 Static Drain-Source On-Resistance vs. Gate-Source Voltage



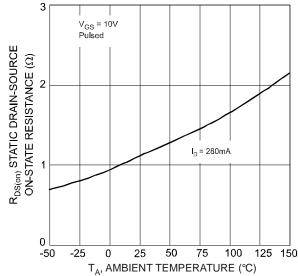


Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

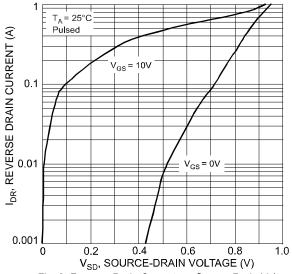
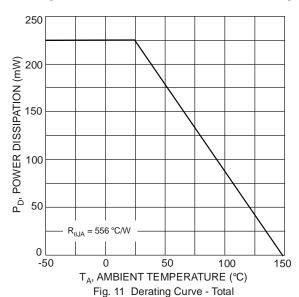


Fig. 9 Reverse Drain Current vs. Source-Drain Voltage



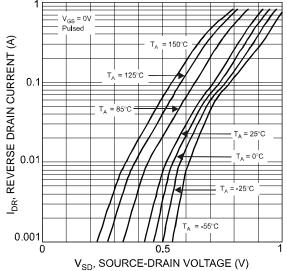


Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

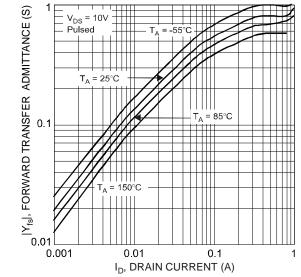
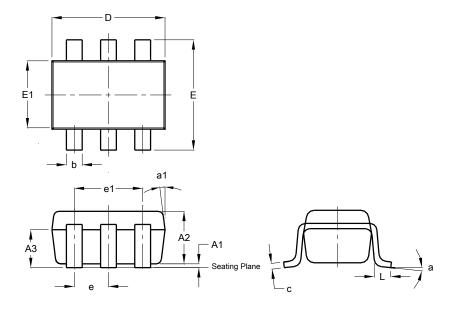


Fig.10 Forward Transfer Admittance vs. Drain Current



Package Outline Dimensions

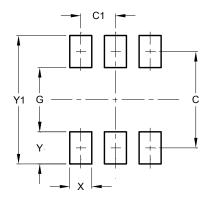
Please see AP02002 at http://www.diodes.com/datasheets/ap02002.pdf for the latest version.



	SOT26							
Dim	Min	Max	Тур					
A1	0.013	0.10	0.05					
A2	1.00	1.30	1.10					
А3	0.70	0.80	0.75					
b	0.35	0.50	0.38					
С	0.10	0.20	0.15					
D	2.90	3.10	3.00					
е	-	-	0.95					
e1	-	-	1.90					
Е	2.70	3.00	2.80					
E1	1.50	1.70	1.60					
L	0.35	0.55	0.40					
а	-	-	8°					
a1	-	-	7°					
All	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)
С	2.40
C1	0.95
G	1.60
Х	0.55
Y	0.80
Y1	3 20



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