

NOT RECOMMENDED FOR NEW DESIGN **USE DMP2040UVT**



DMP2066LDM

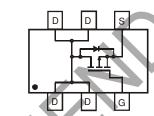
P-CHANNEL ENHANCEMENT MODE MOSFET

Features

- Low R_{DS(ON)}: $40m\Omega$ @V_{GS} = -4.5V $70m\Omega$ @V_{GS} = -2.5V
- 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
- PPAP Capable (Note 4)

Mechanical Data

- Case: SOT26
- Case Material Molded Plastic. UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish Matte Tin Solderable per MIL-STD-202, Method 208 @3
- Terminal Connections: See Diagram
- Weight: 0.008 grams (Approximate)



Top View Internal Schematic

SOT26



Top View

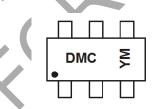
Ordering Information (Note 5)

Part Number	Case	Packaging
DMP2066LDM-7	SOT26	3000/Tape & Reel
DMP2066LDMQ-7	SOT26	3000/Tape & Reel

Notes:

- 1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant.
 2. See https://www.diodes.com/quality/lead-free/ 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.
 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 https://www.diodes.com/quality/.
- 5. For packaging details, go to our website at https://www.diodes.com/design/support/packaging/diodes-packaging/.

Marking Information



DMC = Product Type Marking Code YM = Date Code Marking Y = Year (ex: F = 2018)M = Month (ex: 9 = September)

Date Code Key

Year	2008		2009	2010		2011	~		2018	2019		2020
Code	٧		W	X		Υ	~		F	G		Н
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



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

Characteristic	Symbol	Value	Unit	
Drain-Source Voltage		V_{DSS}	-20	V
Gate-Source Voltage		V _{GSS}	±12	V
Drain Current (Note 6) Continuous	$T_A = +25$ °C $T_A = +70$ °C	I _D	-4.6 -3.7	А
Pulsed Drain Current (Note 7)		I _{DM}	-18	Α
Body-Diode Continuous Current (Note 6)		Is	2.0	Α

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 6)	P _D	1.25	W
Thermal Resistance, Junction to Ambient (Note 6); Steady-State	R ₀ JA	100	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

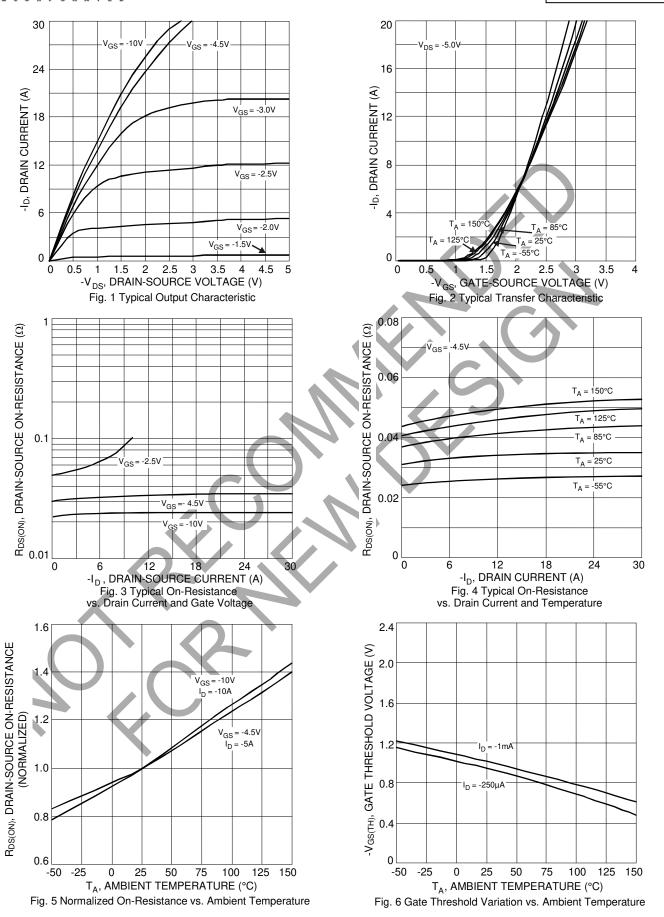
Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Тур	Max	Unit	Test Condition	
STATIC PARAMETERS							
Drain-Source Breakdown Voltage	BV _{DSS}	-20	_<		>	$I_D = -250 \mu A, V_{GS} = 0 V$	
Zero Gate Voltage Drain Current $T_J = +25$ °C	I _{DSS}	1		-1	μΑ	$V_{DS} = -20V, V_{GS} = 0V$	
Gate-Body Leakage Current	Igss			±100	nA	$V_{DS} = 0V, V_{GS} = \pm 12V$	
Gate Threshold Voltage	$V_{GS(TH)}$	-0.6	-0.96	-1.2	V	$V_{DS} = V_{GS}, I_{D} = -250 \mu A$	
On State Drain Current (Note 8)	$I_{D(ON)}$	-15			Α	$V_{GS} = -4.5V, V_{DS} = -5V$	
Static Drain-Source On-Resistance (Note 8)	R _{DS(ON)}	7	29 55	40 70	mΩ	$V_{GS} = -4.5V$, $I_D = -4.6A$ $V_{GS} = -2.5V$, $I_D = -3.8A$	
Forward Transconductance (Note 8)	g _{FS}	1	9		S	$V_{DS} = -10V, I_D = -4.6A$	
Diode Forward Voltage (Note 8)	V_{SD}	-0.5	-0.72	-1.4	٧	$I_S = -2.1A, V_{GS} = 0V$	
Maximum Body-Diode Continuous Current (Note 6)	Is		_	-1.7	Α	_	
DYNAMIC PARAMETERS (Note 9)			· ·				
Input Capacitance	Ciss		820		pF		
Output Capacitance	Coss		200		pF	$V_{DS} = -15V, V_{GS} = 0V$ f = 1.0MHz	
Reverse Transfer Capacitance	C_{rss}		160		рF	T = T.OWINZ	
Gate Resistance	R _G		2.5		Ω	$V_{DS} = 0V$, $V_{GS} = 0V$ f = 1.0MHz	
SWITCHING CHARACTERISTICS							
Total Gate Charge	Q_G	_	10.1	_		$V_{DS} = -10V$, $V_{GS} = -4.5V$,	
Gate-Source Charge	Q _{GS}	_	1.5	_	nC	V _{DS} = -10V, V _{GS} = -4.5V, I _D = -4.5A	
Gate-Drain Charge	Q_{GD}		4.3			ID = -4.5A	
Turn-On Delay Time	t _{D(ON)}		4.4				
Rise Time	t _R		9.9		ns	$V_{DS} = -10V$, $V_{GS} = -4.5V$,	
Turn-Off Delay Time	t _{D(OFF)}	_	28.0	_	115	$I_D = -1A$, $R_G = 6.0\Omega$	
Fall Time	t _F	_	23.4	_			

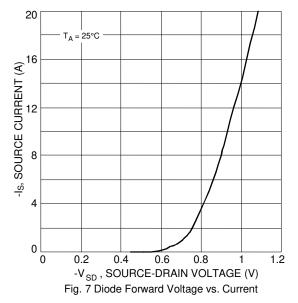
Notes:

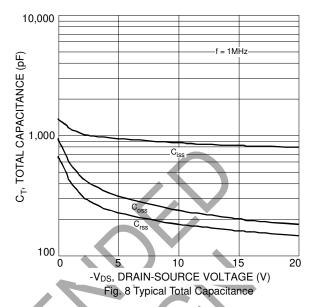
- 6. Device mounted on 1"x1", FR-4 PC board with 2 oz. Copper and test pulse width t \leq 10s. 7. Repetitive Rating, pulse width limited by junction temperature.
- 8. Test pulse width $t = 300 \mu s$.
- 9. Guaranteed by design. Not subject to production testing.











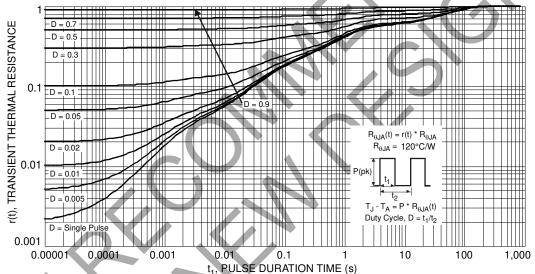


Fig. 9 Transient Thermal Response

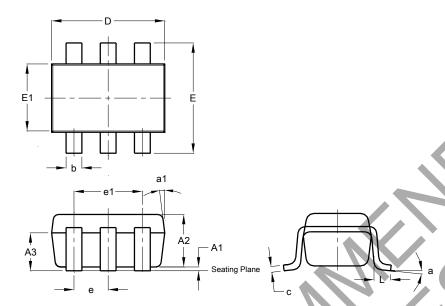


DMP2066LDM

Package Outline Dimensions

Please see http://www.diodes.com/package-outlines.html for the latest version.

SOT26

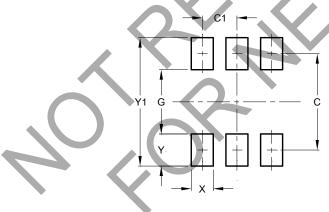


SOT26						
Dim	Min	Max	Тур			
A1	0.013	0.10	0.05			
A2	1.00	1.30	1.10			
А3	0.70	0.80	0.75			
b	0.35	0.50	0.38			
C	0.10	0.20	0.15			
D	2.90	3.10	3.00			
е	-	-	0.95			
e1	-	-	1.90			
Е	2.70	3.00	2.80			
E1	1.50	1.70	1.60			
L	0.35	0.55	0.40			
а	-		8°			
a1	-	-	7°			
All Dimensions in mm						

Suggested Pad Layout

Please see http://www.diodes.com/package-outlines.html for the latest version.





Dimensions	Value (in mm)
С	2.40
C1	0.95
G	1.60
Х	0.55
Υ	0.80
Y1	3.20



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