Features

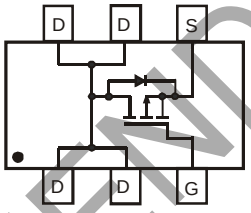
- Low $R_{DS(ON)}$:
  40mΩ @V_{GS} = -4.5V
  70mΩ @V_{GS} = -2.5V
- Low Input/Output Leakage
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**
- **PPAP Capable (Note 4)**

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 e3
- Terminal Connections: See Diagram
- Weight: 0.008 grams (Approximate)

SOT26

Top View



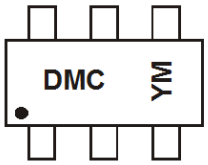
Top View
Internal Schematic

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.
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 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	V	W	X	Y	~	F	G	H

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

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	A
Pulsed Drain Current (Note 7)		I_{DM}	-18	A
Body-Diode Continuous Current (Note 6)		I_S	2.0	A

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	$R_{\theta JA}$	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	Typ	Max	Unit	Test Condition
STATIC PARAMETERS							
Drain-Source Breakdown Voltage		BV_{DSS}	-20	—	—	V	I_D = -250μA, V_{GS} = 0V
Zero Gate Voltage Drain Current	T_J = +25°C	I_{DSS}	—	—	-1	μA	V_{DS} = -20V, V_{GS} = 0V
Gate-Body Leakage Current		I_{GSS}	—	—	±100	nA	V_{DS} = 0V, V_{GS} = ±12V
Gate Threshold Voltage		$V_{GS(TH)}$	-0.6	-0.96	-1.2	V	V_{DS} = V_{GS}, I_D = -250μA
On State Drain Current (Note 8)		$I_{D(ON)}$	-15	—	—	A	V_{GS} = -4.5V, V_{DS} = -5V
Static Drain-Source On-Resistance (Note 8)		$R_{DS(ON)}$	—	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}	—	9	—	S	V_{DS} = -10V, I_D = -4.6A
Diode Forward Voltage (Note 8)		V_{SD}	-0.5	-0.72	-1.4	V	I_S = -2.1A, V_{GS} = 0V
Maximum Body-Diode Continuous Current (Note 6)		I_S	—	—	-1.7	A	—
DYNAMIC PARAMETERS (Note 9)							
Input Capacitance		C_{iss}	—	820	—	pF	V_{DS} = -15V, V_{GS} = 0V f = 1.0MHz
Output Capacitance		C_{oss}	—	200	—	pF	
Reverse Transfer Capacitance		C_{rss}	—	160	—	pF	
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	—	nC	V_{DS} = -10V, V_{GS} = -4.5V, I_D = -4.5A
Gate-Source Charge		Q_{GS}	—	1.5	—		
Gate-Drain Charge		Q_{GD}	—	4.3	—		
Turn-On Delay Time		$t_{D(ON)}$	—	4.4	—	ns	V_{DS} = -10V, V_{GS} = -4.5V, I_D = -1A, R_G = 6.0Ω
Rise Time		t_R	—	9.9	—		
Turn-Off Delay Time		$t_{D(OFF)}$	—	28.0	—		
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 ≤10s.
7. Repetitive Rating, pulse width limited by junction temperature.
8. Test pulse width t = 300μs.
9. Guaranteed by design. Not subject to production testing.

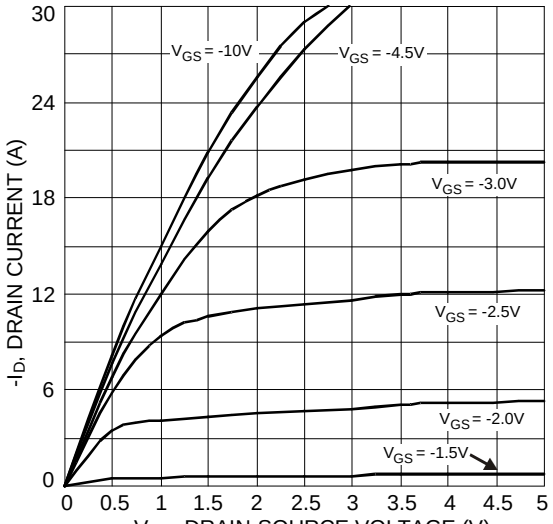


Fig. 1 Typical Output Characteristic

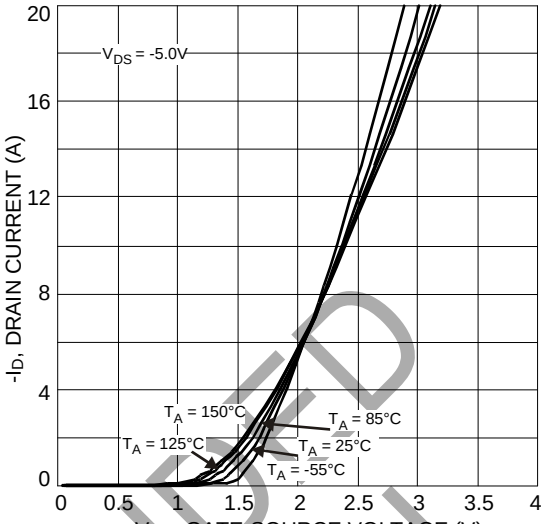


Fig. 2 Typical Transfer Characteristic

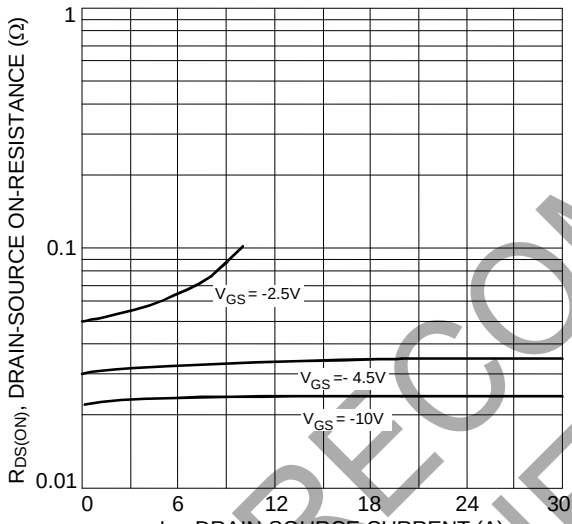


Fig. 3 Typical On-Resistance
vs. Drain Current and Gate Voltage

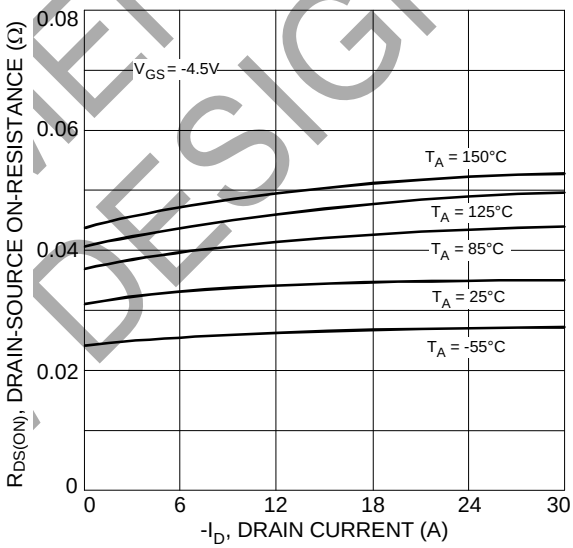


Fig. 4 Typical On-Resistance
vs. Drain Current and Temperature

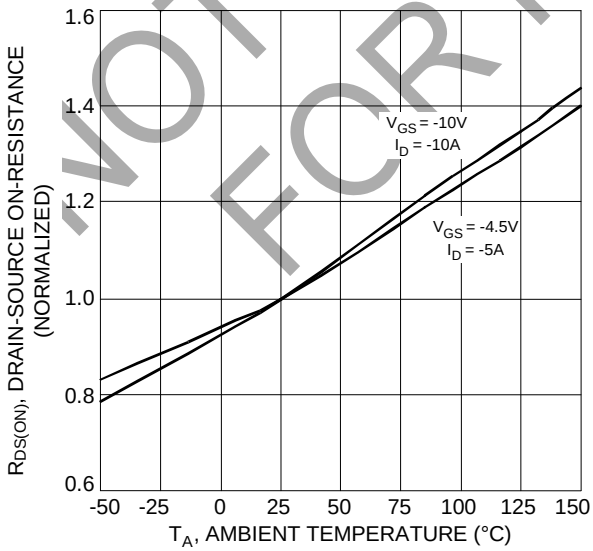


Fig. 5 Normalized On-Resistance vs. Ambient Temperature

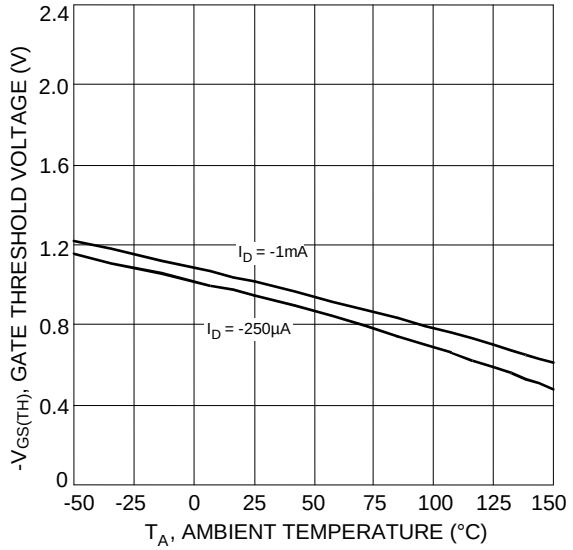


Fig. 6 Gate Threshold Variation vs. Ambient Temperature

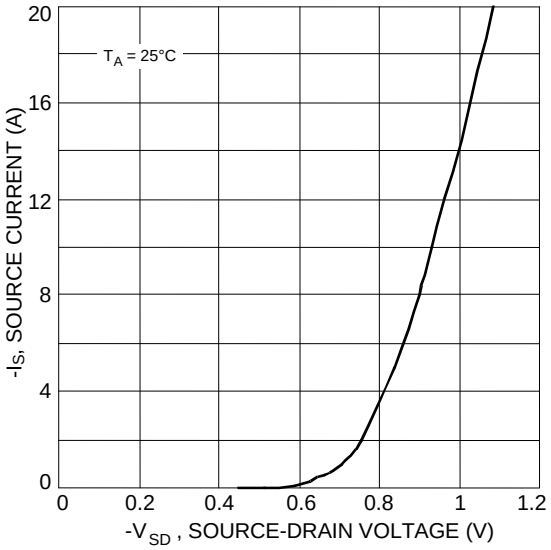


Fig. 7 Diode Forward Voltage vs. Current

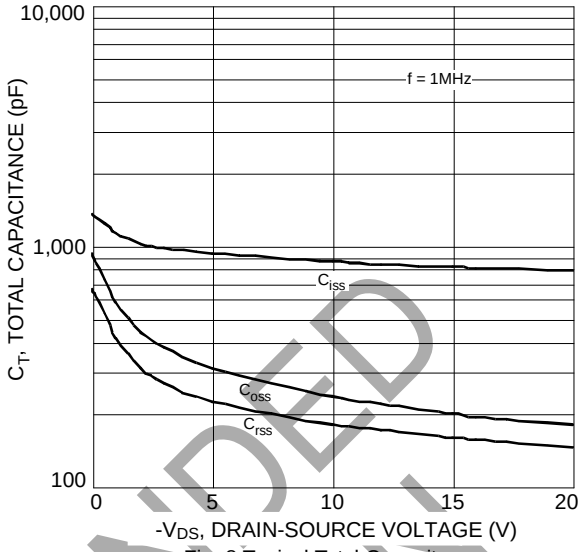


Fig. 8 Typical Total Capacitance

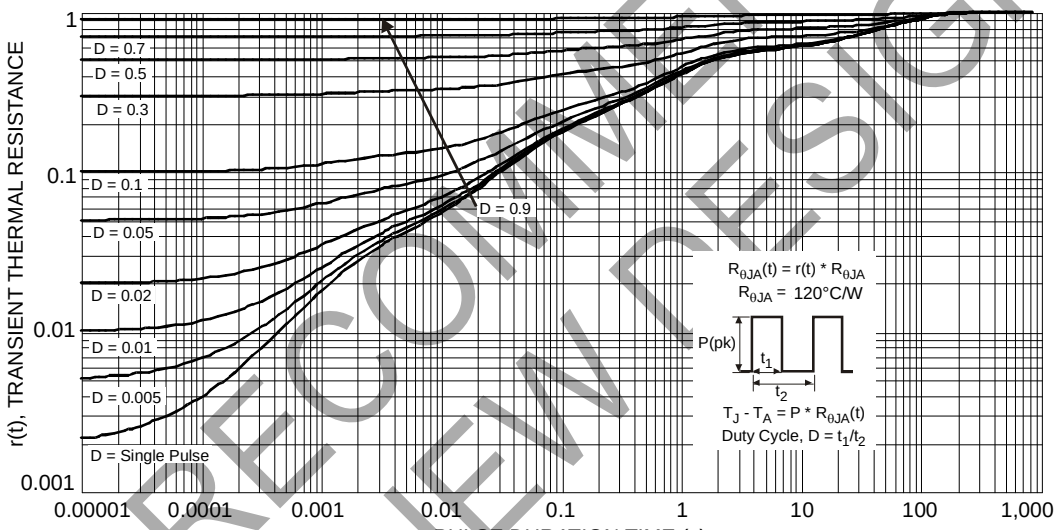
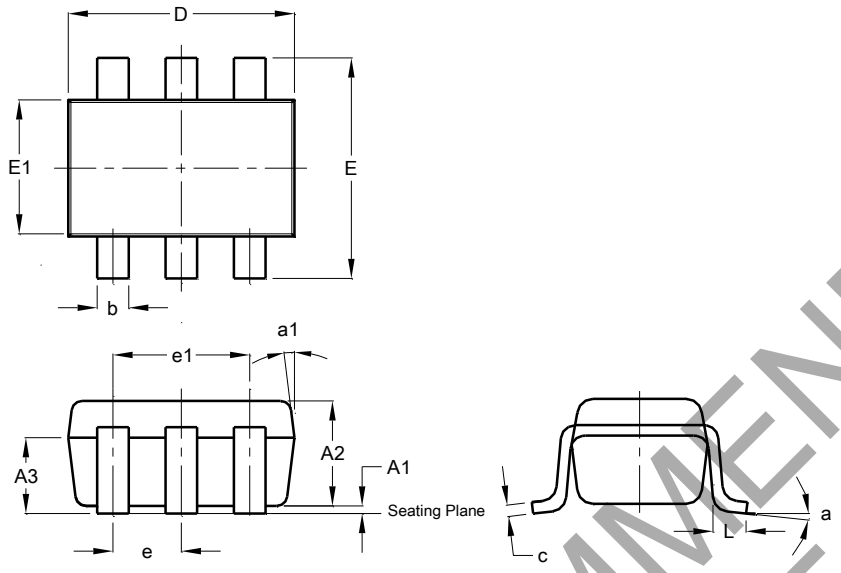


Fig. 9 Transient Thermal Response

Package Outline Dimensions

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

SOT26

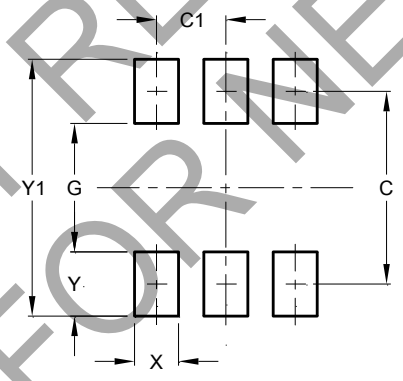


SOT26			
Dim	Min	Max	Typ
A1	0.013	0.10	0.05
A2	1.00	1.30	1.10
A3	0.70	0.80	0.75
b	0.35	0.50	0.38
c	0.10	0.20	0.15
D	2.90	3.10	3.00
e	-	-	0.95
e1	-	-	1.90
E	2.70	3.00	2.80
E1	1.50	1.70	1.60
L	0.35	0.55	0.40
a	-	-	8°
a1	-	-	7°
All Dimensions in mm			

Suggested Pad Layout

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

SOT26



Dimensions	Value (in mm)
C	2.40
C1	0.95
G	1.60
X	0.55
Y	0.80
Y1	3.20

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