

Features

- Low $R_{DS(ON)}$:
 - 65m Ω @ $V_{GS} = -10V$
 - 115m Ω @ $V_{GS} = -4.5V$
- Low Input/Output Leakage
- Lead Free By Design/RoHS Compliant (Note 3)**
- Qualified to AEC-Q101 Standards for High Reliability**
- "Green" Device (Note 4)**

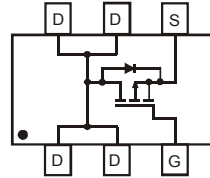
Mechanical Data

- Case: SOT-26
- Case Material - Molded Plastic. UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish - Matte Tin Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking Information: See Page 4
- Ordering Information: See page 4
- Weight: 0.008 grams (approximate)



TOP VIEW

SOT-26


 TOP VIEW
Internal Schematic

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

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	-30	V
Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current (Note 1) Continuous	I_D	-4.0	A
		-3.0	
Pulsed Drain Current (Note 2)	I_{DM}	-14	A

Thermal Characteristics

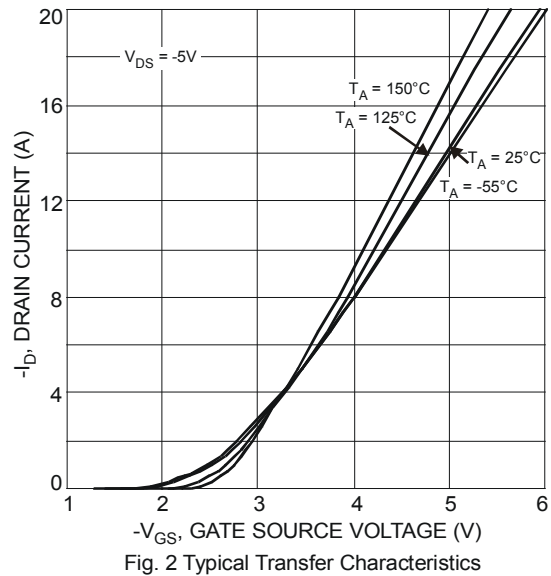
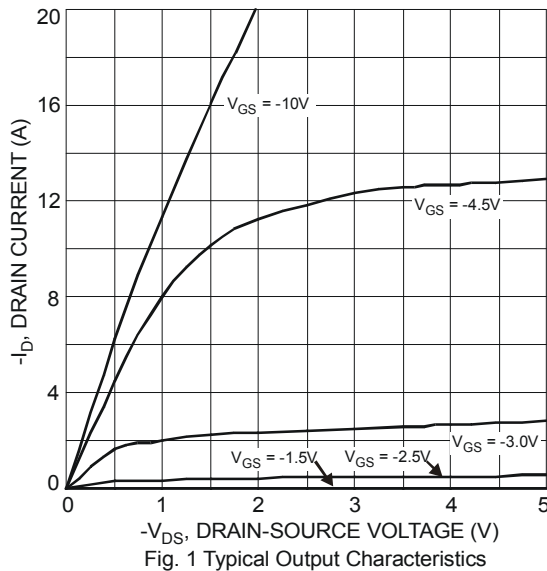
Characteristic	Symbol	Value	Unit
Total Power Dissipation (Note 1)	P_D	1.25	W
Thermal Resistance, Junction to Ambient (Note 1); Steady-State	$R_{\theta JA}$	100	$^\circ C/W$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

- Notes:
- Device mounted on 1"x1", FR-4 PC board on 0.1in.² pads on 2 oz. Copper pads and test pulse width $t \leq 10s$.
 - Repetitive Rating, pulse width limited by junction temperature.
 - No purposefully added lead.
 - Diodes Inc's "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.

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}	-30	—	—	V	I _D = -250μA, V _{GS} = 0V
Zero Gate Voltage Drain Current	I _{DSS}	—	—	-1	μA	V _{DS} = -30V, V _{GS} = 0V
Gate-Body Leakage Current	I _{GSS}	—	—	±100	nA	V _{DS} = 0V, V _{GS} = ±20V
Gate Threshold Voltage	V _{GS(th)}	-1.0	—	-2.1	V	V _{DS} = V _{GS} , I _D = -250μA
On State Drain Current (Note 5)	I _{D(ON)}	-15	—	—	A	V _{GS} = -4.5V, V _{DS} = -5V
Static Drain-Source On-Resistance (Note 5)	R _{DS(ON)}	—	56 98	65 115	mΩ	V _{GS} = -10V, I _D = -4.0A V _{GS} = -4.5V, I _D = -3.0A
Forward Transconductance (Note 5)	g _{FS}	—	5.3	—	S	V _{DS} = -10V, I _D = -4.0A
Diode Forward Voltage (Note 5)	V _{SD}	—	0.79	-1.2	V	I _S = -1.7A, V _{GS} = 0V
DYNAMIC PARAMETERS (Note 6)						
Input Capacitance	C _{iss}	—	336	—	pF	V _{DS} = -25V, V _{GS} = 0V f = 1.0MHz
Output Capacitance	C _{oss}	—	70	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	49	—	pF	
Gate Resistance	R _G	—	4.6	—	Ω	V _{DS} = 0V, V _{GS} = 0V, f = 1.0MHz
SWITCHING CHARACTERISTICS						
Total Gate Charge	Q _g	—	4.0 7.8	—	nC	V _{DS} = -15V, V _{GS} = -4.5V, I _D = -5.0A V _{DS} = -15V, V _{GS} = -10V, I _D = -5.0A
Gate-Source Charge	Q _{gs}	—	1.0	—		V _{DS} = -15V, V _{GS} = -4.5V, I _D = -5.0A
Gate-Drain Charge	Q _{gd}	—	2.5	—		V _{DS} = -15V, V _{GS} = -4.5V, I _D = -5.0A
Turn-On Delay Time	t _{d(on)}	—	6.0	—	ns	V _{DS} = -15V, V _{GS} = -10V, I _D = -1.0A, R _G = 6.0Ω
Rise Time	t _r	—	5.0	—		
Turn-Off Delay Time	t _{d(off)}	—	17.6	—		
Fall Time	t _f	—	9.5	—		

Notes: 5. Test pulse width t = 300μs.
6. Guaranteed by design. Not subject to production testing.



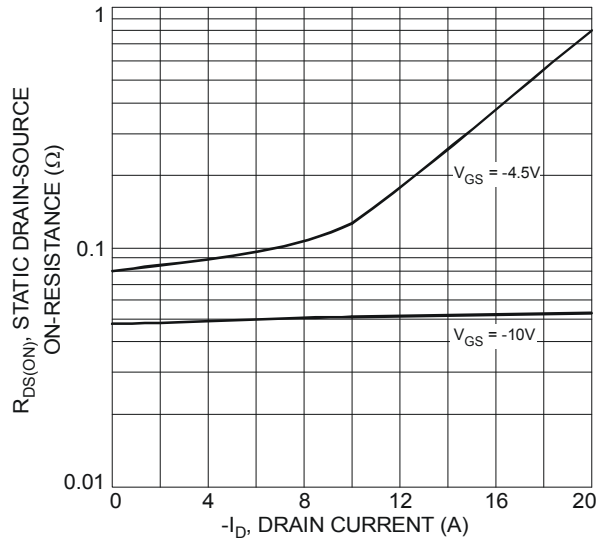


Fig. 3 Typical On-Resistance vs. Drain Current and Gate Voltage

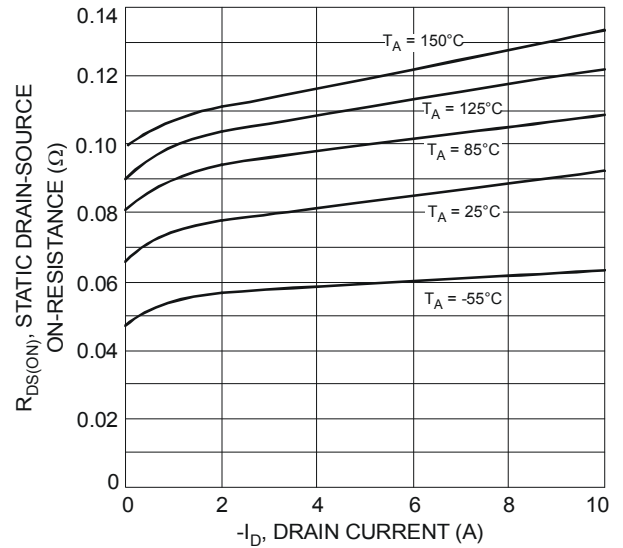


Fig. 4 Typical On-Resistance vs. Drain Current and Temperature

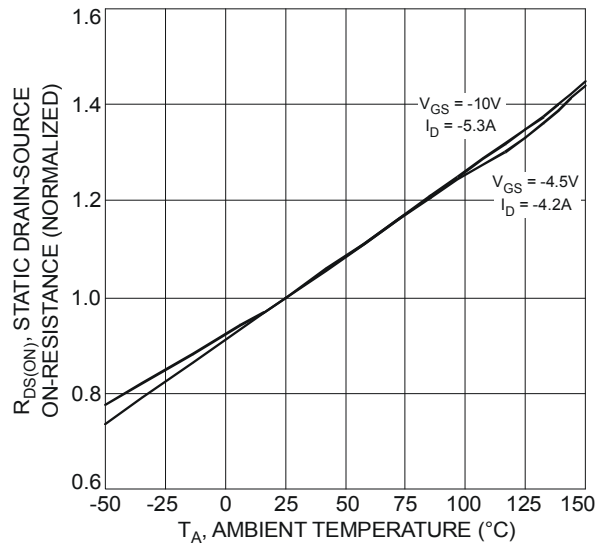


Fig. 5 On-Resistance Variation with Temperature

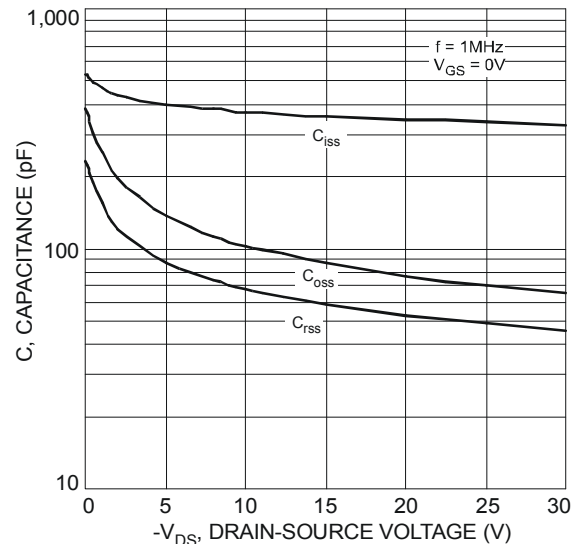


Fig. 6 Typical Capacitance

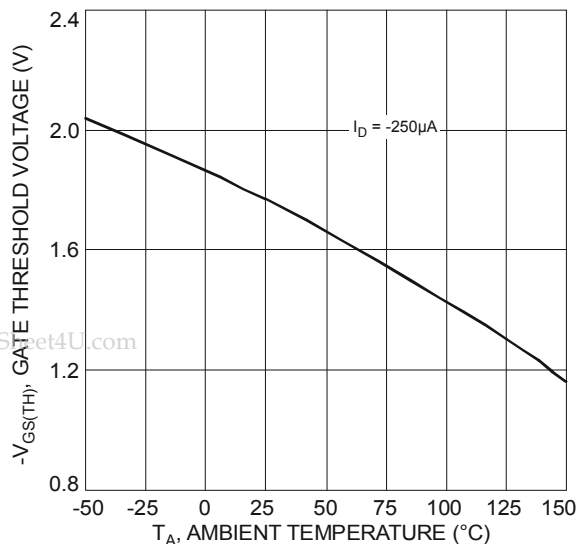


Fig. 7 Gate Threshold Variation vs. Ambient Temperature

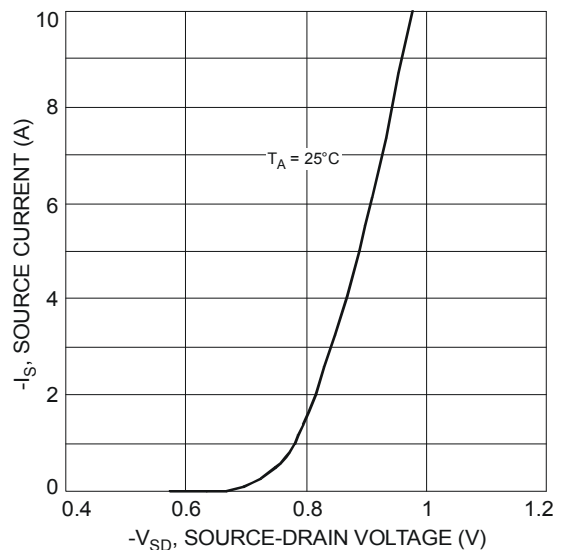


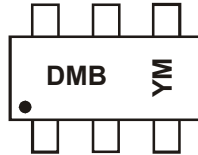
Fig. 8 Diode Forward Voltage vs. Current

Ordering Information (Note 7)

Part Number	Case	Packaging
DMP3098LDM-7	SOT-26	3000/Tape & Reel

Notes: 7. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



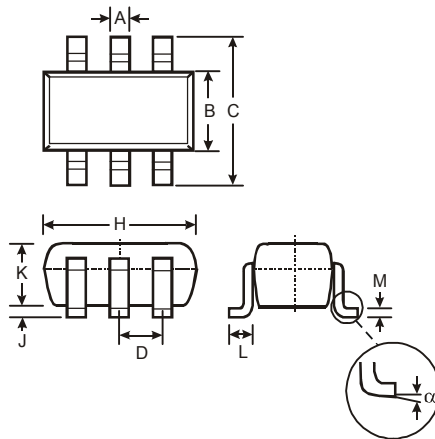
DMB = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: V = 2008)
 M = Month (ex: 9 = September)

Date Code Key

Year	2008	2009	2010	2011	2012	2013	2014	2015
Code	V	W	X	Y	Z	A	B	C

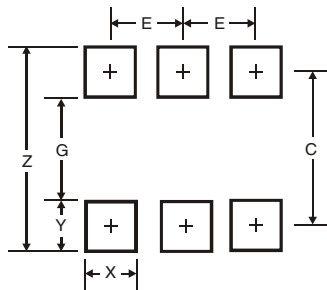
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

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
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

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.