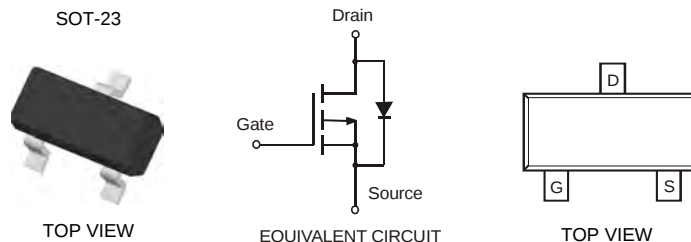


Features

- Low On-Resistance:
 $R_{DS(ON)} < 122\text{m}\Omega$ @ $V_{GS} = -10\text{V}$, $I_D = -2.7\text{A}$
 $R_{DS(ON)} < 190\text{m}\Omega$ @ $V_{GS} = -4.5\text{V}$, $I_D = -2.0\text{A}$
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Lead, Halogen and Antimony Free, RoHS Compliant "Green" Device (Notes 2, 4 and 6)**
- Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound.
UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish — Matte Tin annealed over Copper leadframe.
Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)



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

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V _{DSS}	-30	V
Gate-Source Voltage			V _{GSS}	±20	V
Drain Current (Note 1) V _{GS} = -10V	Steady State	T _A = 25°C	I _D	-2.7	A
		T _A = 70°C		-2	
Pulsed Drain Current (Note 3)			I _{DM}	-8	A

Thermal Characteristics

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 1)	P_D	1.08	W
Thermal Resistance, Junction to Ambient @ $T_A = 25^\circ\text{C}$ (Note 1)	$R_{\theta JA}$	115	$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

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}	-30	—	—	V	$V_{GS} = 0\text{V}$, $I_D = -250\mu\text{A}$
Zero Gate Voltage Drain Current	I_{DSS}	—	—	-800	nA	$V_{DS} = -30\text{V}$, $V_{GS} = 0\text{V}$
Gate-Source Leakage	I_{GSS}	—	—	± 80 ± 800	nA	$V_{GS} = \pm 12\text{V}$, $V_{DS} = 0\text{V}$ $V_{GS} = \pm 15\text{V}$, $V_{DS} = 0\text{V}$
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	$V_{GS(th)}$	-1.3	-1.8	-2.1	V	$V_{DS} = V_{GS}$, $I_D = -250\mu\text{A}$
Static Drain-Source On-Resistance	$R_{DS(ON)}$	—	97	122	m Ω	$V_{GS} = -10\text{V}$, $I_D = -2.7\text{A}$
			165	190		$V_{GS} = -4.5\text{V}$, $I_D = -2.0\text{A}$
Forward Transfer Admittance	$ Y_{fs} $	—	3.6	—	S	$V_{DS} = -5\text{V}$, $I_D = -2.7\text{A}$
Diode Forward Voltage (Note 5)	V_{SD}	—	—	-1.26	V	$V_{GS} = 0\text{V}$, $I_S = -2.7\text{A}$
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	—	227	—	pF	$V_{DS} = -10\text{V}$, $V_{GS} = 0\text{V}$ $f = 1.0\text{MHz}$
Output Capacitance	C_{oss}	—	64	—	pF	
Reverse Transfer Capacitance	C_{rss}	—	36	—	pF	

- Notes:
- Device mounted on FR-4 PCB. $t \leq 5$ sec.
 - No purposefully added lead. Halogen and Antimony Free.
 - Pulse width $\leq 10\mu\text{s}$, Duty Cycle $\leq 1\%$.
 - Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 - Short duration pulse test used to minimize self-heating effect.
 - Product manufactured with Green Molding Compound and does not contain Halogens or Sb_2O_3 Fire Retardants.

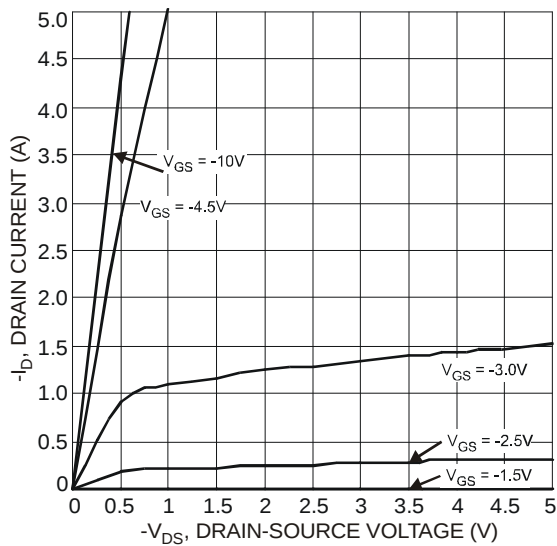


Fig. 1 Typical Output Characteristics

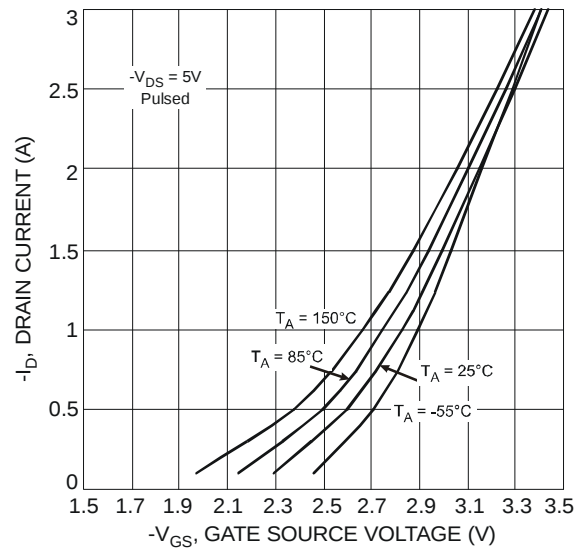


Fig. 2 Typical Transfer Characteristics

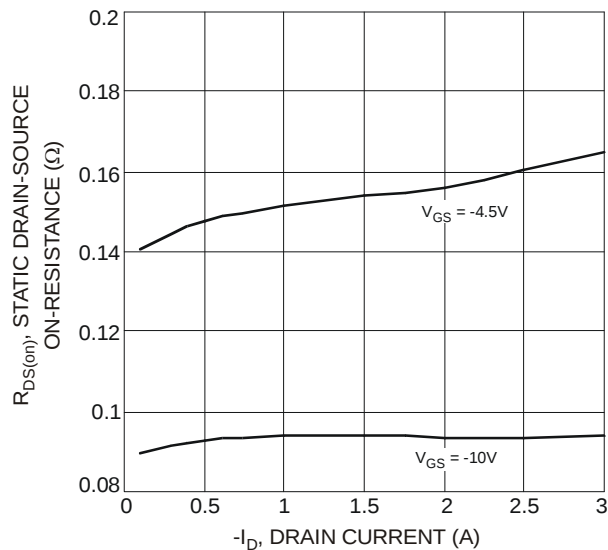


Fig. 3 On-Resistance vs. Drain Current and Gate Voltage

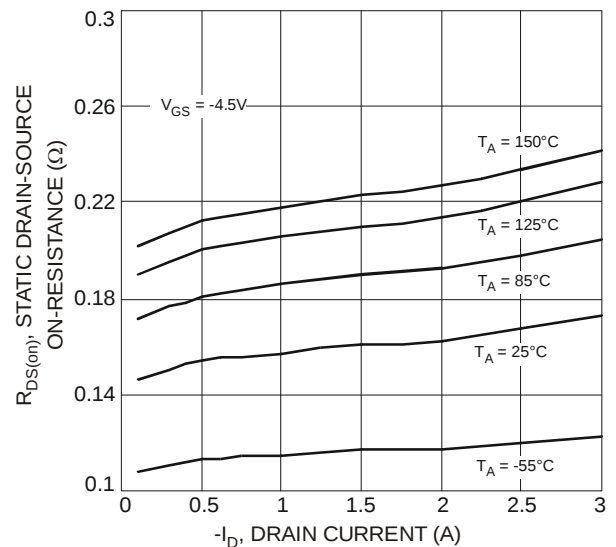


Fig. 4 On-Resistance vs. Drain Current and Gate Voltage

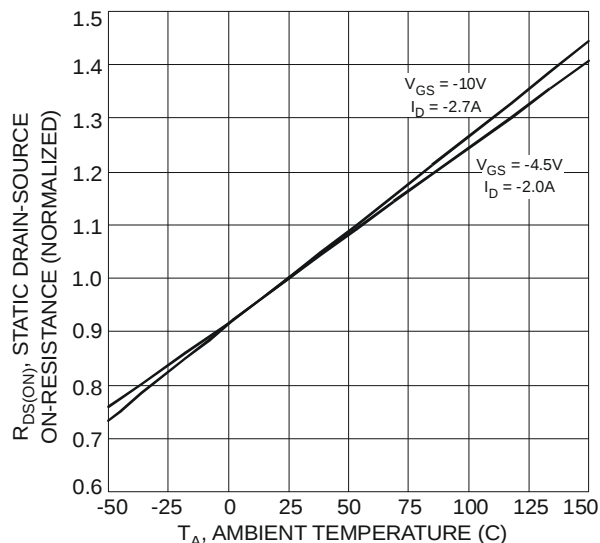


Fig. 5 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

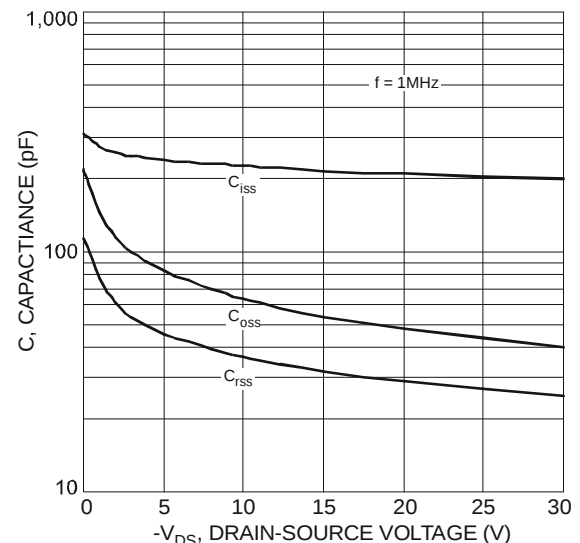


Fig. 6 Typical Capacitance

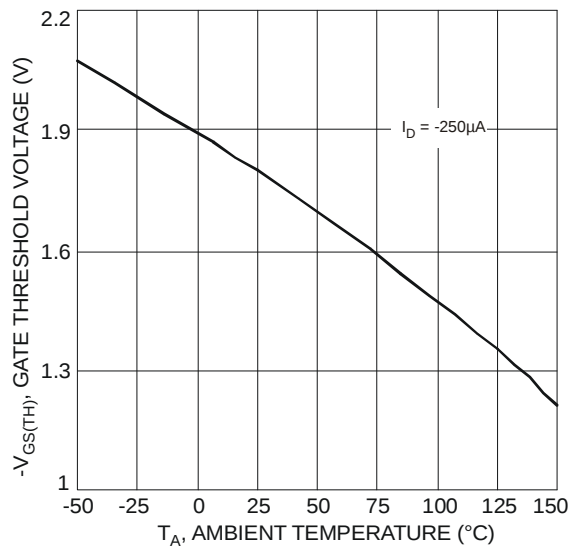


Fig. 7 Gate Threshold Voltage vs. Ambient Temperature

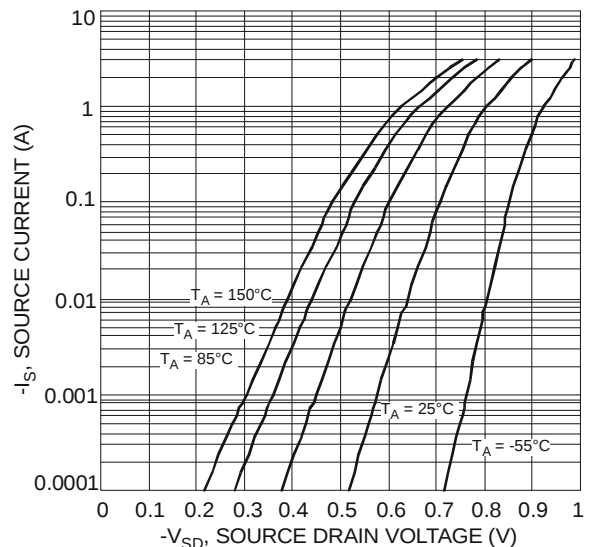


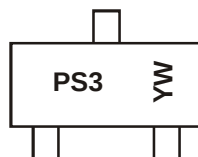
Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

Ordering Information (Note 7)

Part Number	Case	Packaging
DMP3160L-7	SOT-23	3000/Tape & Reel

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

Marking Information



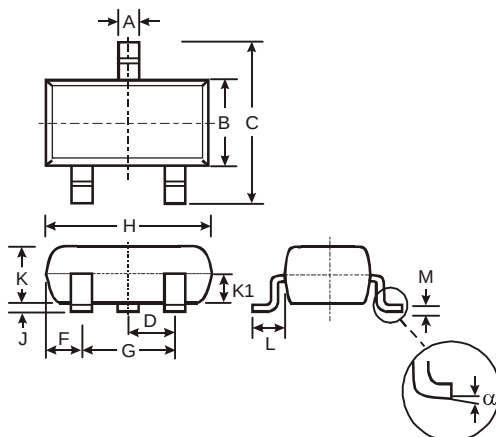
PS3 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: U = 2007)
 M = Month (ex: 9 = September)

Date Code Key

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Code	U	V	W	X	Y	Z	A	B	C

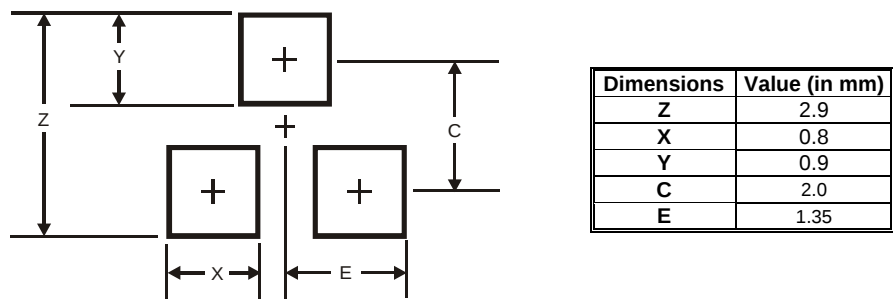
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



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 - 2. support or sustain life and whose failure to perform when properly used in accordance with instructions for use provided in the labeling can be reasonably expected to result in significant injury to the user.
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