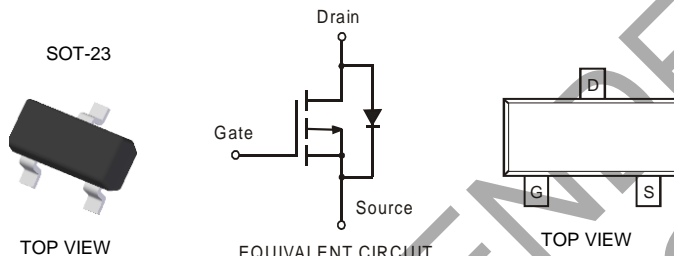


Features

- Low On-Resistance:
100mΩ @ $V_{GS} = -10V$, $I_D = -2.7A$
170mΩ @ $V_{GS} = -4.5V$, $I_D = -2.0A$
- Low Gate Threshold Voltage
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- Lead Free By Design/RoHS Compliant (Note 2)**
- "Green" Device (Note 4)**
- 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 @ $T_A = 25^\circ C$ 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	$T_A = 25^{\circ}C$	I_D	-2.7	A
		$T_A = 70^{\circ}C$		-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 @ $T_A = 25^\circ C$ (Note 1)	$R_{\theta JA}$	115	$^\circ C/W$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

Electrical Characteristics @ $T_A = 25^\circ C$ 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} = 0V, I _D = -250μA
Zero Gate Voltage Drain Current	I _{DSS}	—	—	-800	nA	V _{DS} = -30V, V _{GS} = 0V
Gate-Source Leakage	I _{GSS}	—	—	±80 ±800	nA	V _{GS} = ±12V, V _{DS} = 0V V _{GS} = ±15V, V _{DS} = 0V
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	V _{GS(th)}	-1.3	-1.8	-2.1	V	V _{DS} = V _{GS} , I _D = -250μA
Static Drain-Source On-Resistance	R _{DS (ON)}	—	86 147	100 170	mΩ	V _{GS} = -10V, I _D = -2.7A V _{GS} = -4.5V, I _D = -2.0A
Forward Transfer Admittance	Y _{fs}	—	3.6	—	S	V _{DS} = -5V, I _D = -2.7A
Diode Forward Voltage (Note 5)	V _{SD}	—	—	-1.26	V	V _{GS} = 0V, I _S = -2.7A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	—	227	—	pF	V _{DS} = -10V, V _{GS} = 0V f = 1.0MHz
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.
 - Pulse width $\leq 10\mu s$, 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.

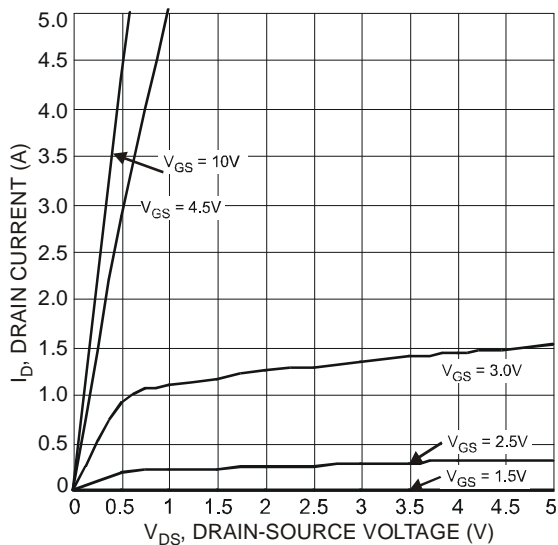


Fig. 1 Typical Output Characteristics

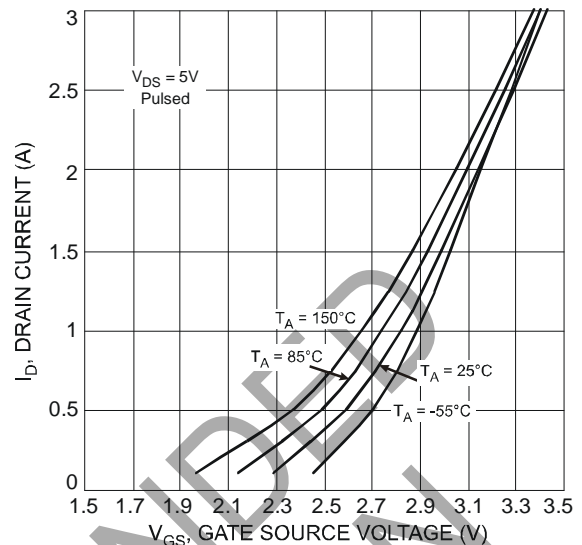


Fig. 2 Typical Transfer Characteristics

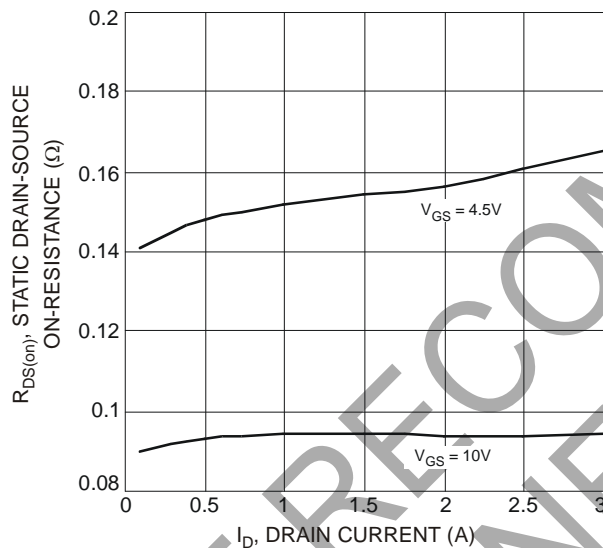


Fig. 3 On-Resistance vs. Drain Current and Gate Voltage

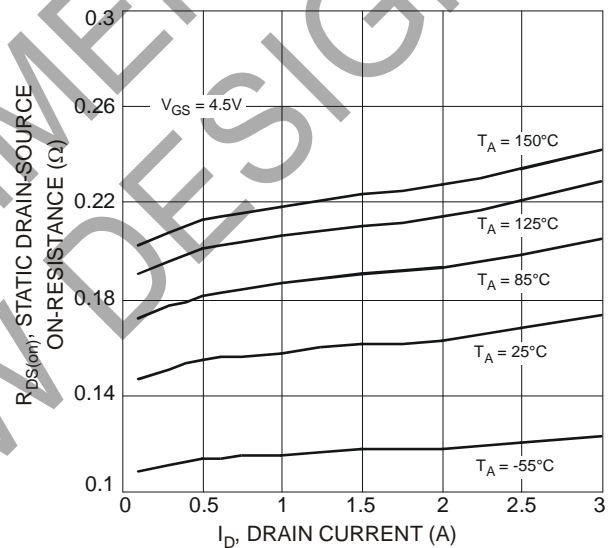


Fig. 4 On-Resistance vs. Drain Current and Gate Voltage

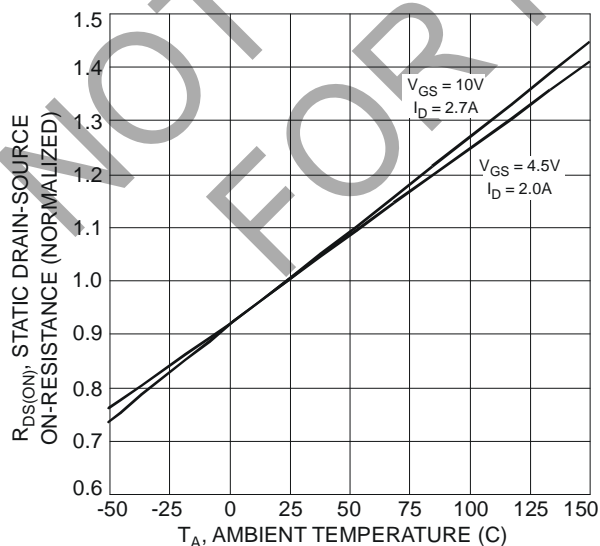


Fig. 5 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

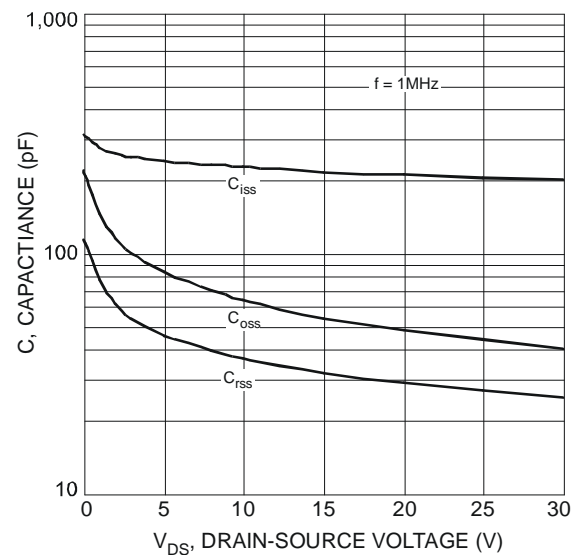


Fig. 6 Typical Capacitance

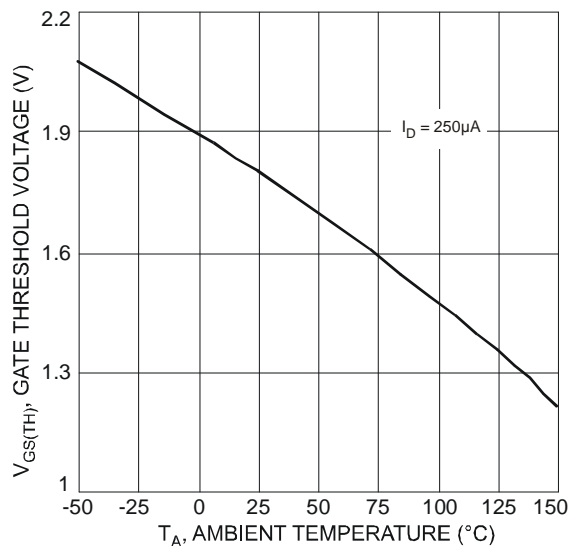


Fig. 7 Gate Threshold Voltage vs. Ambient Temperature

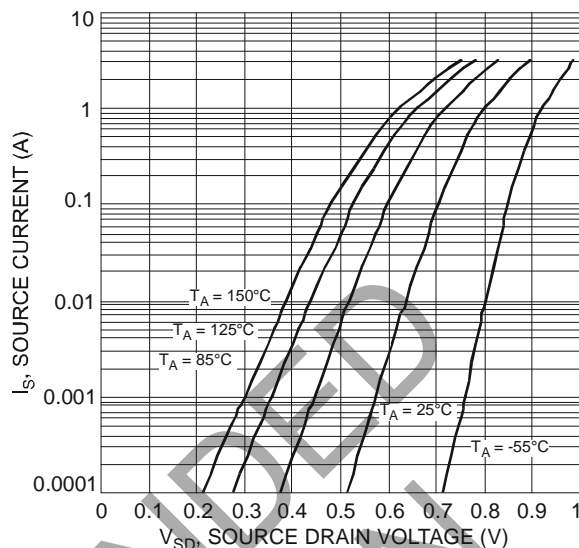


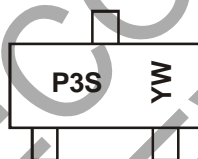
Fig. 8 Reverse Drain Current vs. Source-Drain Voltage

Ordering Information (Note 6)

Part Number	Case	Packaging
DMP3100L-7	SOT-23	3000/Tape & Reel

 Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



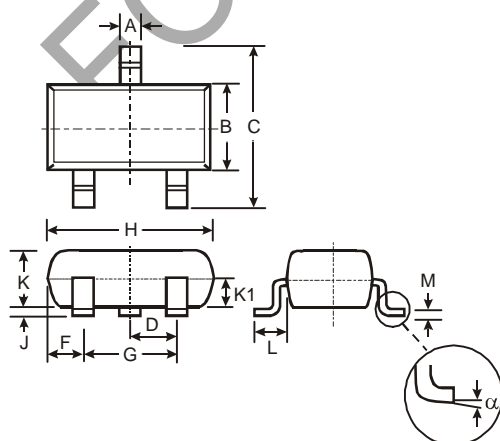
P3S = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: U = 2007)
 M = Month (ex: 9 = September)

Date Code Key

Year	2007	2008	2009	2010	2011	2012
Code	U	V	W	X	Y	Z

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

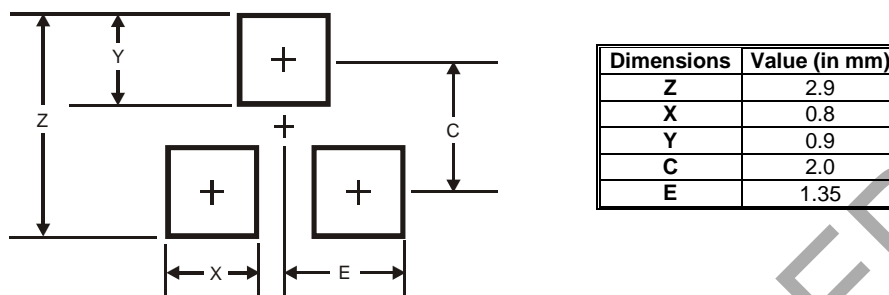
Package Outline Dimensions



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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