

Features

- Low On-Resistance:
 $R_{DS(ON)} < 110m\Omega$ @ $V_{GS} = -4.5V$
 $R_{DS(ON)} < 225m\Omega$ @ $V_{GS} = -2.5V$
- 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**

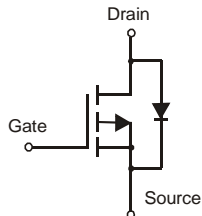
Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic, "Green" Molding Compound.
 UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish — Matte Tin annealed over Copper leadframe. 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)

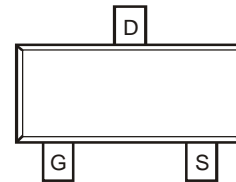
SOT-23



TOP VIEW



EQUIVALENT CIRCUIT



TOP VIEW

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic			Symbol	Value	Units
Drain-Source Voltage			V _{DSS}	-20	V
Gate-Source Voltage			V _{GSS}	±12	V
Drain Current (Note 1)	Steady State	T _A = 25°C	I _D	-2.6	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°C (Note 1)	R _{θJA}	115	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

- Notes:
- Device mounted on FR-4 PCB. t ≤ 5 sec.
 - No purposefully added lead.
 - Pulse width ≤ 10μs, Duty Cycle ≤ 1%.
 - 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
OFF CHARACTERISTICS (Note 5)						
Drain-Source Breakdown Voltage	BV _{DSS}	-20	—	—	V	V _{GS} = 0V, I _D = -250μA
Zero Gate Voltage Drain Current	I _{DSS}	—	—	-800	nA	V _{DS} = -20V, V _{GS} = 0V
On-State Drain Current	I _{D(ON)}	-6	—	—	A	V _{DS} ≤ -5V, V _{GS} = -4.5V
		-3	—	—		V _{DS} ≤ -5V, V _{GS} = -2.5V
Gate-Source Leakage	I _{GSS}	—	—	±80	nA	V _{GS} = ±12V, V _{DS} = 0V
ON CHARACTERISTICS (Note 5)						
Gate Threshold Voltage	V _{GS(th)}	-0.45	—	-1.25	V	V _{DS} = V _{GS} , I _D = -250μA
Static Drain-Source On-Resistance	R _{DS(ON)}	—	80	110	mΩ	V _{GS} = -4.5V, I _D = -2.6A
			165	225		V _{GS} = -2.5V, I _D = -2.0A
Forward Transfer Admittance	Y _{fs}	—	4	—	S	V _{DS} = -5V, I _D = -2.6A
Diode Forward Voltage (Note 5)	V _{SD}	—	—	-1.26	V	V _{GS} = 0V, I _S = -2.6A
DYNAMIC CHARACTERISTICS						
Input Capacitance	C _{iss}	—	250	—	pF	V _{DS} = -10V, V _{GS} = 0V f = 1.0MHz
Output Capacitance	C _{oss}	—	88	—	pF	
Reverse Transfer Capacitance	C _{rss}	—	58	—	pF	
Gate Resistance	R _g	—	12	16	Ω	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz
Total Gate Charge	Q _g	—	4.3	5.3	nC	V _{GS} = -4.5V, V _{DS} = -10V, I _D = -2.7A
Gate-Source Charge	Q _{gs}	—	0.9	—		
Gate-Drain Charge	Q _{gd}	—	2.1	—		

Notes: 5. Short duration pulse test used to minimize self-heating effect.

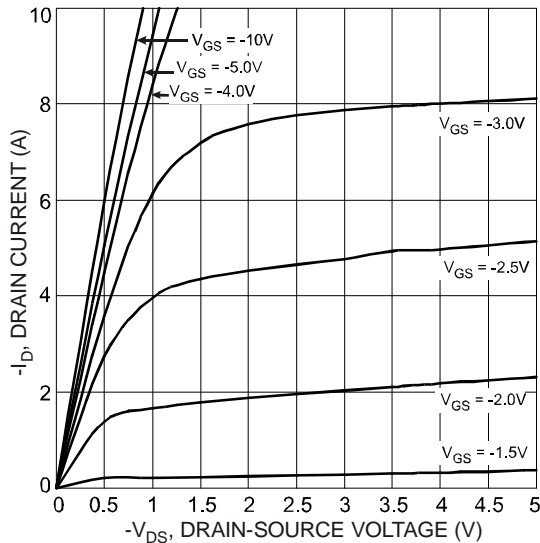


Fig. 1 Typical Output Characteristics

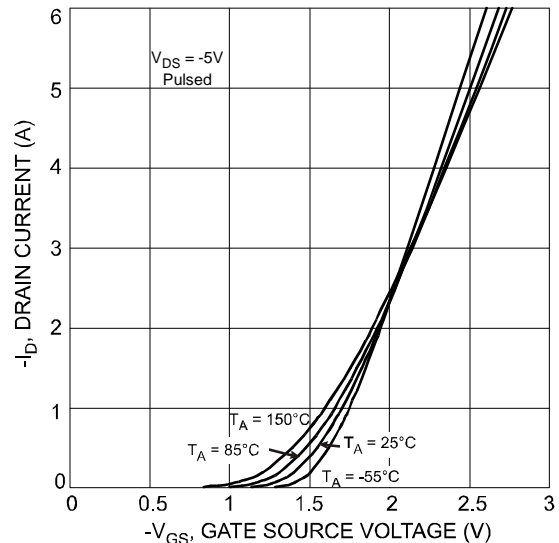


Fig. 2 Typical Transfer Characteristics

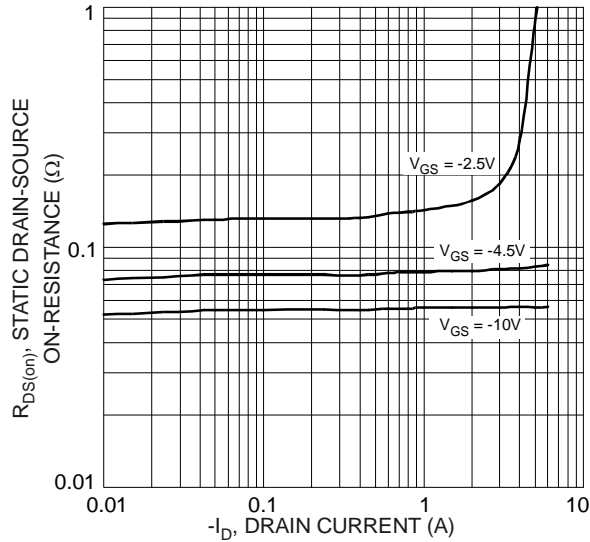


Fig. 3 On-Resistance vs. Drain Current and Gate Voltage

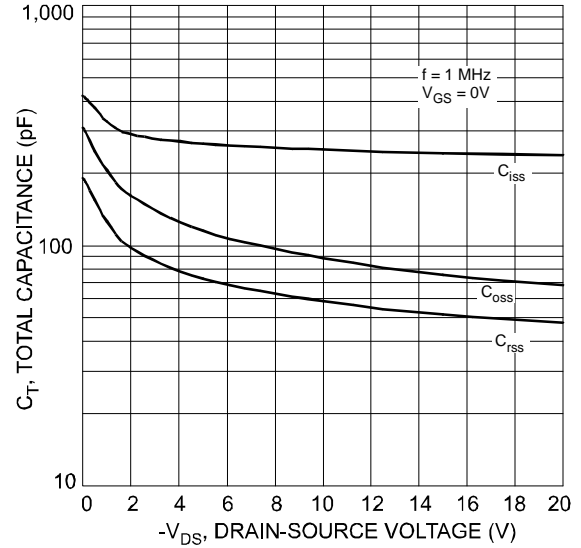


Fig. 4 Typical Total Capacitance

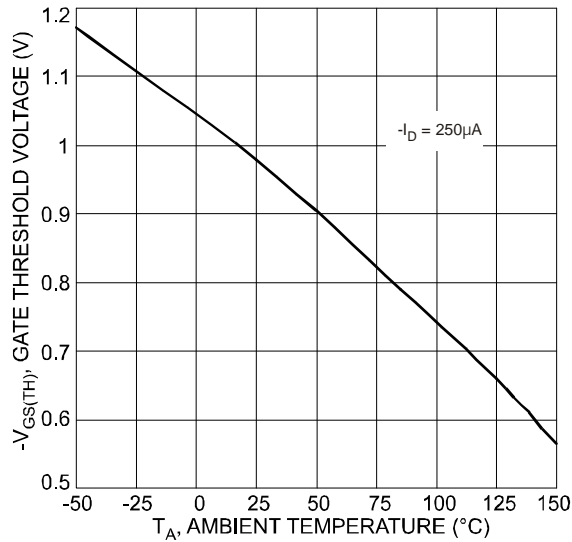


Fig. 5 Gate Threshold Voltage vs. Ambient Temperature

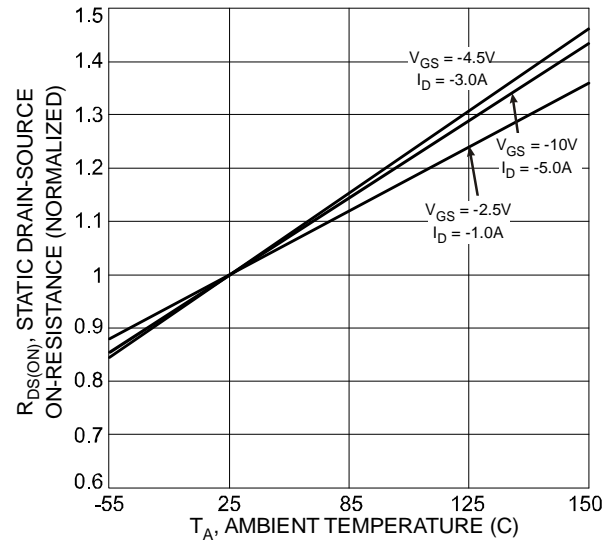


Fig. 6 Normalized Static Drain-Source On-Resistance vs. Ambient Temperature

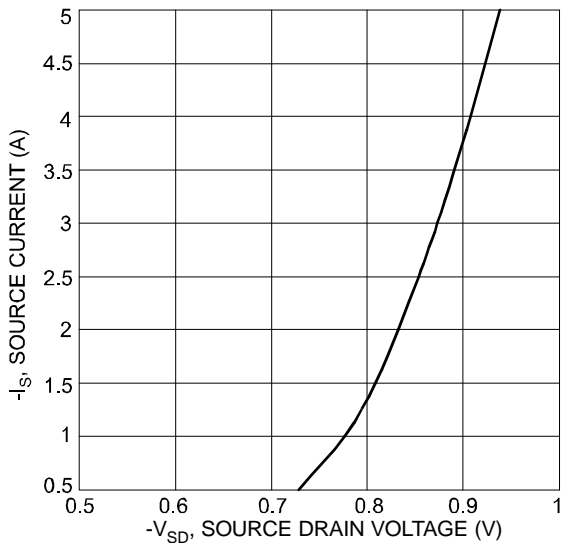


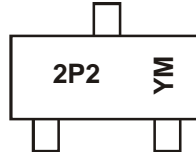
Fig. 7 Reverse Drain Current vs. Source-Drain Voltage

Ordering Information (Note 6)

Part Number	Case	Packaging
DMP2225L-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



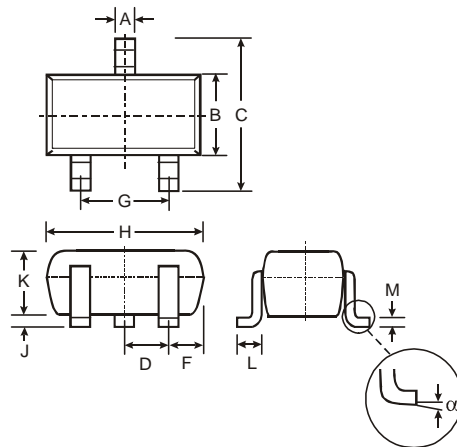
2P2 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: V = 2008)
 M = Month (ex: 9 = September)

Date Code Key

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

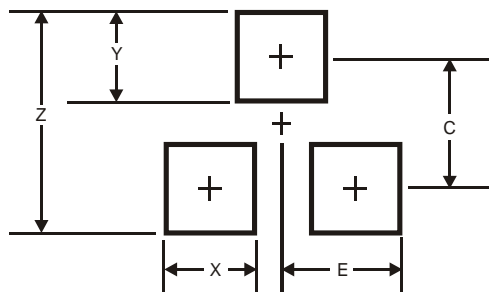
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
F	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.085	0.180
α	0°	8°
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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