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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

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## Contact us

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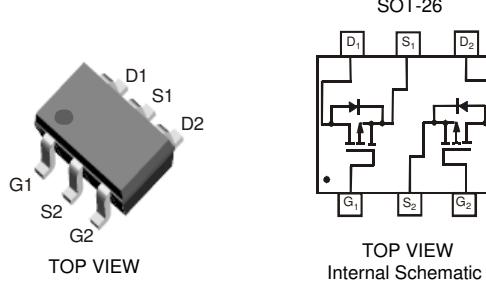
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

## Features

- Dual P-Channel MOSFET
- Low On-Resistance
  - 150 mΩ @  $V_{GS} = -4.5V$
  - 200 mΩ @  $V_{GS} = -2.5V$
  - 240 mΩ @  $V_{GS} = -1.8V$
- Very Low Gate Threshold Voltage  $V_{GS(th)} \leq 1V$
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- **Lead Free By Design/RoHS Compliant (Note 2)**
- "Green" Device (Note 3)
- Qualified to AEC-Q101 standards for High Reliability

## Mechanical Data

- Case: SOT-26
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals Connections: See Diagram
- Terminals: Finish — Matte Tin annealed over Copper leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 4
- Ordering Information: See Page 4
- Weight: 0.015 grams (approximate)



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

Characteristic	Symbol	Value	Units
Drain-Source Voltage	$V_{DSS}$	-20	V
Gate-Source Voltage	$V_{GSS}$	$\pm 12$	V
Drain Current (Note 1)	$I_D$	-2.0 -1.5	A
Pulsed Drain Current	$I_{DM}$	-7	A

## Thermal Characteristics

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 1)	$P_D$	600	mW
Thermal Resistance, Junction to Ambient	$R_{JJA}$	208	°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-65 to +150	°C

Notes:

1. Device mounted on FR-4 PCB.
2. No purposefully added lead.
3. Diodes Inc.'s "Green" policy can be found on our website at [http://www.diodes.com/products/lead\\_free/index.php](http://www.diodes.com/products/lead_free/index.php).

**Electrical Characteristics** @ $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 4)</b>						
Drain-Source Breakdown Voltage	$\text{BV}_{\text{DSS}}$	-20	—	—	V	$\text{V}_{\text{GS}} = 0\text{V}$ , $\text{I}_D = -250\mu\text{A}$
Zero Gate Voltage Drain Current $\text{T}_J = 25^\circ\text{C}$ $\text{T}_J = 125^\circ\text{C}$	$\text{I}_{\text{DSS}}$	—	—	-1.0 -5.0	$\mu\text{A}$	$\text{V}_{\text{DS}} = -20\text{V}$ , $\text{V}_{\text{GS}} = 0\text{V}$
Gate-Source Leakage	$\text{I}_{\text{GSS}}$	—	—	$\pm 100$	nA	$\text{V}_{\text{GS}} = \pm 12\text{V}$ , $\text{V}_{\text{DS}} = 0\text{V}$
<b>ON CHARACTERISTICS (Note 4)</b>						
Gate Threshold Voltage	$\text{V}_{\text{GS(th)}}$	-0.45	—	-1.0	V	$\text{V}_{\text{DS}} = \text{V}_{\text{GS}}$ , $\text{I}_D = -250\mu\text{A}$
Static Drain-Source On-Resistance	$\text{R}_{\text{DS (ON)}}$	—	92 134 180	150 200 240	$\text{m}\Omega$	$\text{V}_{\text{GS}} = -4.5\text{V}$ , $\text{I}_D = -2.0\text{A}$ $\text{V}_{\text{GS}} = -2.5\text{V}$ , $\text{I}_D = -1.5\text{A}$ $\text{V}_{\text{GS}} = -1.8\text{V}$ , $\text{I}_D = -0.5\text{A}$
Forward Transconductance	$\text{g}_{\text{FS}}$	—	3.1	—	S	$\text{V}_{\text{DS}} = -10\text{V}$ , $\text{I}_D = -810\text{mA}$
Diode Forward Voltage (Note 4)	$\text{V}_{\text{SD}}$	—	—	-0.9	V	$\text{V}_{\text{GS}} = 0\text{V}$ , $\text{I}_S = -0.5\text{A}$
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	$\text{C}_{\text{iss}}$	—	320	—	pF	$\text{V}_{\text{DS}} = -16\text{V}$ , $\text{V}_{\text{GS}} = 0\text{V}$ $f = 1.0\text{MHz}$
Output Capacitance	$\text{C}_{\text{oss}}$	—	80	—	pF	
Reverse Transfer Capacitance	$\text{C}_{\text{rss}}$	—	60	—	pF	
Turn-On Delay Time	$\text{t}_{\text{D(on)}}$	—	11.51	—	ns	$\text{V}_{\text{DS}} = -10\text{V}$ , $\text{V}_{\text{GS}} = -4.5\text{V}$ $\text{R}_G = 6\Omega$ , $\text{R}_L = 10\Omega$
Turn-On Rise Time	$\text{t}_r$	—	12.09	—	ns	
Turn-Off Delay Time	$\text{t}_{\text{D(off)}}$	—	55.34	—	ns	
Turn-Off Fall Time	$\text{t}_f$	—	27.54	—	ns	

Notes: 4. Short duration pulse test used to minimize self-heating effect.

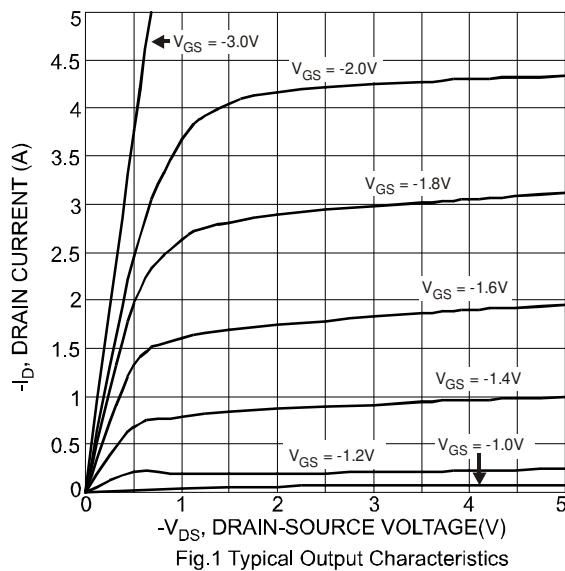


Fig.1 Typical Output Characteristics

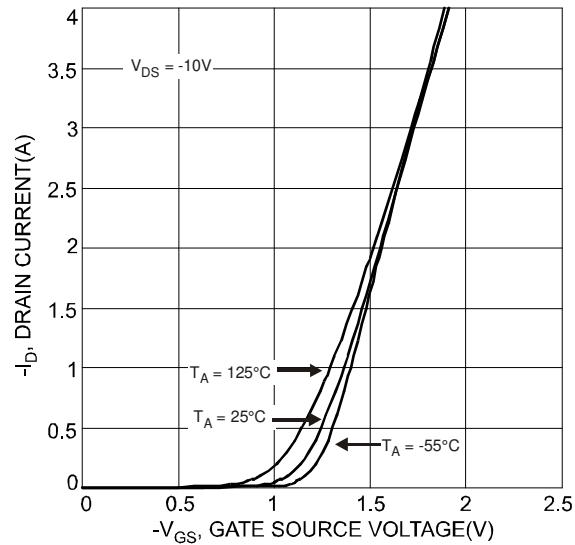


Fig. 2 Typical Transfer Characteristics

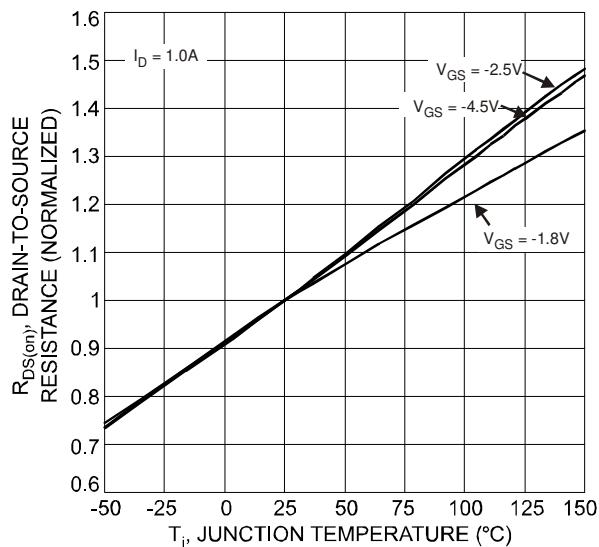


Fig. 3 On-Resistance Variation with Temperature

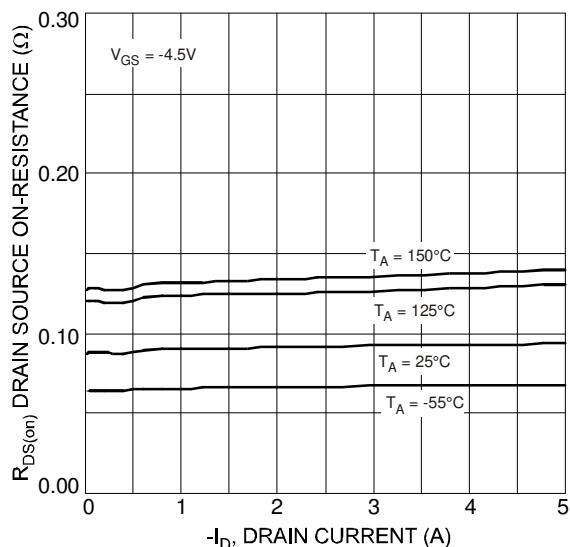


Fig. 5 Drain-Source On-Resistance Vs. Drain Current and Temperature

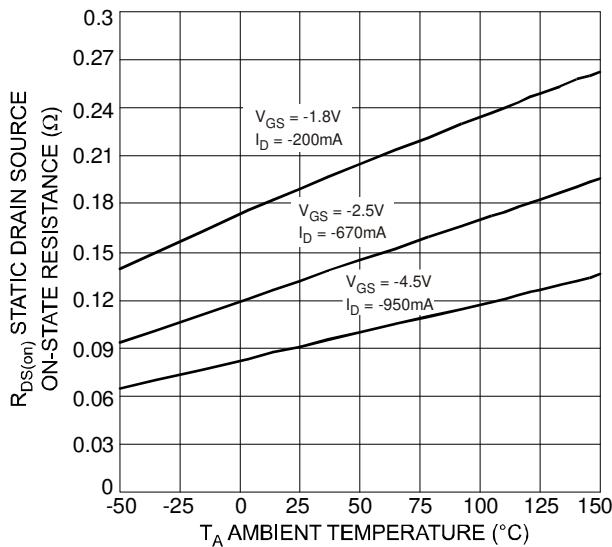


Fig. 7 Static Drain-Source On-State Resistance vs Ambient Temperature

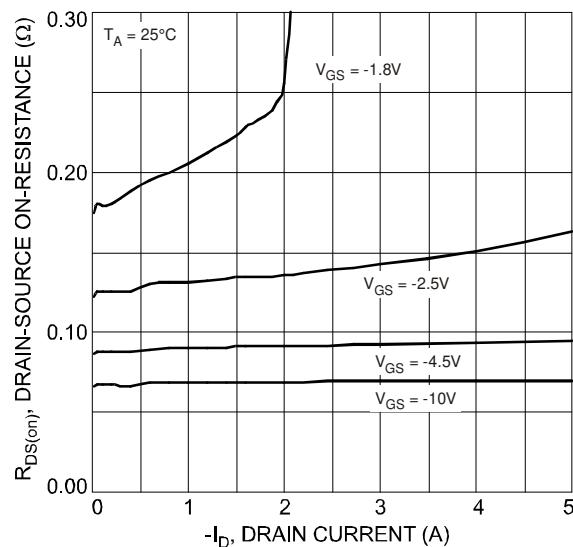


Fig. 4 On-Resistance vs Drain Current and Gate Voltage

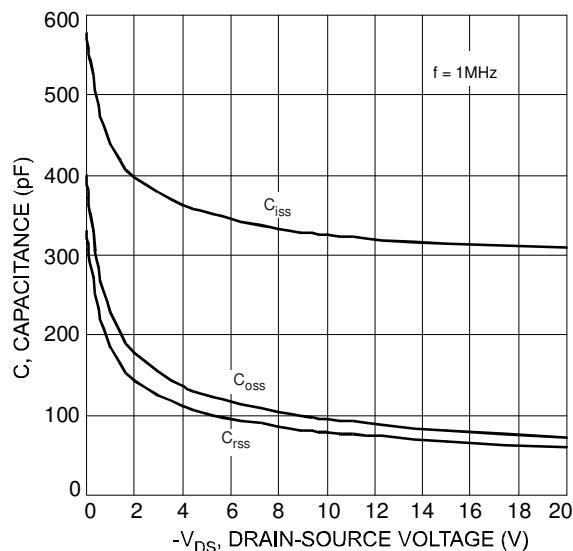


Fig. 6: Typical Capacitance

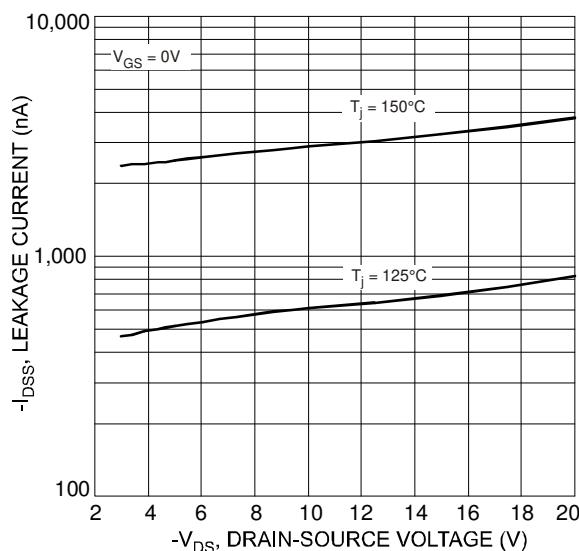


Fig. 8 Drain-Source Leakage Current vs Voltage

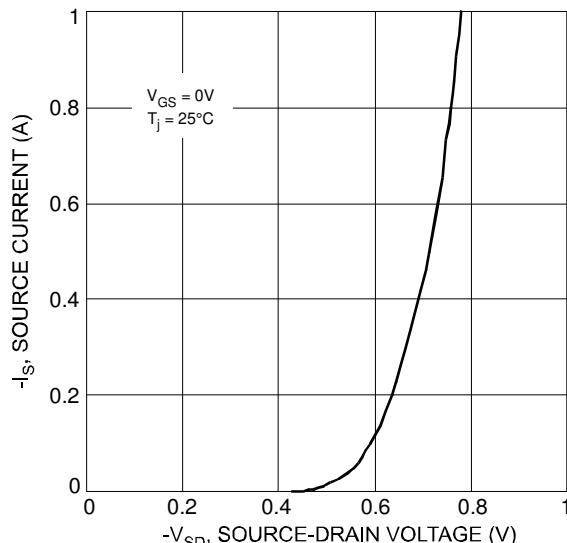


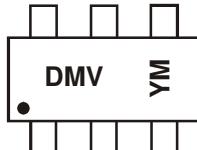
Fig. 9 Diode Forward Voltage vs. Current

## Ordering Information (Note 5)

Part Number	Case	Packaging
DMP2240UDM-7	SOT-26	3000/Tape & Reel

Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information

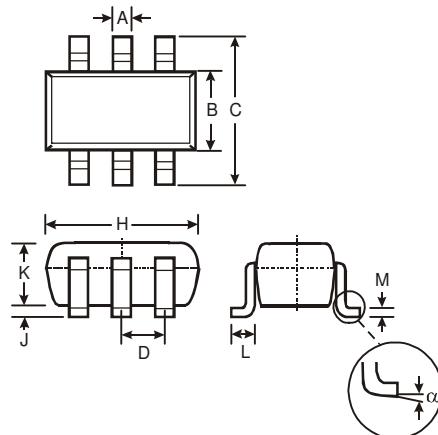


DMV = Marking Code  
YM = Date Code Marking  
Y = Year (ex: U = 2007)  
M = Month (ex: 9 = September)

### Date Code Key

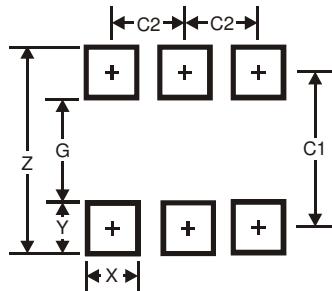
Year	2007	2008	2009	2010	2011	2012						
Code	U	V	W	X	Y	Z						
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

## Package Outline Dimensions



SOT-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
$\alpha$	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
C1	2.40
C2	0.95

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B. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or to affect its safety or effectiveness.

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