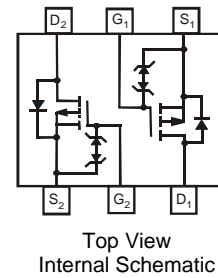


## Features

- Dual P-Channel MOSFET
- Low On-Resistance
- Low Gate Threshold Voltage  $V_{GS(TH)} < 1V$
- Low Input Capacitance
- Fast Switching Speed
- Low Input/Output Leakage
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **ESD Protected**
- **"Green" Device (Note 2)**
- **Qualified to AEC-Q101 standards for High Reliability**

## Mechanical Data

- Case: SOT363
- 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 Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Weight: 0.006 grams (approximate)

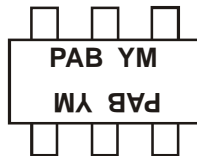


## Ordering Information (Note 3)

Part Number	Case	Packaging
DMP2004DWK-7	SOT363	3000/Tape & Reel

- Notes:
1. No purposefully added lead.
  2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
  3. For packaging details, go to our website at <http://www.diodes.com>.

## Marking Information



PAB = 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	2016
Code	U	V	W	X	Y	Z	A	B	C	D

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

**Maximum Ratings** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Drain-Source Voltage	V <sub>DSS</sub>	-20	V
Gate-Source Voltage	V <sub>GSS</sub>	±8	V
Drain Current (Note 4)	I <sub>D</sub>	T <sub>A</sub> = 25°C	-430
		T <sub>A</sub> = 85°C	-310

**Thermal Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Units
Total Power Dissipation (Note 4)	P <sub>D</sub>	250	mW
Thermal Resistance, Junction to Ambient	R <sub>θJA</sub>	500	°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	°C

**Electrical Characteristics** @T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
<b>OFF CHARACTERISTICS (Note 5)</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	-20	—	—	V	V <sub>GS</sub> = 0V, I <sub>D</sub> = -250μA
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	—	—	-1.0	μA	V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0V
Gate-Source Leakage	I <sub>GSS</sub>	—	—	±1.0	μA	V <sub>GS</sub> = ±4.5V, V <sub>DS</sub> = 0V
<b>ON CHARACTERISTICS (Note 5)</b>						
Gate Threshold Voltage	V <sub>GS(th)</sub>	-0.5	—	-1.0	V	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	—	0.7	0.9	Ω	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -430mA
		—	1.1	1.4		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -300mA
		—	1.7	2.0		V <sub>GS</sub> = -1.8V, I <sub>D</sub> = -150mA
Forward Transfer Admittance	Y <sub>fs</sub>	200	—	—	ms	V <sub>DS</sub> = 10V, I <sub>D</sub> = 0.2A
Diode Forward Voltage (Note 5)	V <sub>SD</sub>	-0.5	—	-1.2	V	V <sub>GS</sub> = 0V, I <sub>S</sub> = 115mA
<b>DYNAMIC CHARACTERISTICS</b>						
Input Capacitance	C <sub>iSS</sub>	—	—	175	pF	V <sub>DS</sub> = -16V, V <sub>GS</sub> = 0V f = 1.0MHz
Output Capacitance	C <sub>oSS</sub>	—	—	30	pF	
Reverse Transfer Capacitance	C <sub>rSS</sub>	—	—	20	pF	

Notes: 4. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.  
5. Short duration pulse test used to minimize self-heating effect.

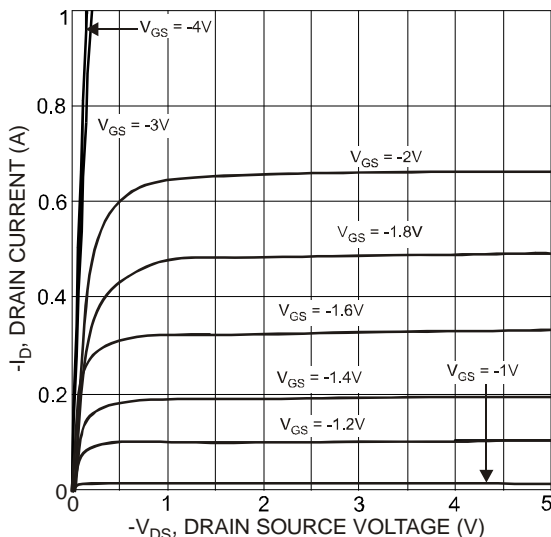


Fig. 1 Typical Output Characteristics

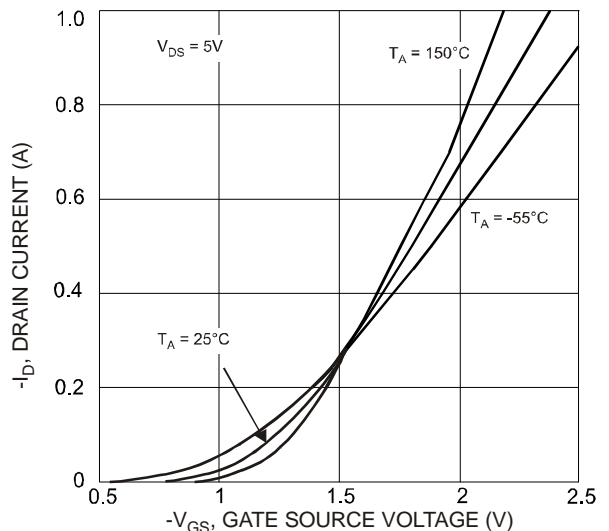


Fig. 2 Typical Transfer Characteristics

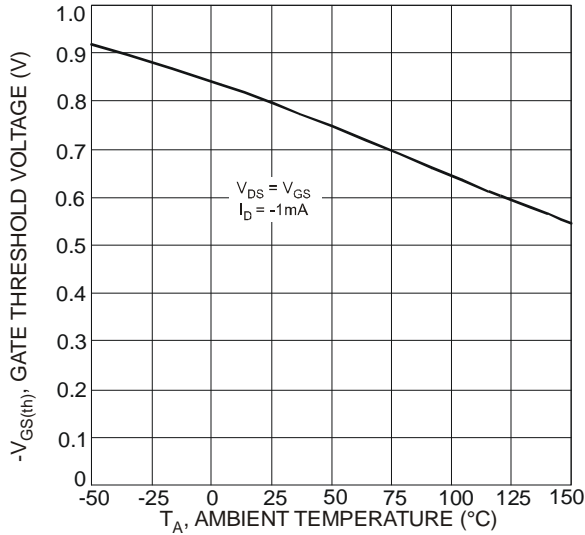


Fig. 3 Gate Threshold Voltage vs. Ambient Temperature

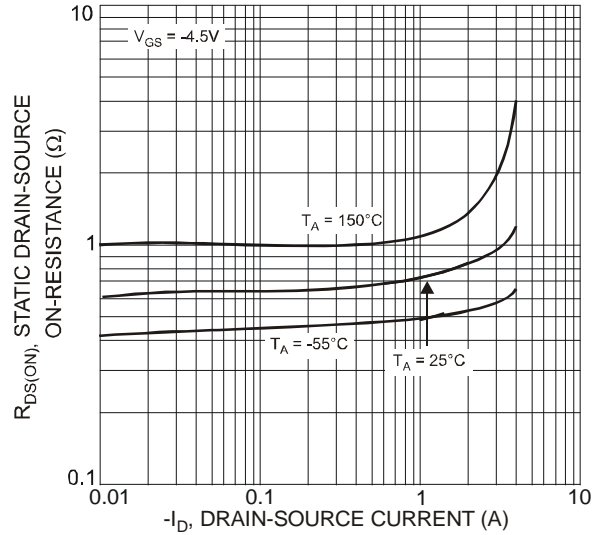


Fig. 4 Static Drain-Source On-Resistance vs. Drain Current

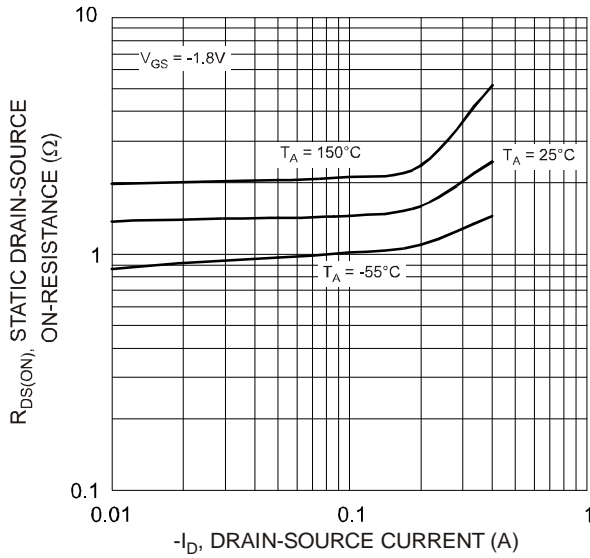


Fig. 5 Static Drain-Source On-Resistance vs. Drain Current

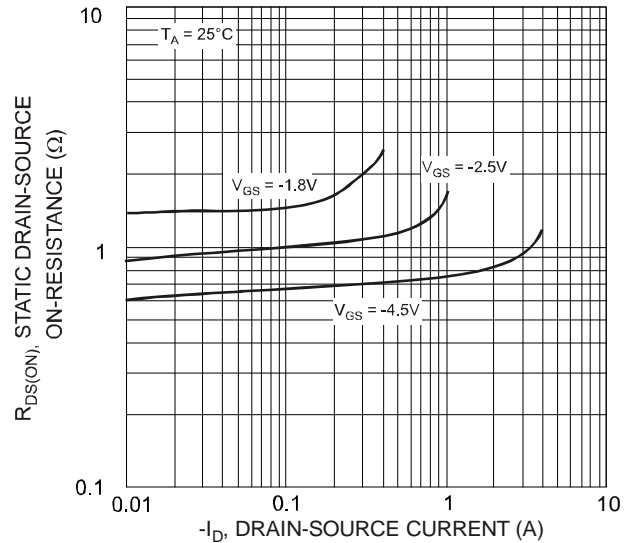


Fig. 6 Static Drain-Source On-Resistance vs. Drain-Source Current vs. Gate Source Voltage

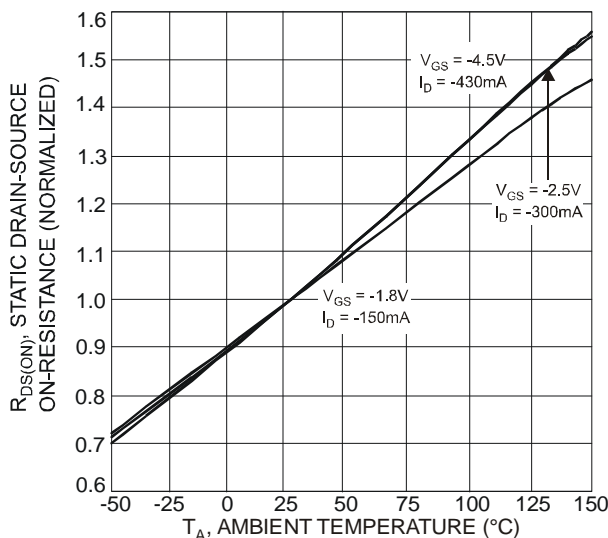


Fig. 7 Static Drain-Source On-State Resistance vs. Ambient Temperature

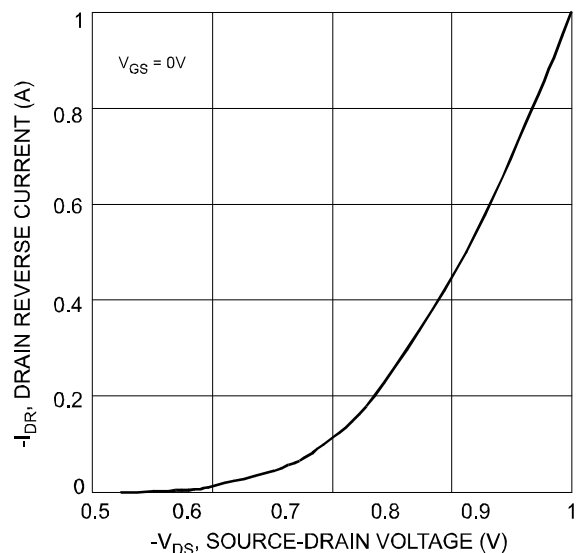


Fig. 8 Drain Reverse Current vs. Source-Drain Voltage

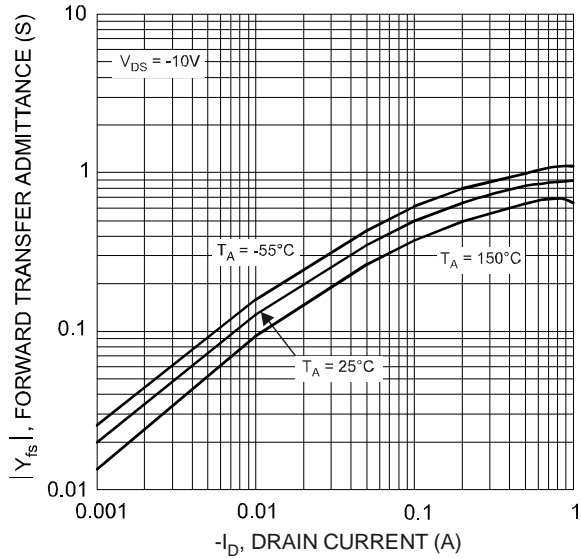


Fig. 9 Forward Transfer Admittance vs. Drain Current

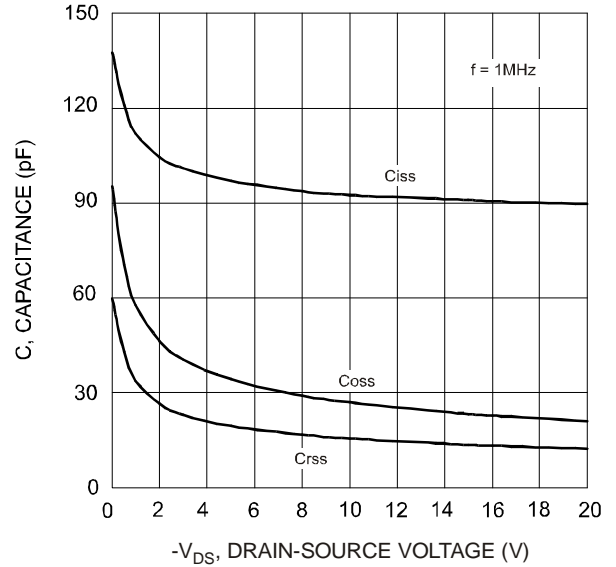
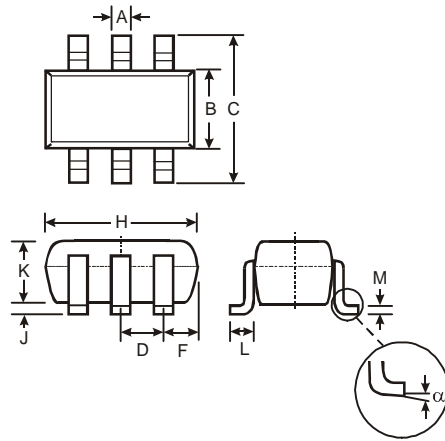


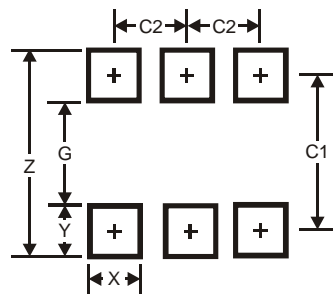
Fig. 10 Typical Capacitance

**Package Outline Dimensions**



SOT363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Typ	
F	0.40	0.45
H	1.80	2.20
J	0	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.22
α	0°	8°
All Dimensions in mm		

**Suggested Pad Layout**



Dimensions	Value (in mm)
Z	2.5
G	1.3
X	0.42
Y	0.6
C1	1.9
C2	0.65

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- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



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