



# WM02DP06T

## Dual P-Channel MOSFET

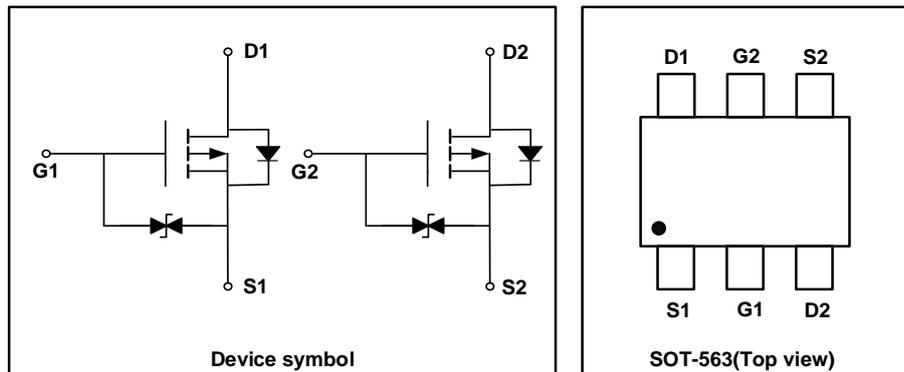
### Features

- $V_{DS} = -20\text{ V}$ ,  $I_D = -0.66\text{ A}$   
 $R_{DS(on)} < 0.52\Omega$  @  $V_{GS} = -4.5\text{ V}$   
 $R_{DS(on)} < 0.78\Omega$  @  $V_{GS} = -2.5\text{ V}$
- Enables High Density PCB Manufacturing
- Low Voltage Drive Makes this Device Ideal for Portable Equipment
- Advanced Trench Process Technology
- ESD Protected

### Mechanical Characteristics

- SOT-563 Package
- Marking : Making Code
- RoHS Compliant

### Schematic & PIN Configuration



### Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D$	-0.66	A
Pulsed Drain Current	$I_{DM}$	-2.64	A
Power Dissipation	$P_D$	150	mW
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$
Thermal Resistance from Junction to Ambient <sup>1</sup>	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$

**Electrical Characteristics (T<sub>amb</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Static Characteristics</b>						
Drain-Source Breakdown Voltage	<b>BV<sub>DSS</sub></b>	V <sub>GS</sub> = 0 V, I <sub>D</sub> = -250μA	-20	-	-	V
Zero Gate Voltage Drain Current	<b>I<sub>DSS</sub></b>	V <sub>DS</sub> = -20V, V <sub>GS</sub> = 0 V	-	-	-1	μA
Gate-body Leakage Current	<b>I<sub>GSS</sub></b>	V <sub>DS</sub> = 0 V, V <sub>GS</sub> = ±10V	-	-	±20	μA
Drain-Source On-state Resistance <sup>1</sup>	<b>R<sub>DS(on)</sub></b>	V <sub>GS</sub> = -4.5V, I <sub>D</sub> = -1.0A	-	450	520	mΩ
		V <sub>GS</sub> = -2.5V, I <sub>D</sub> = -0.8A	-	650	780	
		V <sub>GS</sub> = -1.8V, I <sub>D</sub> = -0.5A	-	950	-	
Gate Threshold Voltage	<b>V<sub>GS(th)</sub></b>	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250μA	-0.3	-0.65	-1.1	V
Forward transconductance <sup>1</sup>	<b>g<sub>fs</sub></b>	V <sub>DS</sub> = 10V, I <sub>D</sub> = -0.54A	-	0.8	-	S
<b>Dynamic Characteristics</b>						
Input Capacitance	<b>C<sub>iss</sub></b>	V <sub>GS</sub> = 0V, V <sub>DS</sub> = -16V, f = 1MHz	-	113	-	pF
Output Capacitance	<b>C<sub>oss</sub></b>		-	15	-	
Reverse Transfer Capacitance	<b>C<sub>rss</sub></b>		-	9	-	
<b>Switching Characteristics</b>						
Turn-On Delay Time <sup>2</sup>	<b>t<sub>d(on)</sub></b>	V <sub>DS</sub> = -10V, V <sub>GS</sub> = -4.5V I <sub>D</sub> = -0.2A, R <sub>G</sub> = 10Ω	-	9	-	ns
Turn-On Rise Time <sup>2</sup>	<b>t<sub>r</sub></b>		-	5.7	-	
Turn-Off Delay Time <sup>2</sup>	<b>t<sub>d(off)</sub></b>		-	32.6	-	
Turn- Off Fall Time <sup>2</sup>	<b>t<sub>f</sub></b>		-	20.3	-	
<b>Source-Drain Diode Characteristics</b>						
Body Diode Voltage	<b>V<sub>DS</sub></b>	I <sub>S</sub> = -0.5A, V <sub>GS</sub> = 0V	-	-	-1.2	V

Notes :

1. Pulse Test: Pulse Width < 300μs, Duty Cycle ≤2%.
2. Guaranteed by design, not subject to production testing

Typical Characteristics

Figure 1. Output Characteristics

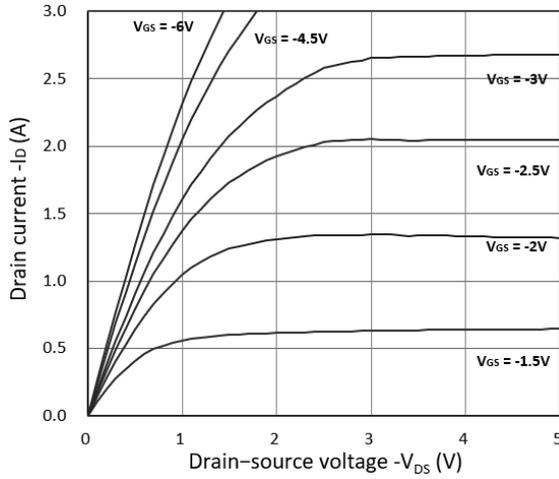


Figure 3.  $R_{DS(ON)}$  vs.  $I_D$

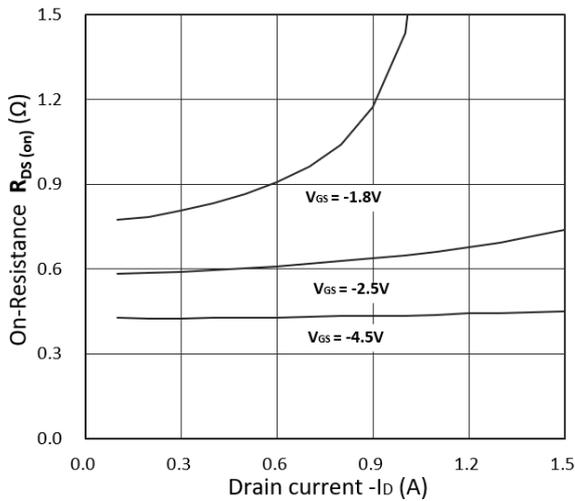


Figure 5.  $I_S$  vs.  $V_{SD}$

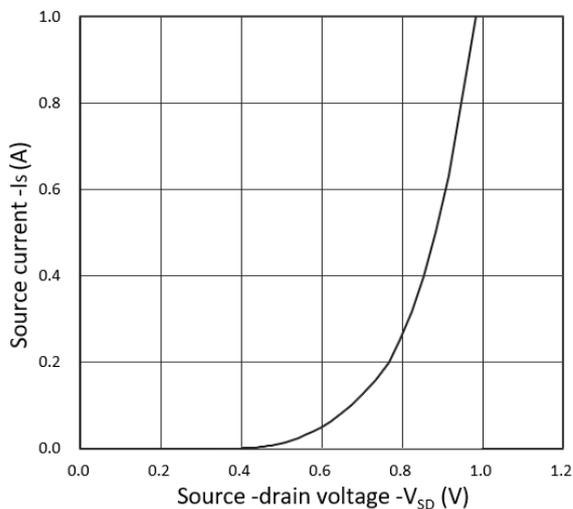


Figure 2. Transfer Characteristics

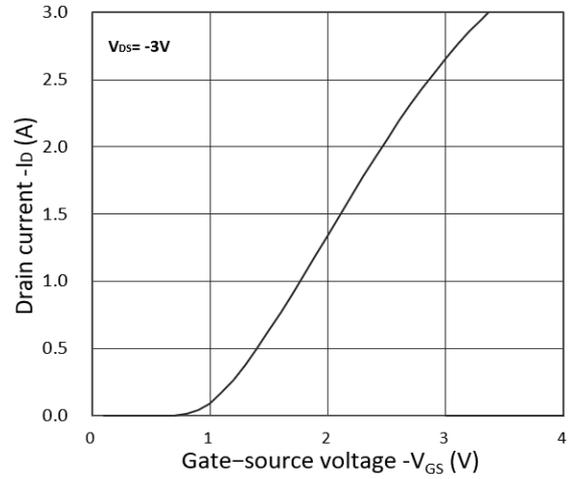


Figure 4.  $R_{DS(ON)}$  vs.  $V_{GS}$

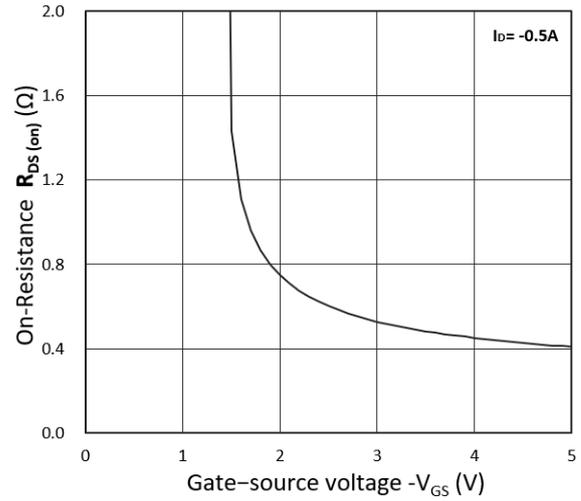
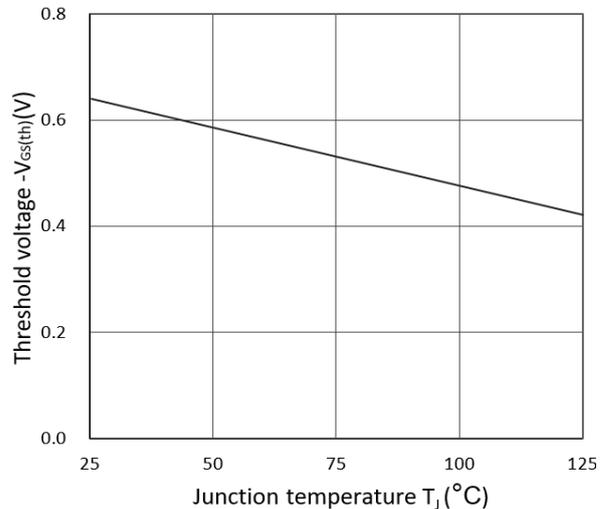


Figure 6. Threshold Voltage vs.  $T_J$



Outline Drawing – SOT-563

### PACKAGE OUTLINE

**SOT-563**

DIMENSIONS				
SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.021	0.024	0.525	0.600
A1	0.000	0.002	0.000	0.050
e	0.018	0.022	0.450	0.550
c	0.004	0.006	0.090	0.160
D	0.059	0.067	1.500	1.700
b	0.007	0.011	0.170	0.270
E1	0.043	0.051	1.100	1.300
E	0.059	0.067	1.500	1.700
L	0.004	0.012	0.100	0.300
$\theta$	7°REF		7°REF	

DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.0752	1.91
G	0.0350	0.89
P	0.020TYP	0.51 TYP
X	0.0118	0.3
Y	0.0201	0.51

**Notes**

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WM02DP06D
Marking Code	

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

No.1001, Shiwan (7) Road, Pudong District, Shanghai, P.R.China.201207  
 Tel: 86-21-68969993 Fax: 86-21-50757680 Email: [market@way-on.com](mailto:market@way-on.com)  
 WAYON website: <http://www.way-on.com>  
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Specifications are subject to change without notice.  
 The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.  
 Users should verify actual device performance in their specific applications.

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