

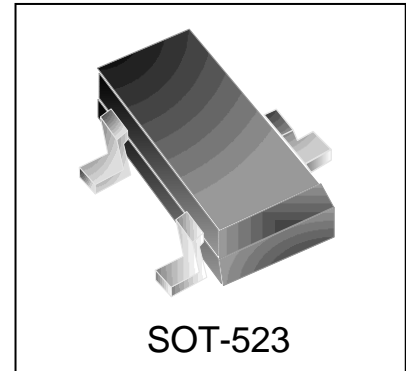


WM02P06L

P-Channel MOSFET

Features

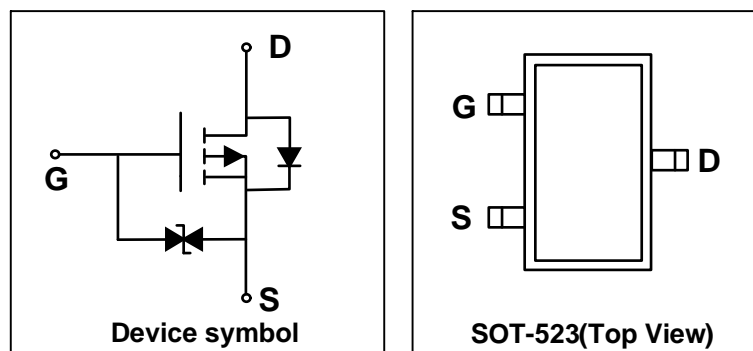
- $V_{DS} = -20\text{ V}$, $I_D = -0.66\text{ A}$
 $R_{DS(on)} < 0.52\Omega @ V_{GS} = -4.5\text{ V}$
 $R_{DS(on)} < 0.78\Omega @ V_{GS} = -2.5\text{ V}$
- Enables High Density PCB Manufacturing
- Low Voltage Drive Makes this Device Ideal for Portable Equipment
- Advanced Trench Process Technology
-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



Mechanical Characteristics

- SOT-523 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}	± 12	V
Continuous Drain Current	I_D	-0.66	A
Pulsed Drain Current	I_{DM}	-1.2	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	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$

Electrical Characteristics (T_{amb}=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V _{GS} = 0 V, I _D = -250μA	-20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V _{DS} = -20V, V _{GS} = 0 V	-	-	-1	μA
Gate-body Leakage Current	I_{GSS}	V _{DS} = 0 V, V _{GS} = ±10V	-	-	±20	μA
Drain-Source On-state Resistance ¹	R_{DS(on)}	V _{GS} = -4.5V, I _D = -0.66A	-	450	520	mΩ
		V _{GS} = -2.5V, I _D = -0.60A	-	680	780	
		V _{GS} = -1.8V, I _D = -0.50A	-	950	-	
Gate Threshold Voltage	V_{GS(th)}	V _{DS} = V _{GS} , I _D = -250μA	-0.3	-0.6	-1.1	V
Dynamic Characteristics						
Input Capacitance	C_{iss}	V _{GS} = 0V, V _{DS} = -16V, f = 1MHz	-	113	-	pF
Output Capacitance	C_{oss}		-	15	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Switching Characteristics						
Turn-On Delay Time ²	t_{d(on)}	V _{DS} = -10V, V _{GS} = -4.5V, I _D = -0.2A, R _G = 10Ω	-	9	-	ns
Turn-On Rise Time ²	t_r		-	5.7	-	
Turn-Off Delay Time ²	t_{d(off)}		-	32.6	-	
Turn- Off Fall Time ²	t_f		-	20.3	-	
Source-Drain Diode Characteristics						
Body Diode Voltage	V_{DS}	I _S = -0.5A, V _{GS} = 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

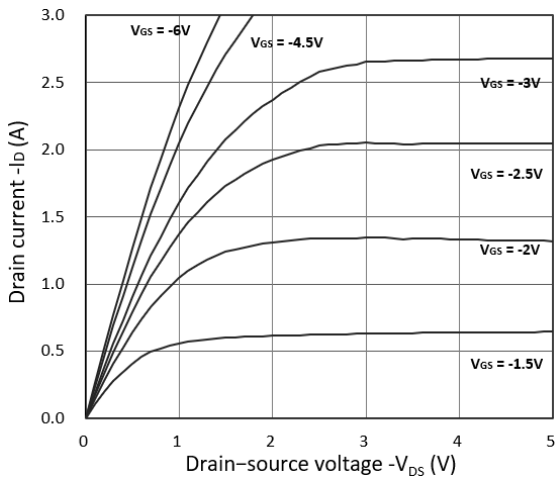


Figure 2. Transfer Characteristics

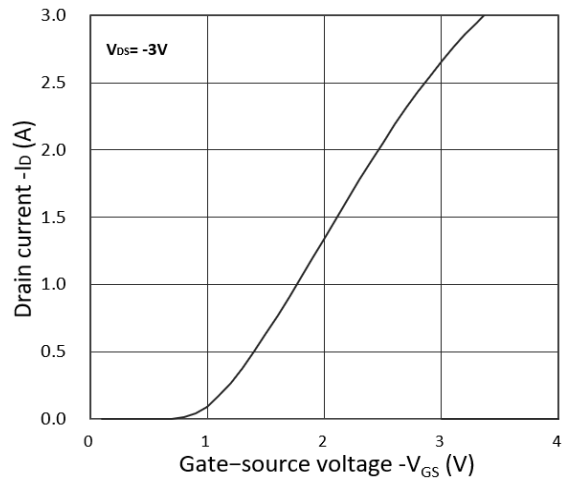


Figure 3. $R_{DS(on)}$ vs. I_D

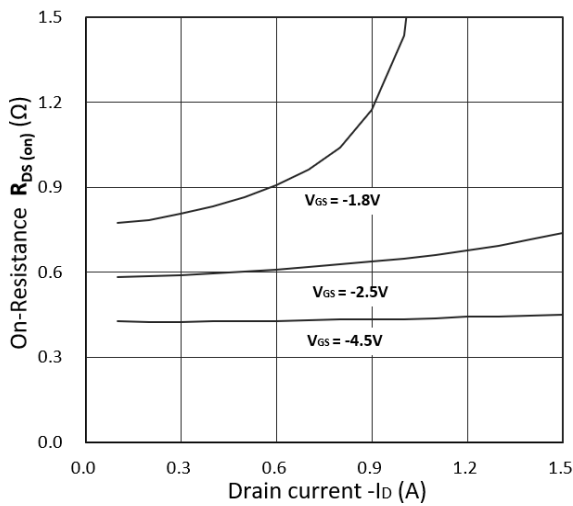


Figure 4. $R_{DS(on)}$ vs. V_{GS}

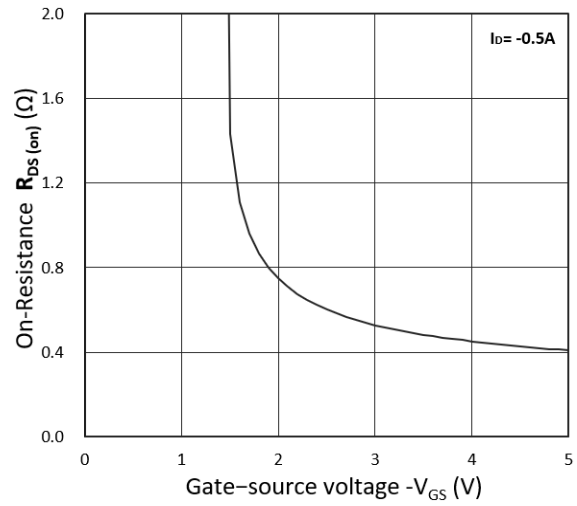


Figure 5. I_S vs. V_{SD}

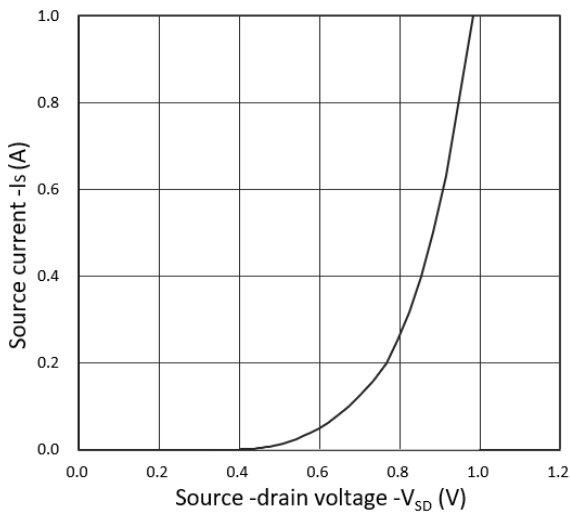
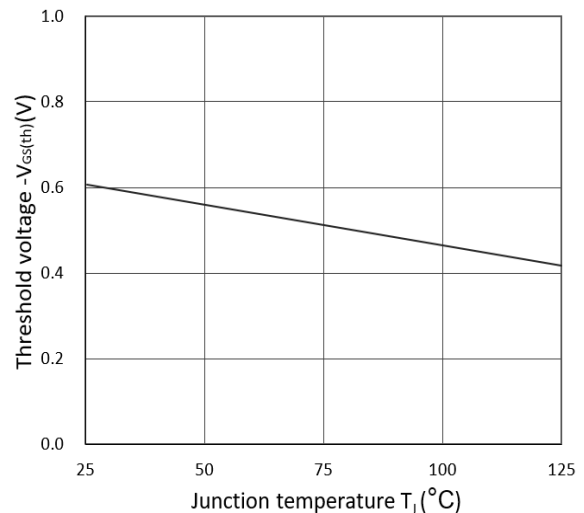


Figure 6. $V_{GS(th)}$ vs. T_J



Outline Drawing – SOT-523

PACKAGE OUTLINE

SOT-523

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
A1	0.00	0.10	0.000	0.004
A2	0.70	0.80	0.028	0.031
b1	0.15	0.25	0.006	0.010
b2	0.25	0.35	0.010	0.014
c	0.10	0.20	0.004	0.008
D	1.50	1.70	0.059	0.067
E	0.70	0.90	0.028	0.035
E1	1.45	1.75	0.057	0.069
e1	0.90	1.10	0.035	0.043
L	0.30	0.50	0.012	0.020
L1	0.26	0.46	0.01	0.018
theta	0	8°	0	8°

DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	.055	1.40
P	.039	1.00
P1	.020	0.50
G	.024	0.60
X	.016	0.40
Y	.031	0.80
Z	.087	2.20

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Pin 3 is the cathode (Unidirectional Only).
4. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WM02P06L
Marking Code	

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

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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.*