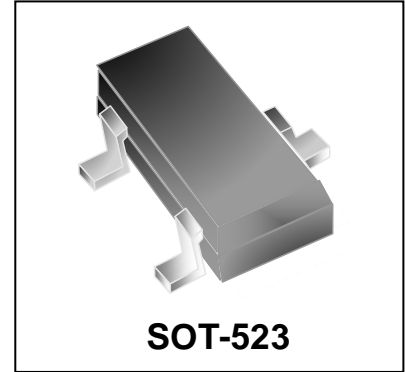


N-Channel MOSFET

Features

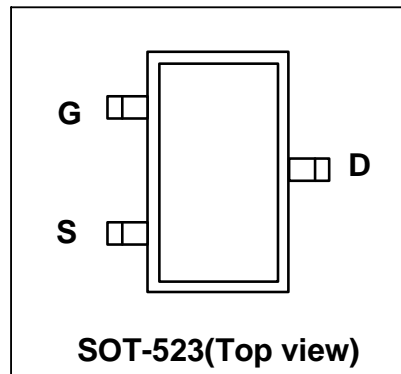
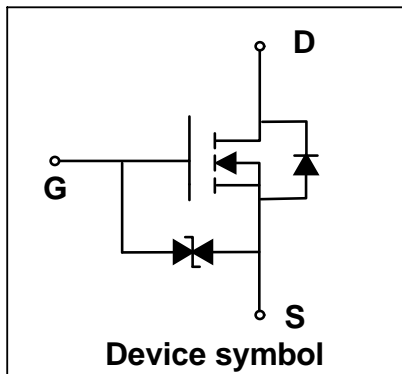
- $V_{DS} = 60V$, $I_D = 0.34A$
 $R_{DS(on)} < 2.1\Omega @ V_{GS} = 10V$
 $R_{DS(on)} < 2.8\Omega @ V_{GS} = 4.5V$
- Voltage Controlled Small Signal Switch
- Rugged and Reliable
- High Saturation Current Capability
- ESD Protected



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}	60	V
Continuous Drain Current ($T_C = 25^\circ C$)	I_D	340	mA
Pulsed Drain Current ²	I_{DM}	1	A
Gate-Source Voltage	V_{GS}	± 20	V
Power Dissipation ($T_C = 25^\circ C$)	P_D	150	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	-55 to +150	$^\circ C$
Thermal Resistance from Junction to Ambient ¹	$R_{\theta JA}$	833	$^\circ C/W$

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	60	-	-	V
Gate Threshold Voltage ³	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1	1.3	2	V
Drain Cut-off Current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V$	-	-	1	μA
Gate Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$	-	-	± 10	μA
Drain-Source on-State Resistance ³	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.5A$	-	1.3	2.1	Ω
		$V_{GS} = 4.5V, I_D = 0.2A$	-	1.4	2.8	Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V,$ $f = 1MHz$	-	25	-	pF
Output Capacitance	C_{oss}		-	5.6	-	
Reverse Transfer Capacitance	C_{rss}		-	2.2	-	
Switching Characteristics						
Total Gate Charge ⁴	Q_g	$V_{GS} = 4.5V, I_D = 0.25A,$ $V_{DS} = 10V$	-	0.3	-	nC
Gate-Source Charge ⁴	Q_{gs}		-	0.2	-	
Gate-Drain Charge ⁴	Q_{gd}		-	0.08	-	
Turn-on Time ⁴	$t_{d(on)}$	$V_{DD} = 30V, I_D = 200mA,$ $R_G = 25\Omega, V_{GEN} = 10V$	-	3.9	-	nS
Rise Time ⁴	t_r		-	3.4	-	
Turn-off Time ⁴	$t_{d(off)}$		-	15.7	-	
Fall Time ⁴	t_f		-	9.9	-	
Reverse Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$V_{GS} = 0V, I_F = 0.3A$	-	-	1.5	V

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
3. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
4. Guaranteed by design, not subject to production.

Typical Characteristics

Figure 1. Output Characteristics

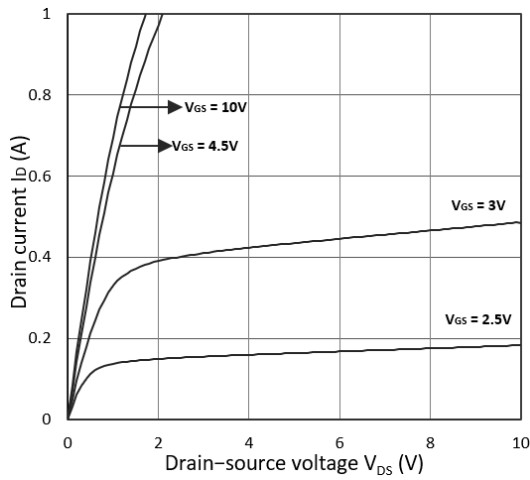


Figure 2. Transfer Characteristics

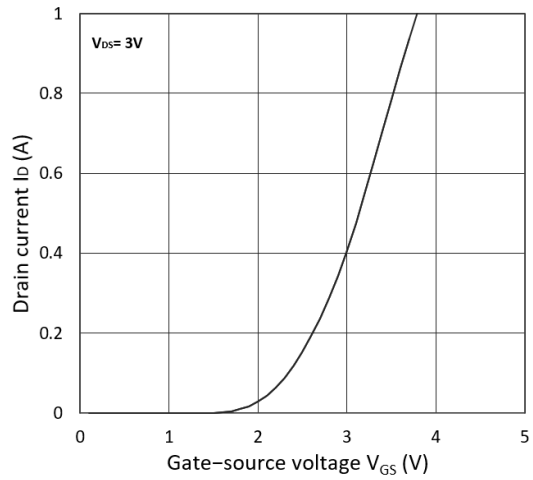


Figure 3. $R_{DS(on)}$ vs. I_D

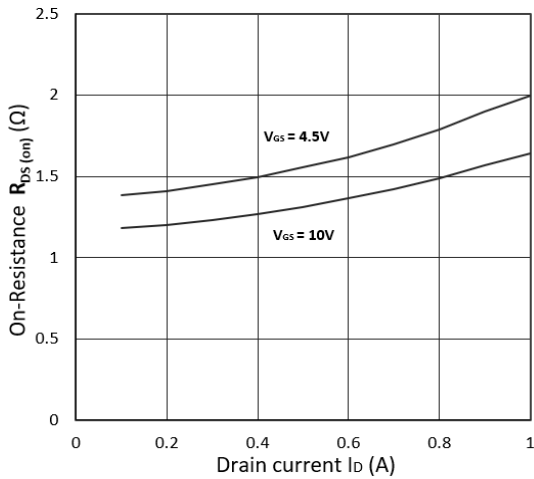


Figure 4. $R_{DS(on)}$ vs. V_{GS}

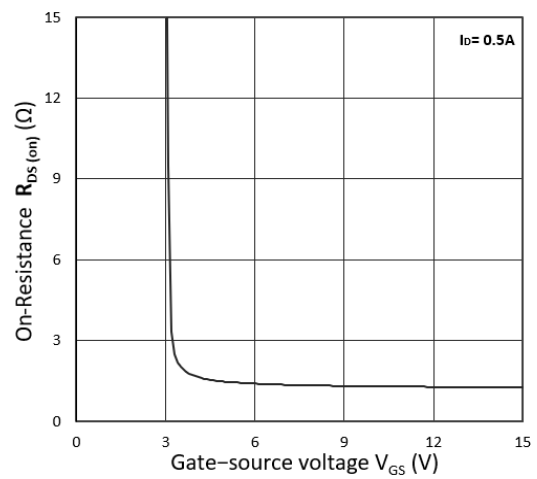


Figure 5. I_S vs. V_{SD}

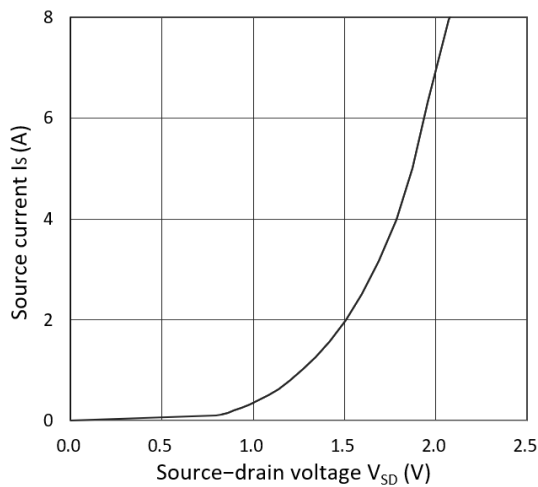
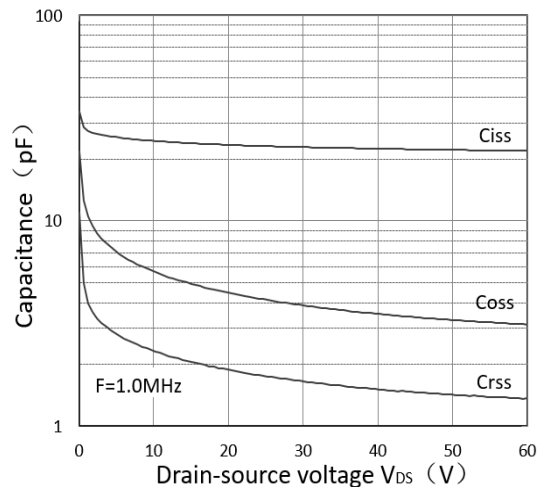


Figure 6. Capacitance Characteristics



Outline Drawing – SOT-523

PACKAGE OUTLINE

SOT-523

SYM BOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.7	0.9	0.028	0.035
A1	0	0.1	0	0.004
A2	0.7	0.8	0.028	0.031
b1	0.15	0.25	0.006	0.01
b2	0.25	0.35	0.01	0.014
c	0.1	0.2	0.004	0.008
D	1.5	1.7	0.059	0.067
E	0.7	0.9	0.028	0.035
E1	1.45	1.75	0.057	0.069
e1	0.9	1.1	0.035	0.043
L	0.3	0.5	0.012	0.02
L1	0.26	0.46	0.01	0.018
θ	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	WM06N03L
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.*