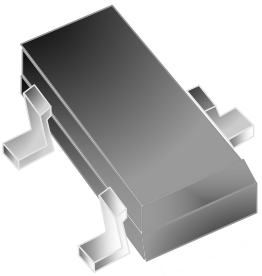
WM06N03L

N-Channel MOSFET



SOT-523

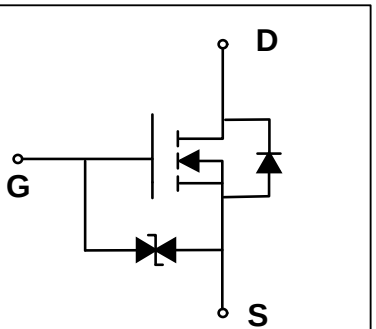
Features

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

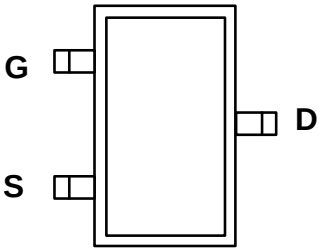
Mechanical Characteristics

- SOT-523 Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Device symbol



SOT-523(Top view)

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	60	V
Continuous Drain Current (T_C = 25°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°C)	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance from Junction to Ambient[1]	$R_{\theta JA}$	833	°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} = 0V, I_D = 250μA	60	-	-	V
Gate Threshold Voltage[3]	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	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} = ±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 = 25Ω, V_{GEN} = 10V	-	3.9	-	nS
Rise Time[4]	t_f		-	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≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to production.

Typical Characteristics

Figure 1. Output Characteristics

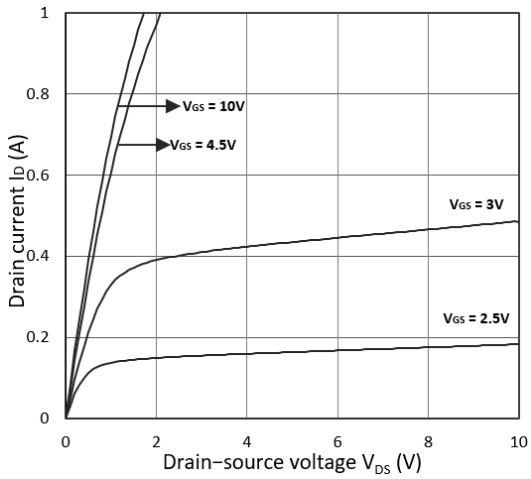


Figure 2. Transfer Characteristics

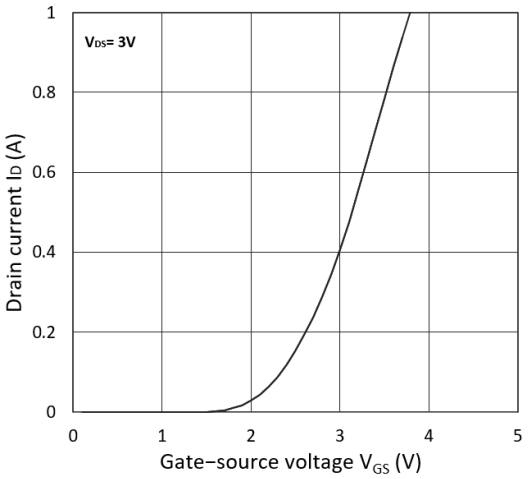


Figure 3. $R_{DS(on)}$ vs. I_D

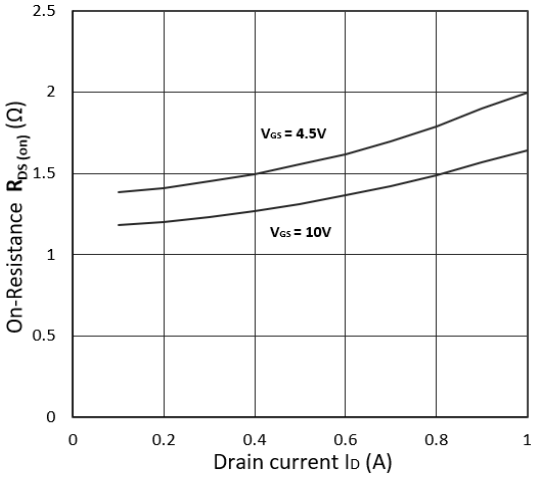


Figure 4. $R_{DS(on)}$ vs. V_{GS}

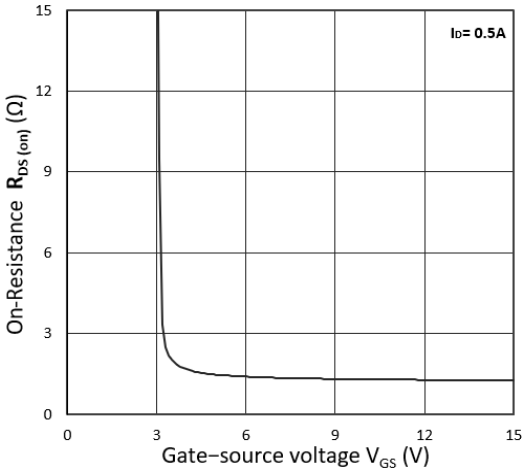


Figure 5. I_S vs. V_{SD}

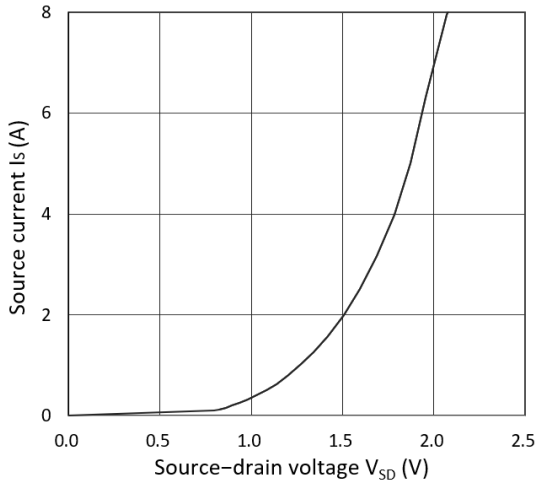
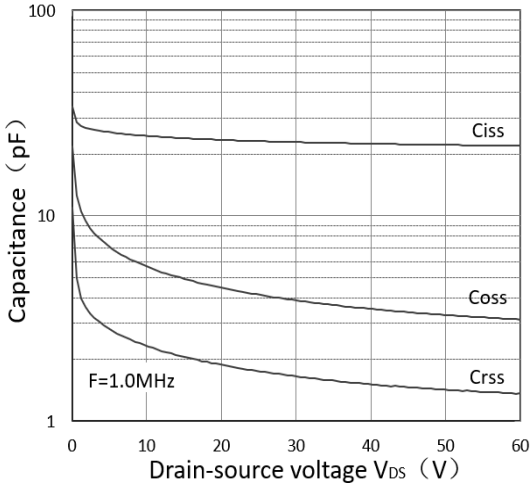
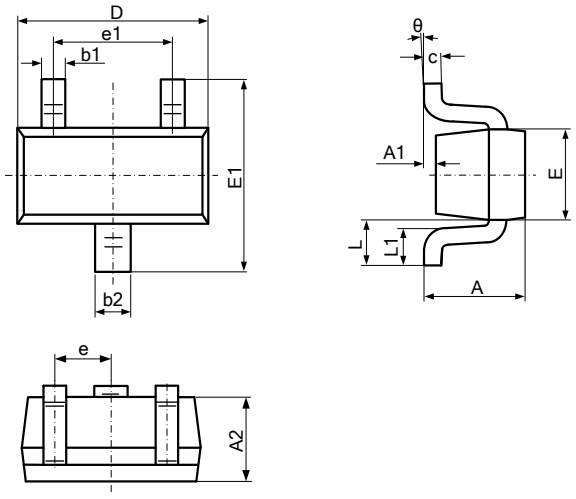


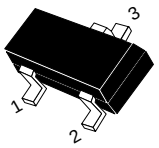
Figure 6. Capacitance Characteristics



Outline Drawing – SOT-523

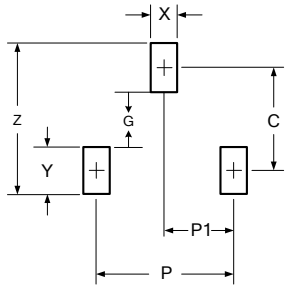
PACKAGE OUTLINE





SOT-523

DIMENSIONS				
SYMBOL	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	K72

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
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