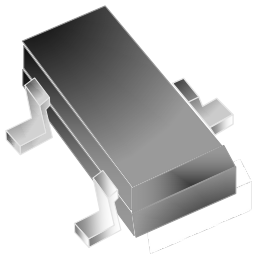
WM02P06G

P-Channel MOSFET

Features

- Way-on Small Signal MOSFETs
- V_{DS}= -20 V, I_D = -0.66 A
  $R_{DS(on)}$ < 0.52Ω @ V_{GS} = -4.5V
  $R_{DS(on)}$ < 0.78Ω @ V_{GS} = -2.5V
- Trench LV MOSFET Technology
- ESD protected

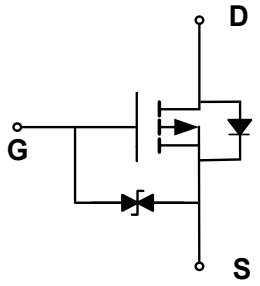


SOT-323

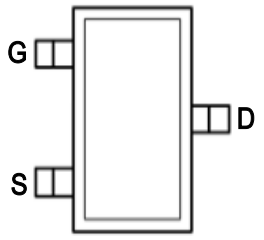
Mechanical Characteristics

- SOT-323 Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Device symbol



SOT-323(Top View)

Absolute Maximum Rating (T_A=25°C unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±10	V
Continuous Drain Current	T_A=25°C	I_D	-0.66	A
Pulsed Drain Current[1]		I_{DM}	-2.64	A
Power Dissipation	T_A=25°C	P_D	200	mW
Operating Junction and Storage Temperature Range		T_J ,T_{STG}	–55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	625	°C/W

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Electrical Characteristics (T_J=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D = -250μA	-20	-	-	V
Gate-body Leakage Current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±10V	-	-	±20	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -20V, V_{GS} = 0V	-	-	-1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = -250μA	-0.3	-0.6	-1.1	V
Drain-Source On-state Resistance[3]	$R_{DS(on)}$	V_{GS} = -4.5V, I_D = -0.66A	-	0.45	0.52	Ω
		V_{GS} = -2.5V, I_D = -0.6A	-	0.65	0.78	
		V_{GS} = -1.8V, I_D = -0.5A	-	0.95	-	
Dynamic Characteristics[4]						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = -10V, f = 1MHz	-	76	-	pF
Output Capacitance	C_{oss}		-	12	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Switching Characteristics[4]						
Turn-On Delay Time	$t_{d(on)}$	V_{DS} = -10V, V_{GS} = -4.5V, R_G=3Ω, I_D = -0.66A,	-	9	-	ns
Turn-On Rise Time	t_r		-	5.7	-	
Turn-Off Delay Time	$t_{d(off)}$		-	32.6	-	
Turn- Off Fall Time	t_f		-	20.3	-	
Source-Drain Diode Characteristics						
Diode Forward Voltage[3]	V_{DS}	I_S= -0.66A, V_{GS} = 0V	-	-	-1.2	V
Continuous Source Current	I_S		-	-	-0.66	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(MAX)}$=150°C.
2. The data tested by surface mounted on a 1 inch2 FR-4 board with 2OZ copper, The value in any given application depends on the user's specific board design.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.
4. This value is guaranteed by design hence it is not included in the production test.

Typical Characteristics

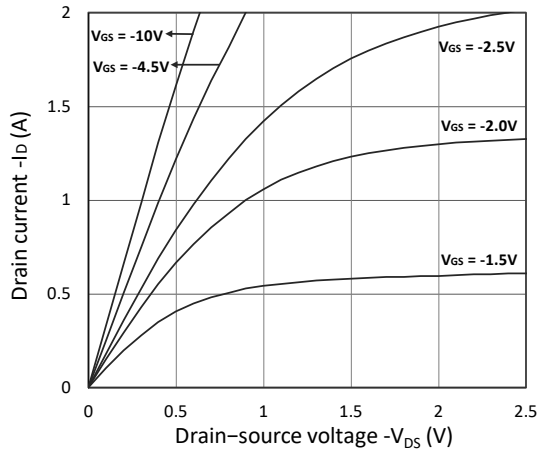


Figure 1. Output Characteristics

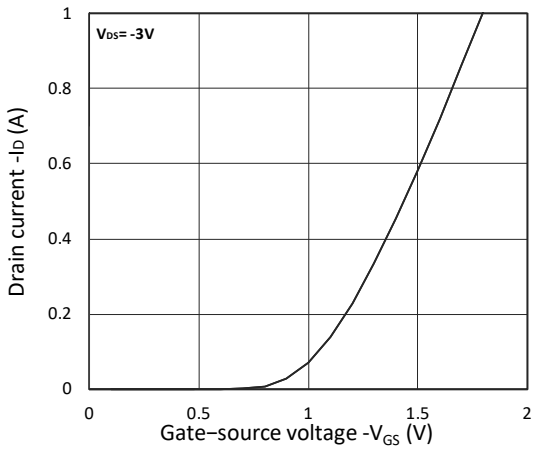


Figure 2. Transfer Characteristics

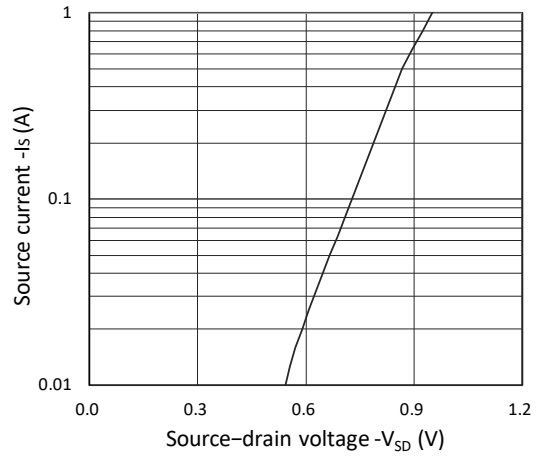


Figure 3. Forward Characteristics of Reverse

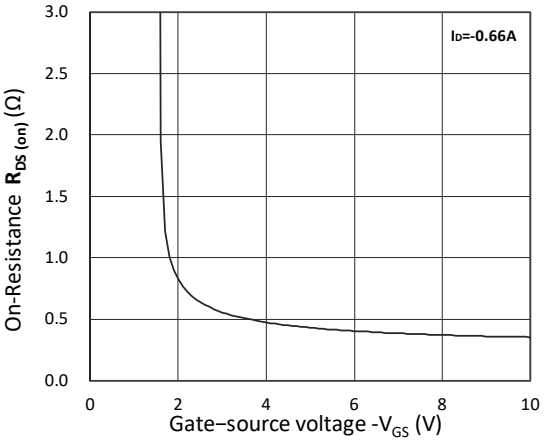


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

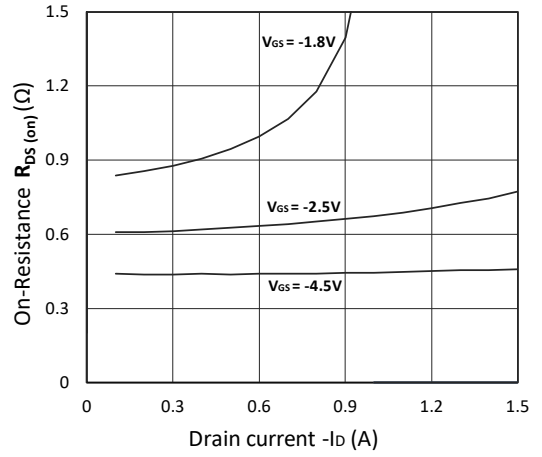


Figure 5. $R_{DS(ON)}$ vs. I_D

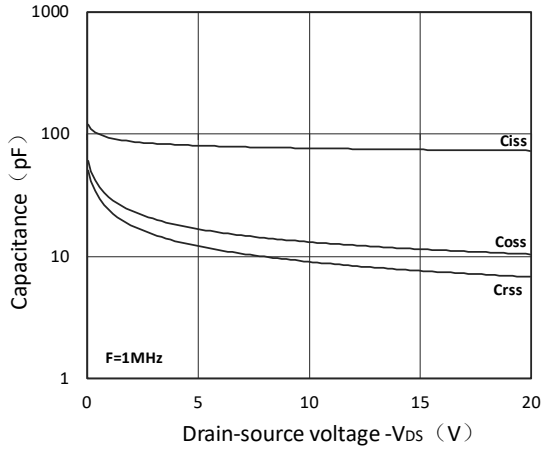
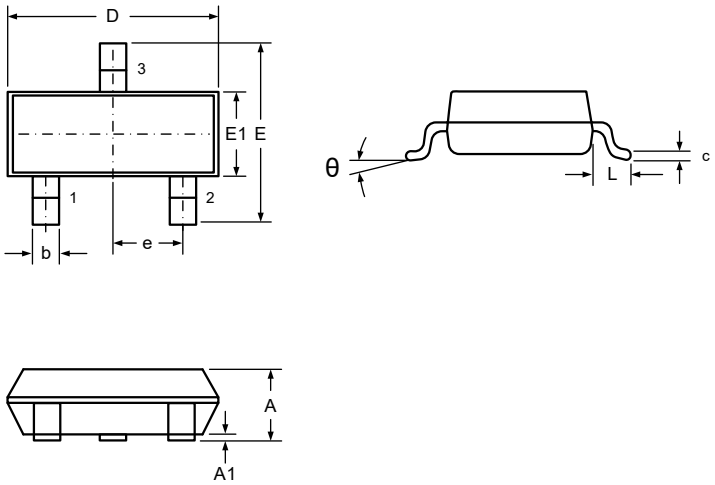
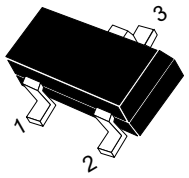


Figure 6. Capacitance Characteristics

Outline Drawing – SOT-323

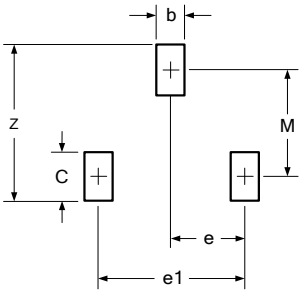
PACKAGE OUTLINE





SOT-323

DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.10	0.035	0.043
A1	0.00	0.10	0.000	0.004
D	2.00	2.20	0.079	0.087
b	0.20	0.40	0.008	0.016
c	0.08	0.15	0.003	0.006
E	2.15	2.45	0.085	0.096
E1	1.15	1.35	0.045	0.053
e	0.65TYP		0.026TYP	
L	0.525 REF		0.021 REF	
θ	0	8°	0	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
M	0.076	1.90
C	0.036	0.9
Z	0.110	2.8
e	0.026	0.65
e1	0.052	1.30
b	0.028	0.7

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	WM02P06G
Marking Code	06K

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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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.