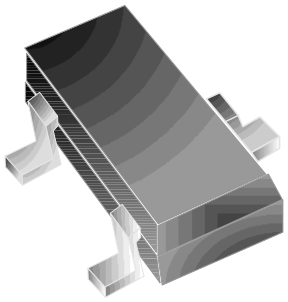
WM03N01G

N-Channel Trench MOSFET

Features

- V_{DS}= 30V, I_D = 0.1A
  $R_{DS(on)}$ < 3Ω @ V_{GS} = 4.5V
  $R_{DS(on)}$ < 4Ω @ V_{GS} = 2.5V
- Very Fast Switching
- Trench MOSFET Technology
- Low Threshold Voltage
- Pb Free Device
- ESD Protected

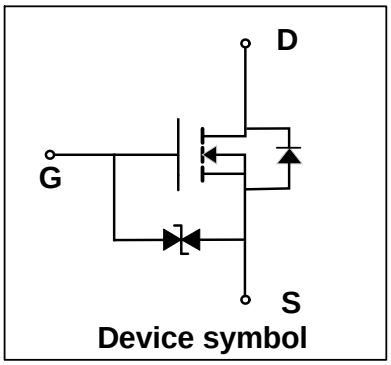


SOT-323

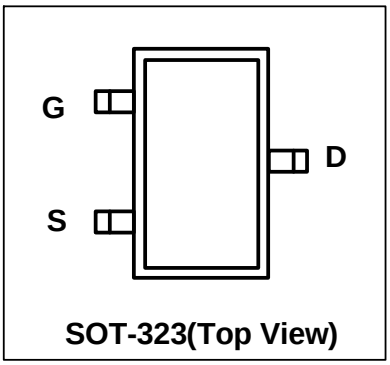
Mechanical Characteristics

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

Schematic & PIN Configuration



Device symbol



SOT-323(Top View)

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	100	mA
Pulsed Drain Current[1]	I_{DM}	300	mA
Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	625	°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	30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 30V, V_{GS} = 0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} = 0V, V_{GS} = ±20V	-	-	±5	μA
Gate Threshold Voltage[3]	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	0.7	-	1.4	V
Drain-Source on-State Resistance[3]	$R_{DS(on)}$	V_{GS} = 4.5V, I_D = 10mA	-	1	3	Ω
		V_{GS} = 2.5V, I_D = 1mA	-	1.9	4	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 5V, f = 1MHz	-	30	-	pF
Output Capacitance	C_{oss}		-	7.7	-	
Reverse Transfer Capacitance	C_{rss}		-	3.5	-	
Switching Characteristics						
Turn-on Delay Time[4]	$t_{d(on)}$	V_{GS} = 5V , V_{DD} = 10V, R_L= 500Ω, R_{GEN} = 10Ω	-	15	-	nS
Turn-on Rise Time[4]	t_r			35	-	
Turn-off Delay Time[4]	$t_{d(off)}$		-	80	-	
Turn- off Fall Time[4]	t_f		-	80	-	
Drain-Source Body Diode Characteristics						
Body Diode Voltage	V_{SD}	I_S= 0.1A, V_{GS}= 0V	-	-	1.4	V

Notes:

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface mounted on FR4 board using 1 square inch pad size,1oz single-side copper.
3. Pulse Test: Pulse width≤300μs, duty cycle≤2%.
4. Guaranteed by design, not subject to product

Typical Characteristics

Figure 1. Output Characteristics

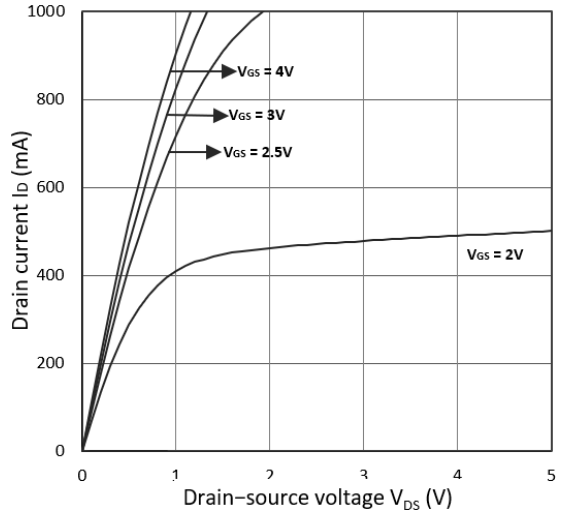


Figure 2. Transfer Characteristics

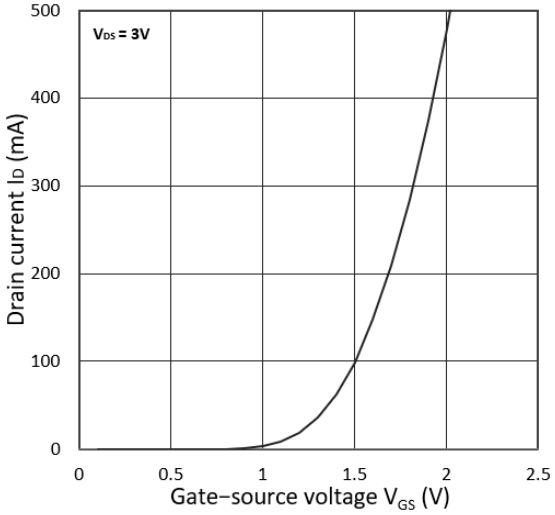


Figure 3. $R_{DS(ON)}$ vs. I_D

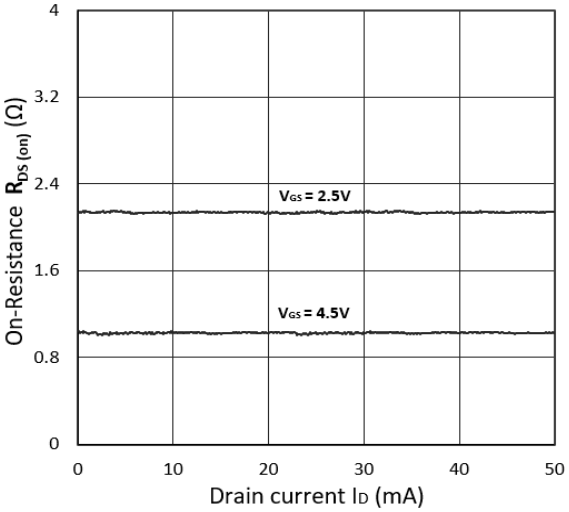


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

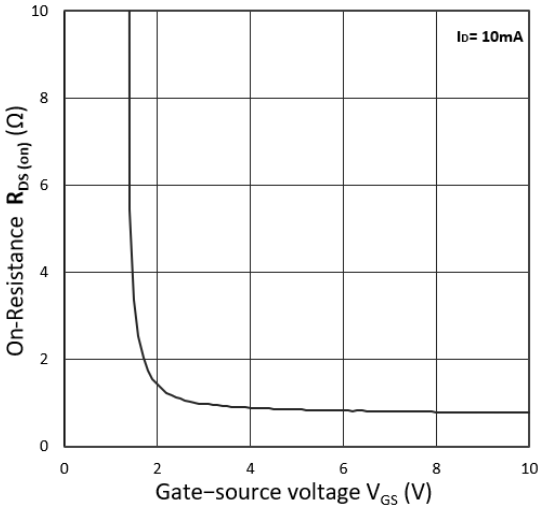


Figure 5. I_S vs. V_{SD}

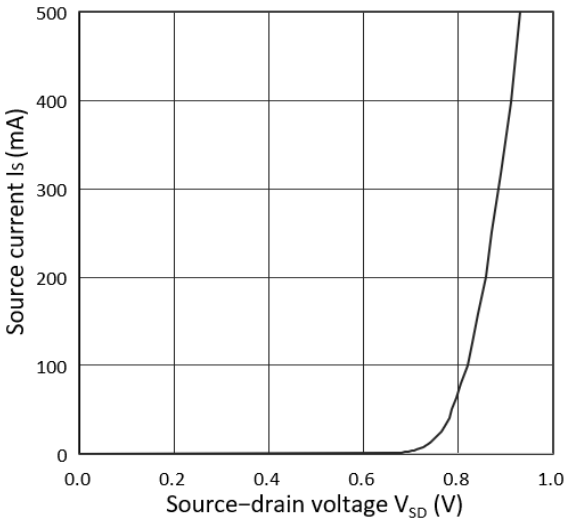
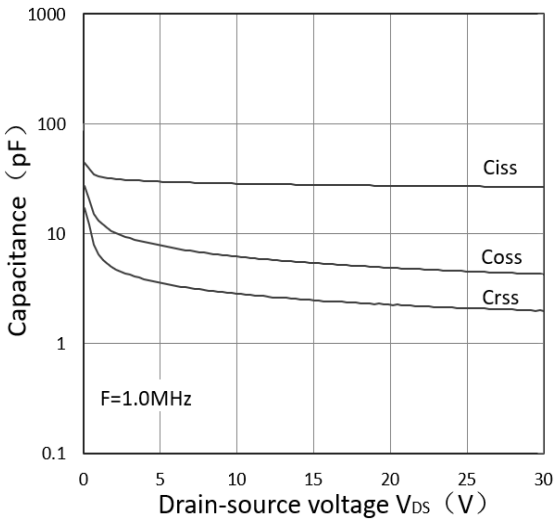
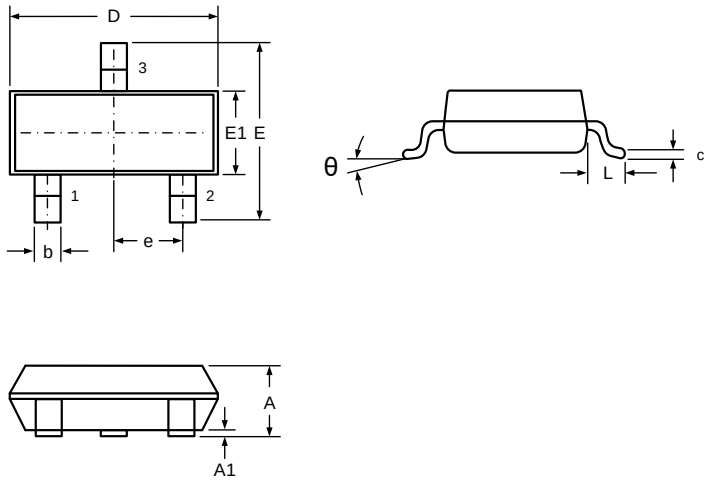


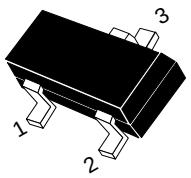
Figure 6. Capacitance Characteristics



Outline Drawing – SOT-323

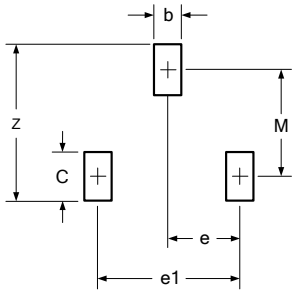
PACKAGE OUTLINE





SOT-323

DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
D	2.000	2.200	0.079	0.087
b	0.300	0.500	0.012	0.020
c	0.100	0.150	0.004	0.006
E	2.150	2.450	0.085	0.096
E1	1.150	1.350	0.045	0.053
e	0.650TYP		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	0.108	2.7
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	WM03N01G
Marking Code	KN

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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