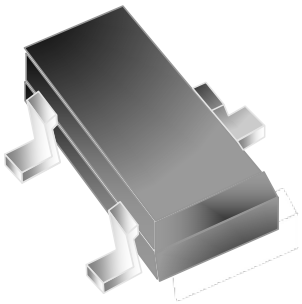
WM03N58M2

N-Channel MOSFET



SOT-23-3L

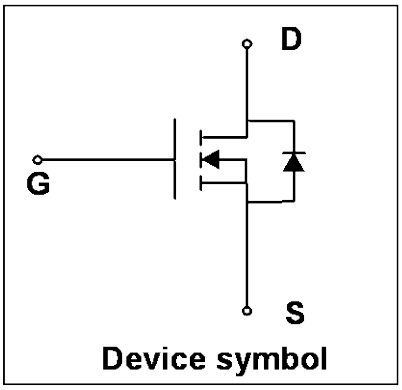
Features

- V_{DS}= 30V, I_D = 5.8A
  $R_{DS(on)}$ < 35mΩ @ V_{GS} = 10V
  $R_{DS(on)}$ < 40mΩ @ V_{GS} = 4.5V
- High Dense Cell Design for Extremely Low $R_{DS(ON)}$
- Exceptional On-resistance and Maximum DC Current Capability

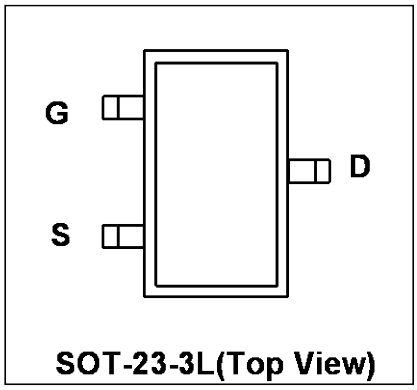
Mechanical Characteristics

- SOT-23-3L Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Device symbol



SOT-23-3L(Top View)

Absolute Maximum Rating(T_{amb}=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±12	V
Continuous Drain Current	I_D	5.8	A
Pulsed Drain Current[1]	I_{DM}	30	A
Power Dissipation[1]	P_D	1.5	W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	83.3	°C/W

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS} = 0 V, I_D = 250μA	30	-	-	V
Drain Cut-off Current	I_{DSS}	V_{DS} =24V, V_{GS} = 0 V	-	-	1	μA
Gate leakage Current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±12V	-	-	±100	nA
Gate Threshold Voltage[3]	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	0.7	0.9	1.4	V
Drain-Source on-state Resistance[3]	$R_{DS(on)}$	V_{GS} = 10V, I_D = 5.8A	-	29	35	mΩ
		V_{GS} = 4.5V, I_D = 5A	-	32	40	
		V_{GS} = 2.5V, I_D = 4A	-	40	52	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{GS} = 0V, V_{DS} = 15V, f = 1MHz	-	670	-	pF
Output Capacitance	C_{oss}		-	99	-	
Reverse Transfer Capacitance	C_{rss}		-	77	-	
Switching Characteristics						
Turn-on Time[4]	$t_{d(on)}$	V_{GS} = 10V, V_{DS} = 15V, R_L = 2.7Ω, R_{GEN} = 3Ω	-	5	-	nS
Rise time[4]	t_f		-	7	-	
Turn-off Time[4]	$t_{d(off)}$		-	40	-	
Fall time[4]	t_f		-	6	-	
Drain-Source Diode Characteristics and Maximum Ratings						
Diode Forward Voltage[3]	V_{SD}	I_S = 1A, V_{GS} = 0V	-	-	1	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

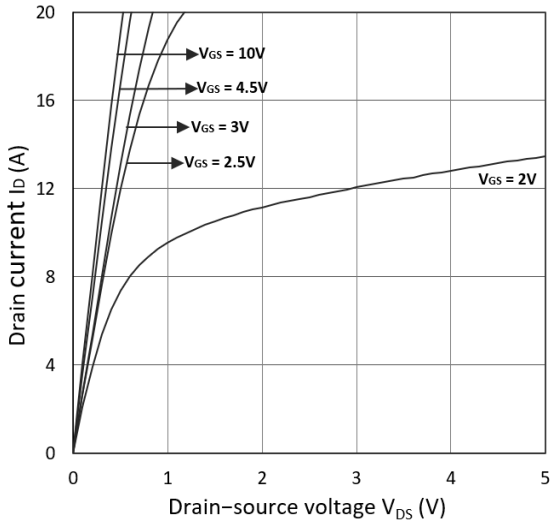


Figure 2. Transfer Characteristics

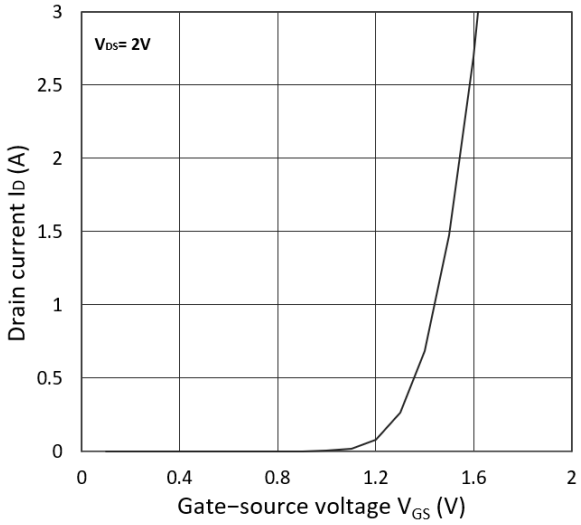


Figure 3. $R_{DS(on)}$ vs. I_D

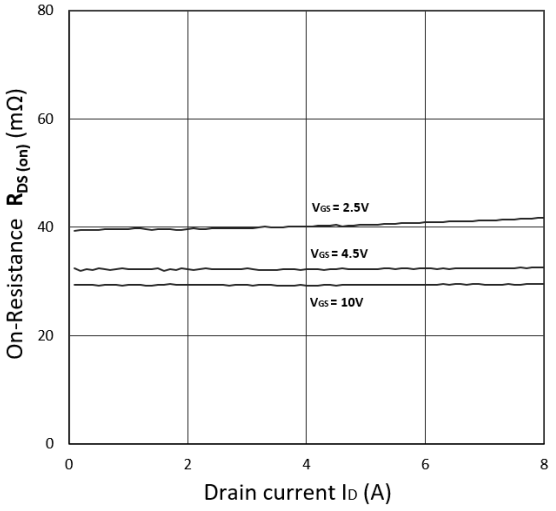


Figure 4. $R_{DS(on)}$ vs. V_{GS}

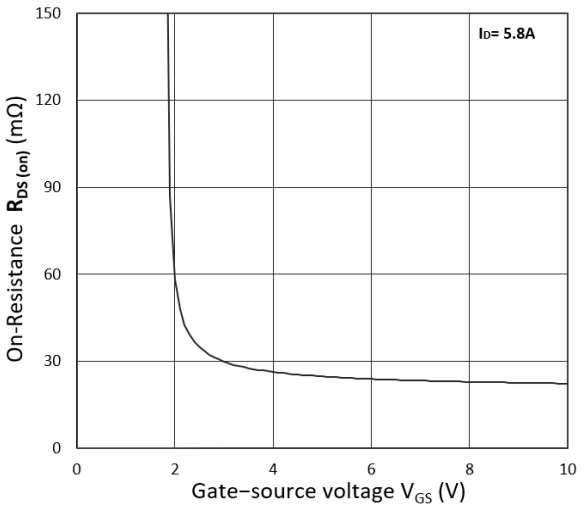


Figure 5. I_S vs. V_{SD}

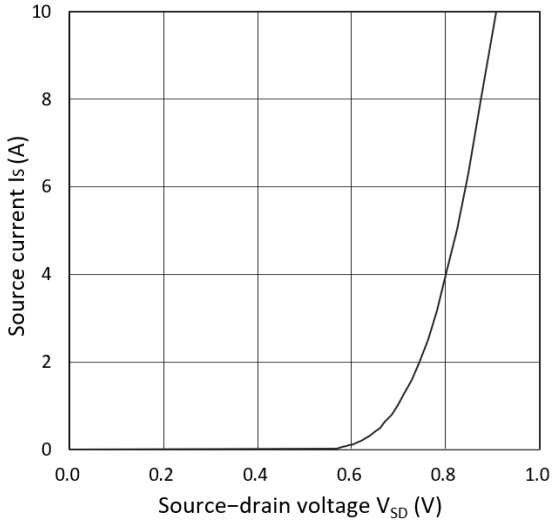
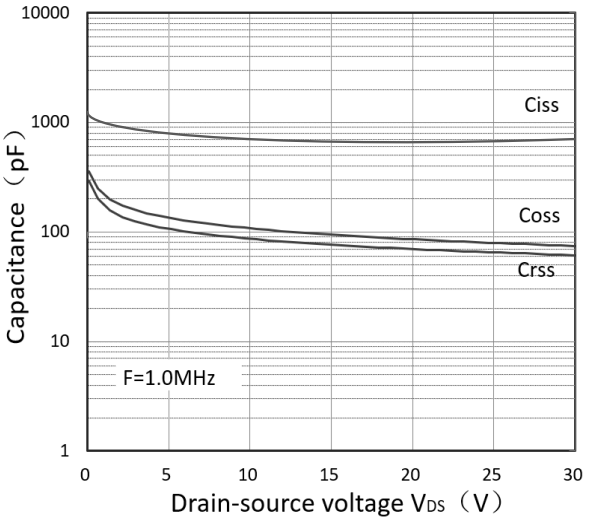
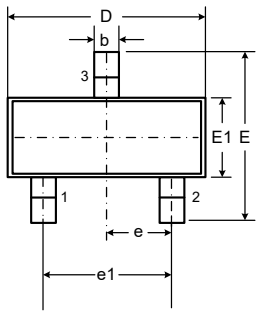


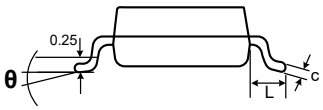
Figure 6. Capacitance Characteristics

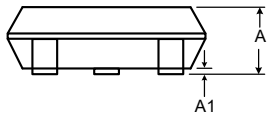


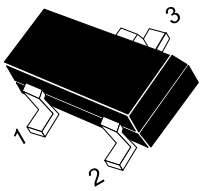
Outline Drawing – SOT-23-3L

PACKAGE OUTLINE



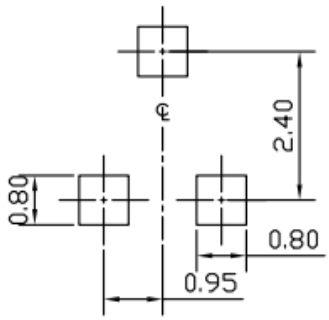






SOT-23-3L

DIMENSIONS				
SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	1.05	1.15	0.041	0.045
A1	0.00	0.10	0.000	0.004
b	0.30	0.50	0.012	0.020
c	0.10	0.20	0.004	0.008
D	2.82	3.02	0.111	0.119
E	2.65	2.95	0.104	0.116
E1	1.50	1.70	0.059	0.067
e	0.95 BSC		0.0374 BSC	
e1	1.80	2.00	0.071	0.079
L	0.55	0.75	0.021	0.029
θ	0	8°	0	8°

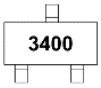


Unit:mm

Notes

1. Dimensioning and tolerances per ANSI Y14.5M, 1985.
2. Controlling Dimension: Inches
3. Dimensions are exclusive of mold flash and metal burrs.

Marking Codes

Part Number	WM03N58M2
Marking Code	

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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WAYON website: **http://www.way-on.com**

For additional information, please contact your local Sales Representative.