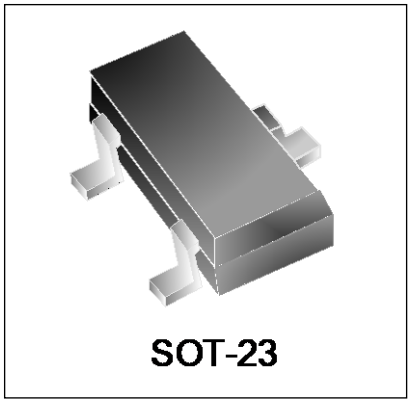
WM03N06M

N-Channel Trench MOSFET

Features

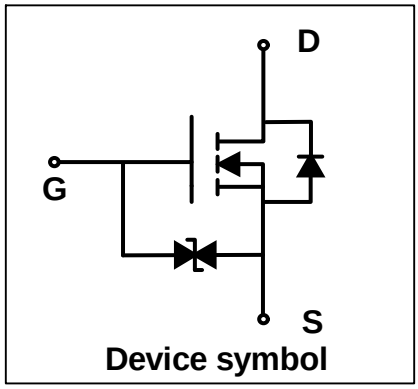
- V_{DS}= 30V, I_D = 0.6A
  $R_{DS(on)}$ < 0.50 Ω @ V_{GS} = 4.5V
  $R_{DS(on)}$ < 0.68 Ω @ V_{GS} = 2.5V
- Very Fast Switching
- Trench MOSFET Technology
- Pb Free Device
- ESD Protected



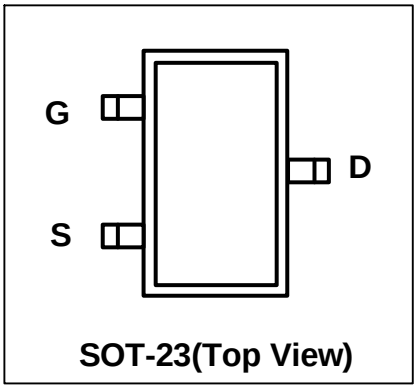
Mechanical Characteristics

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

Schematic & PIN Configuration



Device symbol



SOT-23(Top View)

Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Continuous Drain Current	I_D	600	mA
Gate-Source Voltage	V_{GS}	±12	V
Power Dissipation [1]	P_D	350	mW
Pulsed Drain Current [2]	I_{DM}	1.8	A
Operating Junction and Storage Temperature Range	T_J , T_{STG}	-55 to +150	°C
Junction−to−Ambient − Steady State [2]	$R_{\theta JA}$	357	°C/W

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0 V, I_D= 250μA	30	-	-	V
Gate Threshold Voltage[3]	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.7	-	1.1	V
Drain Cut-off Current	I_{DSS}	V_{DS}=30 V, V_{GS}=0 V	-	-	1	μA
Gate leakage Current	I_{GSS}	V_{GS}=±12 V, V_{DS}=0 V	-	-	±10	μA
Drain-Source On-state Resistance[3]	$R_{DS(on)}$	V_{GS}=4.5 V, I_D=600mA	-	0.31	0.50	Ω
		V_{GS}=2.5 V, I_D=300mA	-	0.40	0.68	Ω
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}= 25V, V_{GS}= 0V, f = 1MHz	-	40	-	pF
Output Capacitance	C_{oss}		-	8	-	
Reverse Transfer Capacitance	C_{rss}		-	3.5	-	
Switching Characteristics						
Total Gate Charge[4]	Q_g	V_{DS}= 15V, V_{GS}= 4.5V, I_D = 1.0A	-	1.2	-	nC
Gate-Source Charge[4]	Q_{gs}		-	0.3	-	
Gate-Drain Charge[4]	Q_{gd}		-	0.28	-	
Turn-On Delay Time[4]	$t_{d(on)}$	V_{DS} = 15V, V_{GEN}=4.5V, I_D = 6Ω, R_L = 15Ω	-	6.5	-	ns
Rise Time[4]	t_r		-	9.5	-	
Turn-Off Delay Time[4]	$t_{d(off)}$		-	24	-	
Fall Time[4]	t_f		-	35	-	
Drain-Source Body Diode Characteristics						
Diode Forward Voltage	V_{SD}	I_S =600mA, V_{GS} =0V	-	-	1.2	V

Notes:

1. Surface Mounted on FR4 Board, t≤10 sec.
2. Repetitive Rating: Pulse width limited by maximum junction temperature.
3. Pulse Test : Pulse Width≤380μs, Duty Cycle≤0.5%.
4. Guaranteed by design, not subject to production testing.

Typical Characteristics

Figure 1. Output Characteristics

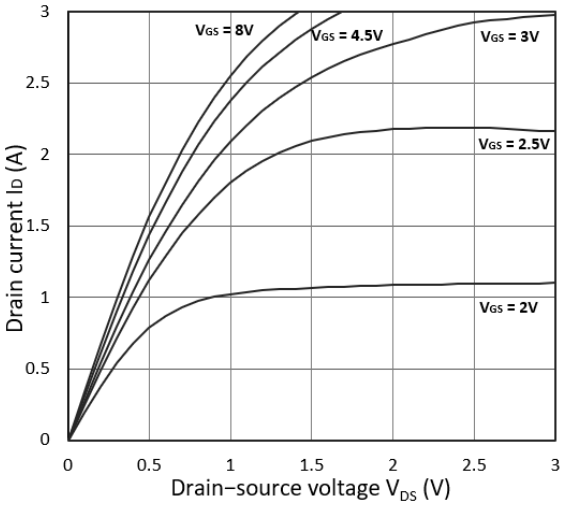


Figure 2. Transfer Characteristics

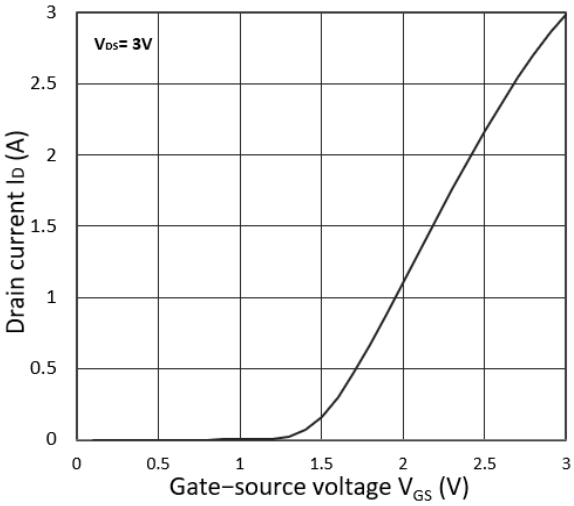


Figure 3. $R_{DS(on)}$ vs. I_D

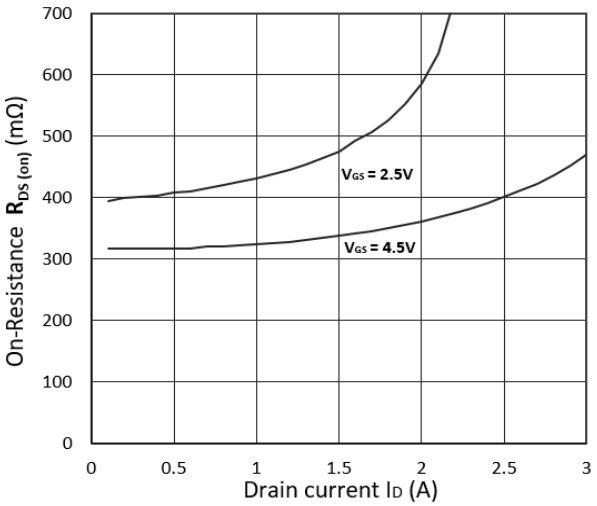


Figure 4. $R_{DS(on)}$ vs. V_{GS}

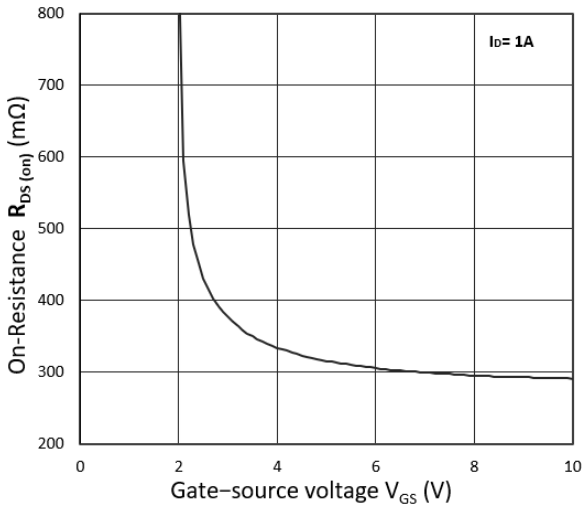


Figure 5. I_S vs. V_{SD}

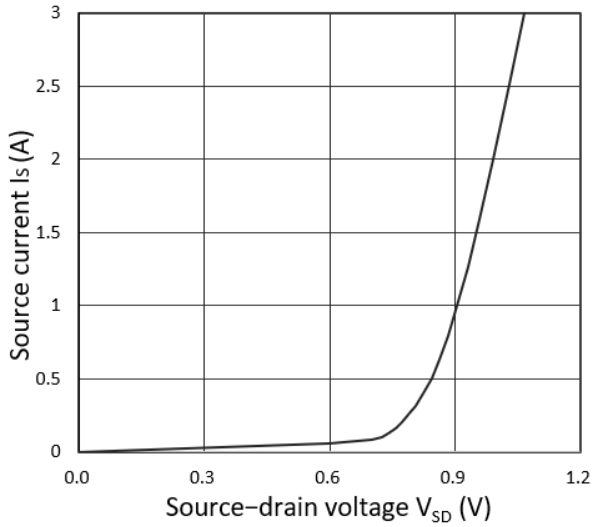
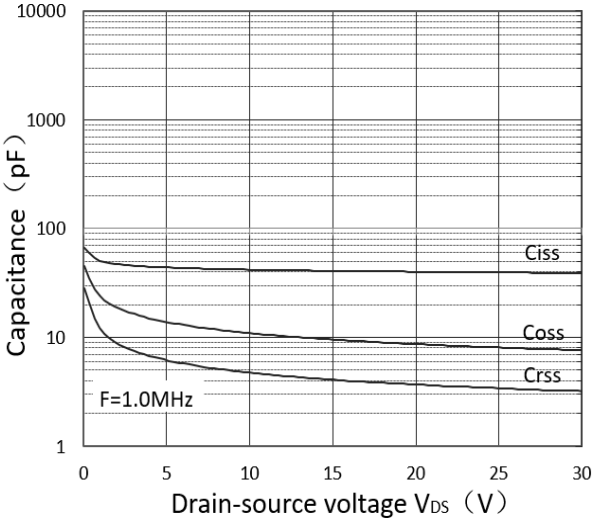
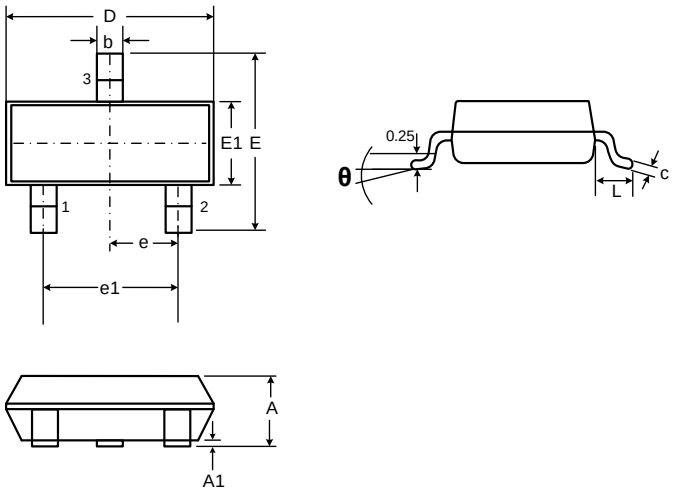


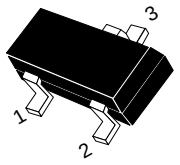
Figure 6. Capacitance Characteristics



Outline Drawing – SOT-23

PACKAGE OUTLINE

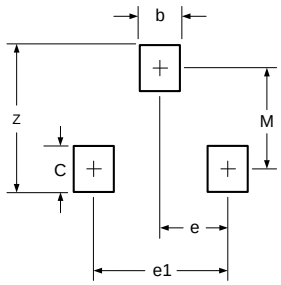




SOT-23

DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.90	1.15	0.035	0.045
A1	0.00	0.10	0.000	0.004
b	0.30	0.50	0.012	0.020
c	0.08	0.15	0.003	0.006
D	2.80	3.00	0.110	0.118
E	2.25	2.55	0.089	0.100
E1	1.20	1.40	0.047	0.055
e	0.95 BSC		0.0374 BSC	
e1	1.80	2.00	0.071	0.079
L	0.45	0.65	0.018	0.026
θ	0°	8°	0°	8°



DIMENSIONS		
DIM	**INCHES**	**MILLIMETERS**
M	**0.080**	**2.02**
C	**0.032**	**0.80**
Z	**0.111**	**2.82**
e	**0.037 BSC**	**0.95 BSC**
e1	**0.075 BSC**	**1.9 BSC**
b	**0.032**	**0.80**

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	WM03N06M
Marking Code	KM

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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