

Features

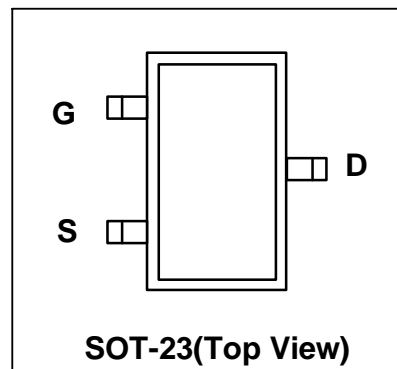
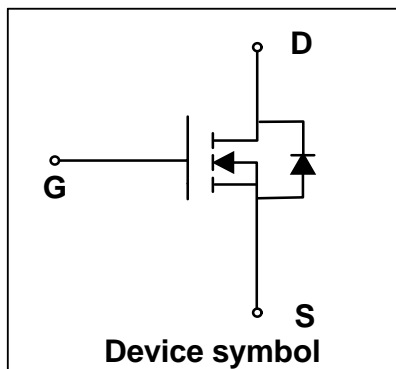
- $V_{DS} = 20V$, $I_D = 2.5A$
 $R_{DS(on)} < 70m\Omega @ V_{GS} = 4.5V$
 $R_{DS(on)} < 96m\Omega @ V_{GS} = 2.5V$
- High Density Cell Design for Low $R_{DS(on)}$
- Voltage Controlled Small Signal Switch
- Rugged and Reliable
- High Saturation Current Capability



Mechanical Characteristics

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

Schematic & PIN Configuration



Absolute Maximum Rating ($T_{amb}=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	2.5	A
Pulsed Drain Current ¹	I_{DM}	10	A
Power Dissipation	P_D	450	mW
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^{\circ}C$
Thermal Resistance from Junction to Ambient ²	$R_{\theta JA}$	278	$^{\circ}C/W$

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	20	-	-	V
Gate leakage Current	I_{GSS}	V _{GS} = ±12V, V _{DS} = 0V	-	-	±100	nA
Drain Cut-off Current	I_{DSS}	V _{DS} = 20V, V _{GS} = 0V	-	-	1	μA
Gate Threshold Voltage ³	V_{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	0.4	0.65	1	V
Drain-Source On-state Resistance ³	R_{DS(on)}	V _{GS} = 4.5V, I _D = 3A	-	54	70	mΩ
		V _{GS} = 2.5V, I _D = 2A	-	76	96	
		V _{GS} = 1.8V, I _D = 2A	-	136	178	
Dynamic characteristics						
Input Capacitance	C_{iss}	V _{GS} = 0V, V _{DS} = 10V, f = 1 MHz	-	125	-	pF
Output Capacitance	C_{oss}		-	26	-	
Reverse Transfer Capacitance	C_{rss}		-	20	-	
Switching Characteristics						
Turn-on Delay Time ⁴	t_{d(on)}	V _{DS} = 10V, V _{GEN} = 4.5V, I _D = 2.5A, R _G = 6Ω	-	6.5	-	ns
Turn-on Rise Time ⁴	t_r		-	40	-	
Turn-off Delay Time ⁴	t_{d(off)}		-	15.8	-	
Turn- off Fall Time ⁴	t_f		-	9	-	
Source-Drain Diode characteristics						
Diode Forward Voltage ³	V_{SD}	V _{GS} =0V, I _S = 3A	-	-	1.2	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

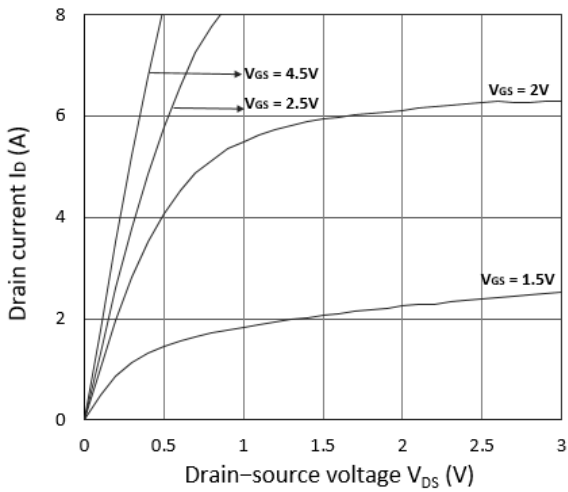


Figure 2. Transfer Characteristics

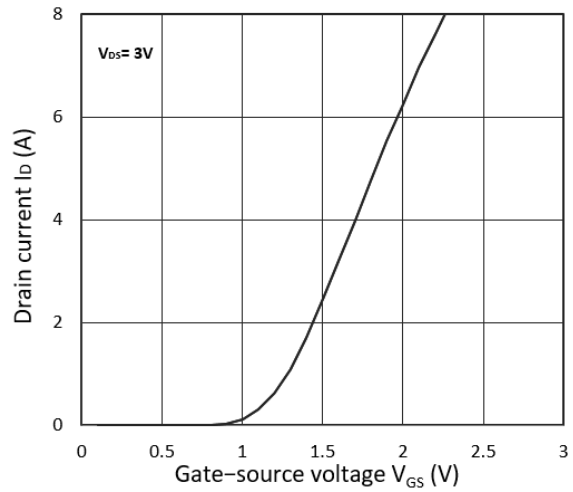


Figure 3. $R_{DS(on)}$ vs. I_D

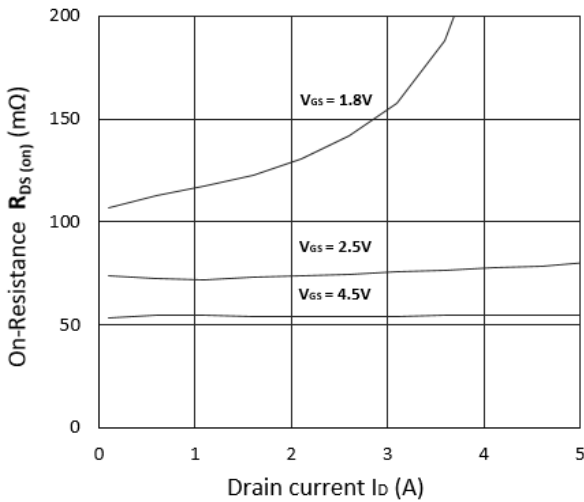


Figure 4. $R_{DS(on)}$ vs. V_{GS}

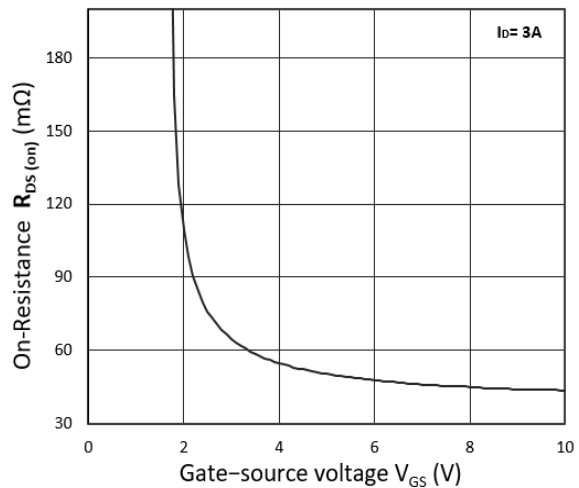


Figure 5. I_S vs. V_{SD}

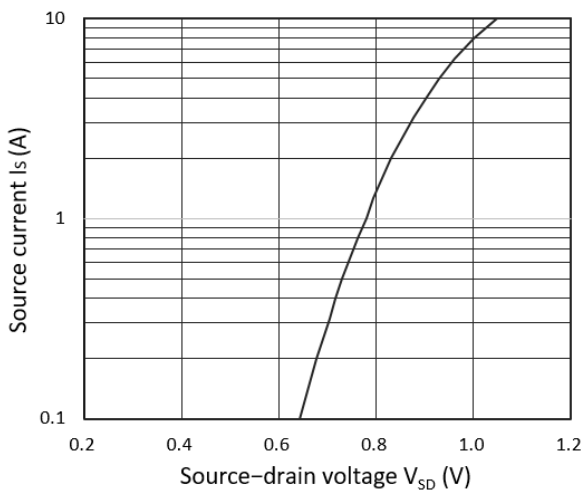
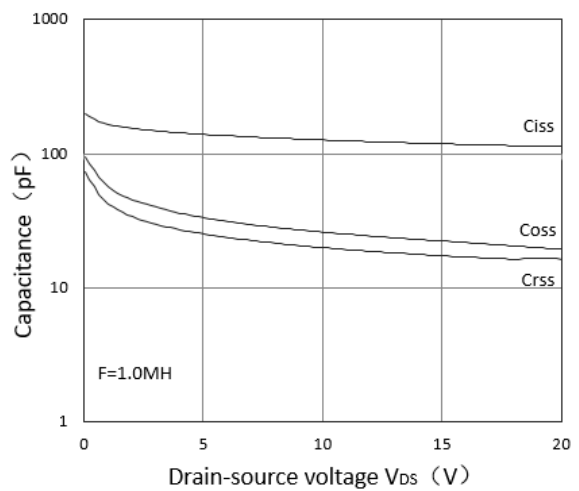
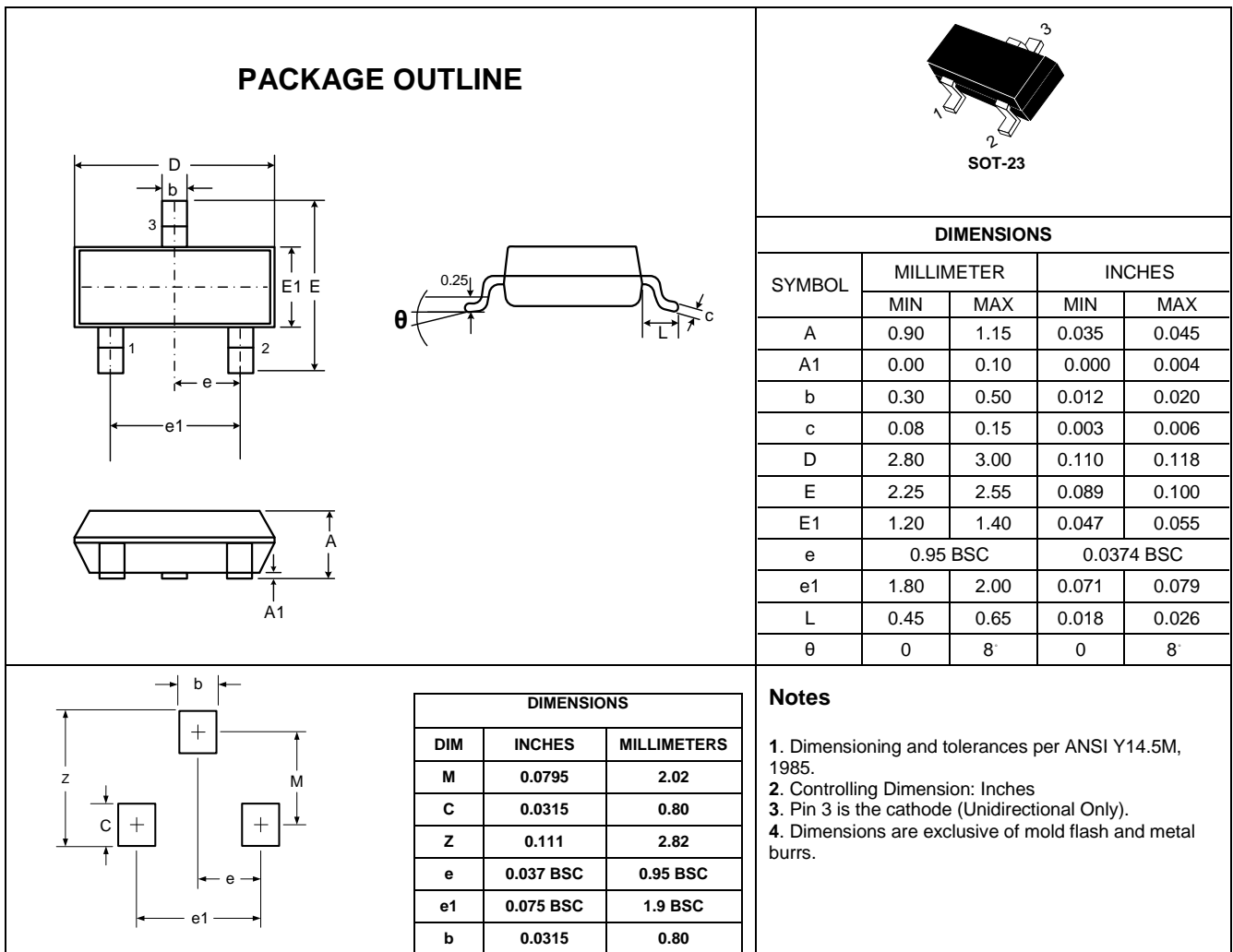


Figure 6. Capacitance Characteristics



Outline Drawing – SOT-23



Marking Codes

Part Number	WM02N25M
Marking Code	

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

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For additional information, please contact your local Sales Representative.

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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.