

● Features

- Way-on Small Signal MOSFETs
- $V_{DS} = -30V$, $I_D = -4.2A$
Typ. $R_{DS(on)} = 42m\Omega$ @ $V_{GS} = -10V$
Typ. $R_{DS(on)} = 48m\Omega$ @ $V_{GS} = -4.5V$
- Trench LV MOSFET Technology



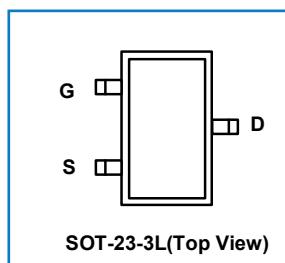
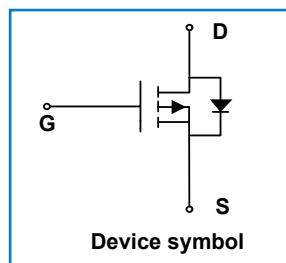
SOT-23-3L

● Mechanical Characteristics

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



● Schematic & PIN Configuration



● Absolute Maximum Rating ($T_A=25^\circ C$ unless otherwise noted)

Parameter		Symbol	Value	Unit
Drain-Source Voltage		V_{DS}	-30	V
Gate-Source Voltage		V_{GS}	± 12	V
Continuous Drain Current	$T_A=25^\circ C$	I_D	-4.2	A
	$T_A=100^\circ C$		-2.6	
Pulsed Drain Current ¹		I_{DM}	-25	A
Power Dissipation	$T_A=25^\circ C$	P_D	1.5	W
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	$R_{\theta JA}$	83.3	°C/W

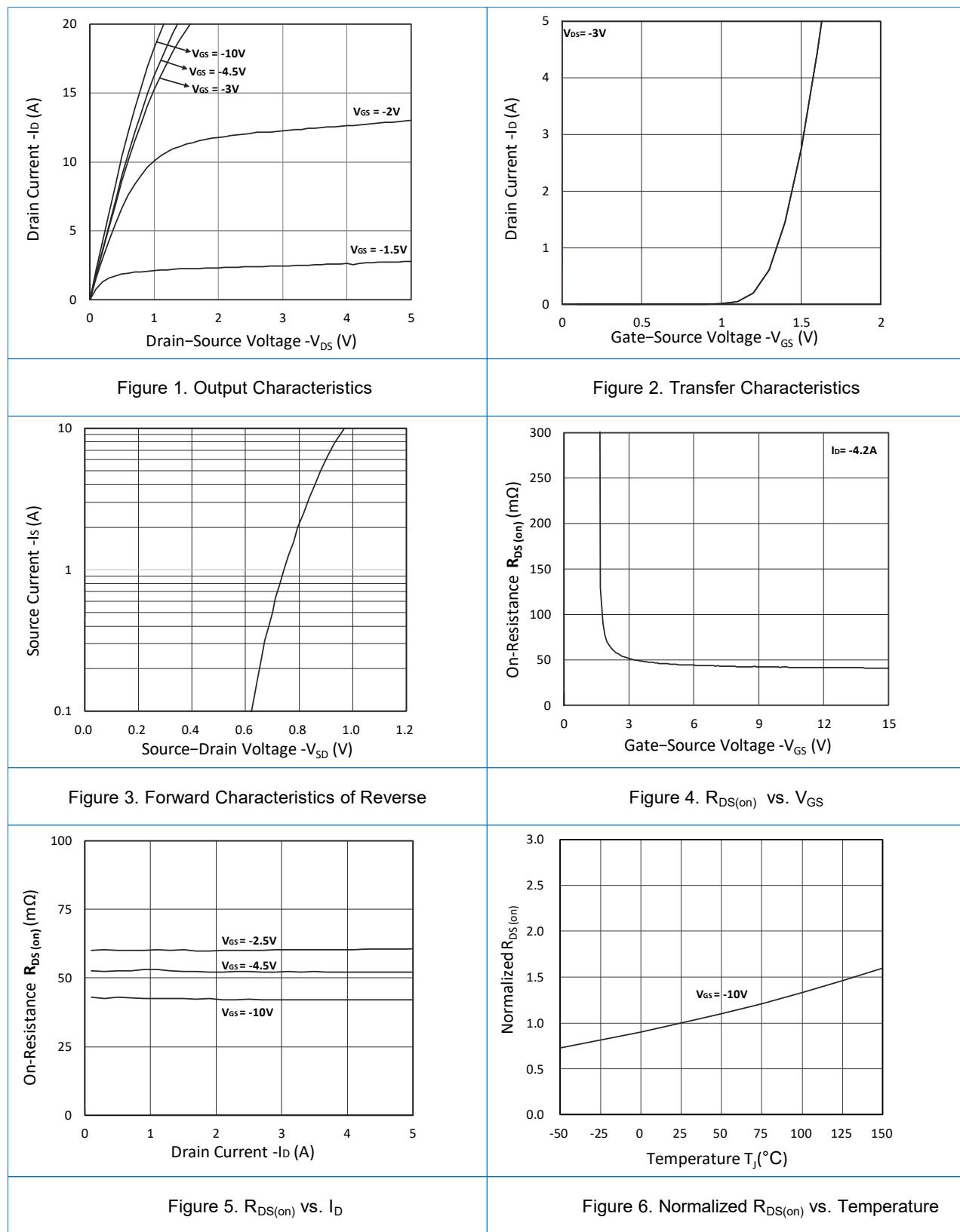
● Electrical Characteristics ($T_J = 25^\circ\text{C}$, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$V_{(\text{BR})\text{DSS}}$	$V_{\text{GS}} = 0\text{V}, I_{\text{D}} = -250\mu\text{A}$	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{\text{DS}} = -30\text{V}, V_{\text{GS}} = 0\text{V}$	-	-	-1	μA
Gate-body Leakage current	I_{GSS}	$V_{\text{DS}} = 0\text{V}, V_{\text{GS}} = \pm 12\text{V}$	-	-	± 100	nA
Gate-Threshold Voltage	$V_{\text{GS}(\text{th})}$	$V_{\text{DS}} = V_{\text{GS}}, I_{\text{D}} = -250\mu\text{A}$	-0.7	-1	-1.3	V
Drain-Source on-Resistance ³	$R_{\text{DS}(\text{on})}$	$V_{\text{GS}} = -10\text{V}, I_{\text{D}} = -4.2\text{A}$	-	42	55	$\text{m}\Omega$
		$V_{\text{GS}} = -4.5\text{V}, I_{\text{D}} = -4\text{A}$	-	48	65	
		$V_{\text{GS}} = -2.5\text{V}, I_{\text{D}} = -1\text{A}$	-	57	80	
Dynamic Characteristics⁴						
Input Capacitance	C_{iss}	$V_{\text{GS}} = 0\text{V}, V_{\text{DS}} = -15\text{V}, f = 1\text{MHz}$	-	710	-	pF
Output Capacitance	C_{oss}		-	58	-	
Reverse Transfer Capacitance	C_{rss}		-	49	-	
Switching Characteristics⁴						
Total Gate Charge	Q_{g}	$V_{\text{GS}} = -4.5\text{V}, V_{\text{DS}} = -15\text{V}, I_{\text{D}} = -4.2\text{A}$	-	8	-	nC
Gate-Source Charge	Q_{gs}		-	1.3	-	
Gate-Drain Charge	Q_{gd}		-	2	-	
Turn-on Delay Time	$t_{\text{d}(\text{on})}$	$V_{\text{GS}} = -10\text{V}, V_{\text{DD}} = -15\text{V}, R_{\text{G}} = 3\Omega, I_{\text{D}} = -4.2\text{A}$	-	7	-	ns
Rise Time	t_{r}		-	3	-	
Turn-off Delay Time	$t_{\text{d}(\text{off})}$		-	30	-	
Fall Time	t_{f}		-	12	-	
Drain-Source Body Diode Characteristics						
Diode Forward Voltage ³	V_{SD}	$I_{\text{S}} = -1\text{A}, V_{\text{GS}} = 0\text{V}$	-	-	-1.2	V
Continuous Source Current	I_{S}	-	-	-	-4.2	A

Notes:

1. Repetitive rating, pulse width limited by junction temperature $T_{J(\text{MAX})} = 150^\circ\text{C}$.
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 $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.
4. This value is guaranteed by design hence it is not included in the production test.

● Typical Characteristics



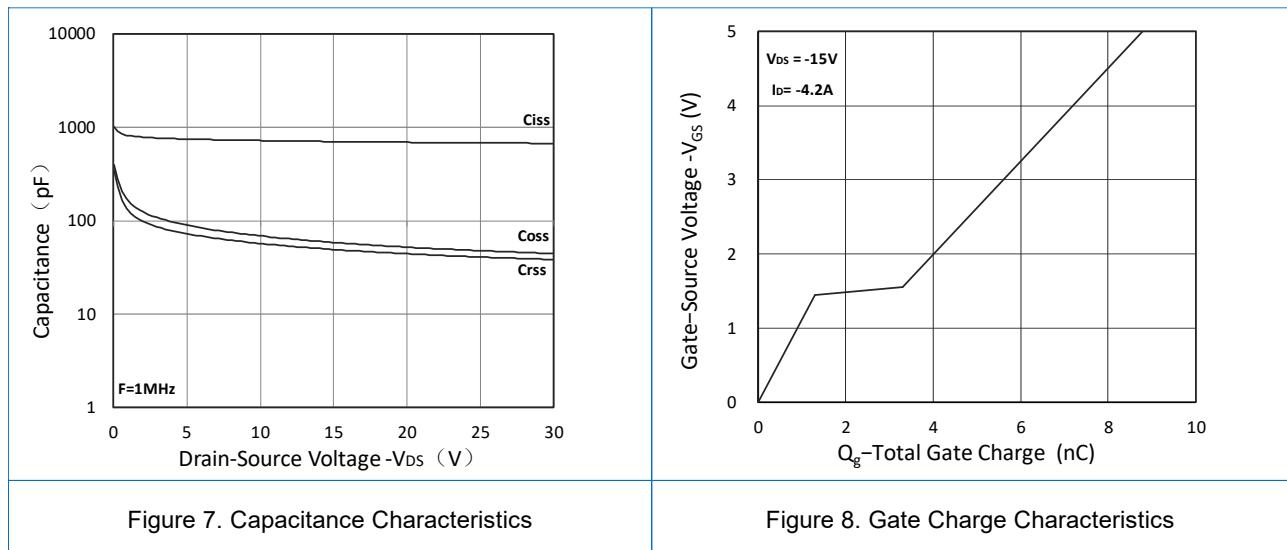
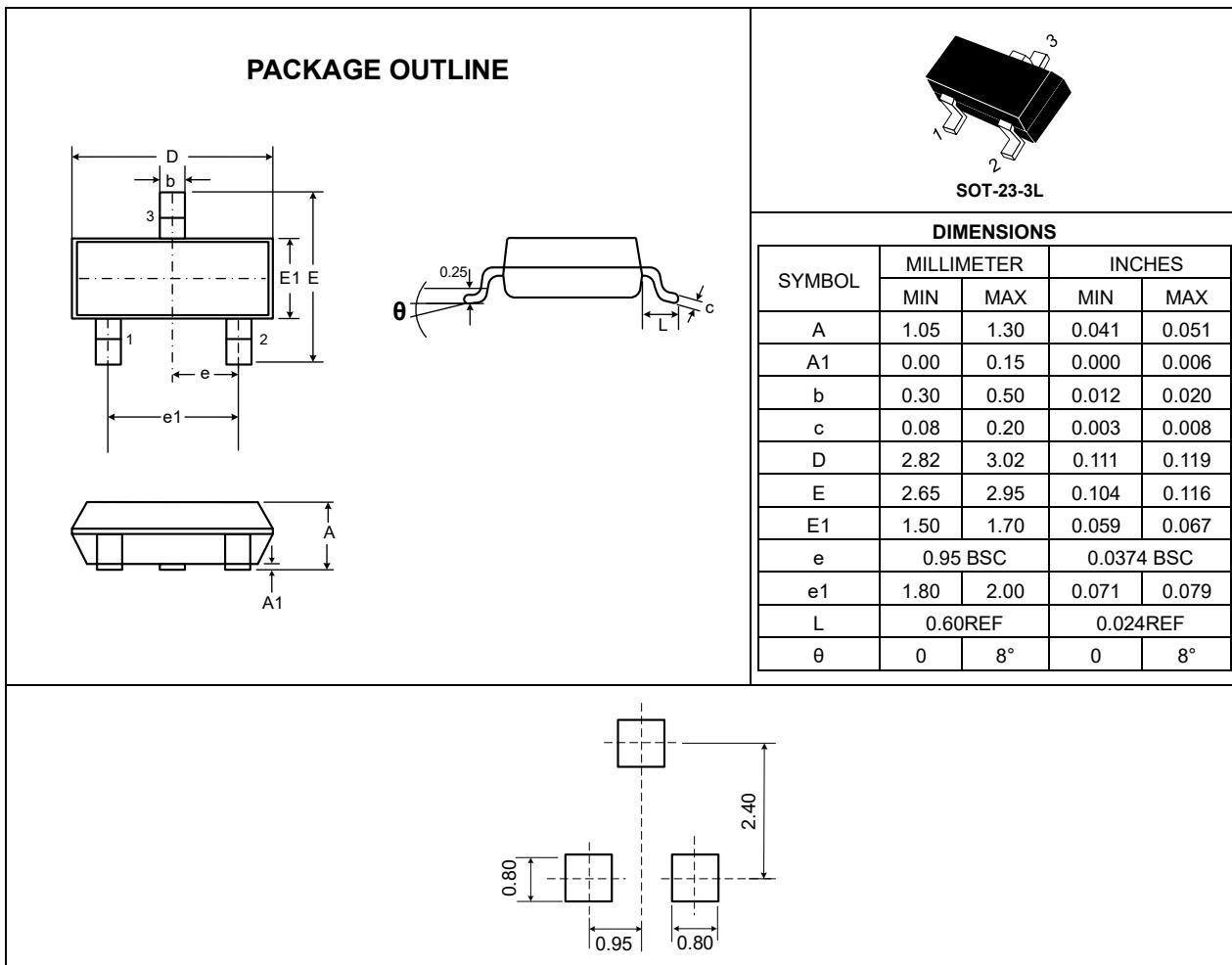


Figure 7. Capacitance Characteristics

Figure 8. Gate Charge Characteristics

● Outline Drawing – SOT-23-3L



● Marking Codes

Part Number	WM03P42M2
Marking Code	3401

● Package Information

Qty: 3k/Reel

Contact Information

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Product Specification Statement

1. The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.
2. The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.
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