

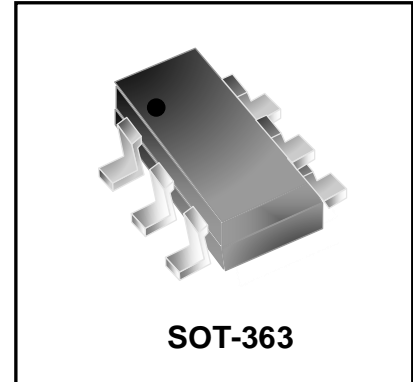


WM02DN08D

Dual N-Channel MOSFET

Features

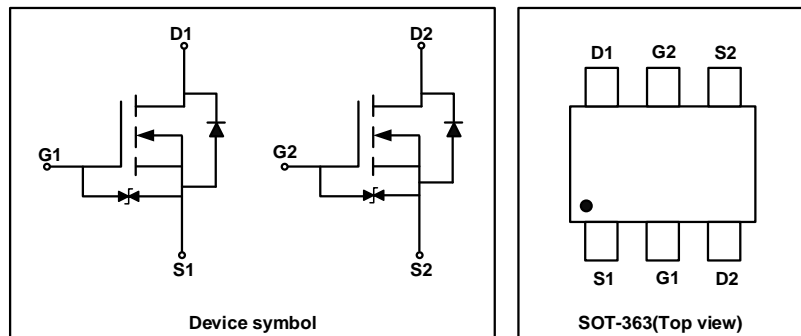
- $V_{DS} = 20\text{ V}$, $I_D = 0.75\text{ A}$
 $R_{DS(on)} < 0.38\Omega$ @ $V_{GS} = 4.5\text{ V}$
 $R_{DS(on)} < 0.45\Omega$ @ $V_{GS} = 2.5\text{ V}$
- Trench MOSFET Technology
- Low Threshold Voltage
- Pb Free Device
- ESD Protected



Mechanical Characteristics

- SOT-363 Package
- Marking : Making Code
- RoHS Compliant

Schematic & PIN Configuration



Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current ¹	I_D	0.75	A
Power Dissipation ¹	P_D	150	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$
Thermal Resistance from Junction to Ambient ¹	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$

Electrical Characteristics ($T_{amb}=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0\text{ V}, I_D = 250\mu\text{A}$	20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20\text{V}, V_{GS} = 0\text{ V}$	-	-	1	μA
Gate-body Leakage Current	I_{GSS}	$V_{DS} = 0\text{ V}, V_{GS} = \pm 10\text{V}$	-	-	± 20	μA
Drain-Source on-state Resistance ²	$R_{DS(on)}$	$V_{GS} = 4.5\text{V}, I_D = 0.65\text{A}$	-	0.19	0.38	Ω
		$V_{GS} = 2.5\text{V}, I_D = 0.55\text{A}$	-	0.26	0.45	
		$V_{GS} = 1.8\text{V}, I_D = 0.45\text{A}$	-	0.39	-	
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	0.35	0.75	1.1	V
Forward Transconductance ²	g_{fs}	$V_{DS} = 10\text{V}, I_D = 0.80\text{A}$	-	1.6	-	S
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{GS} = 0\text{V}, V_{DS} = 16\text{V}, f = 1\text{MHz}$	-	79	-	μF
Output Capacitance	C_{oss}		-	13	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Switching Characteristics						
Turn-on Delay Time ³	$t_{d(on)}$	$V_{DS} = 10\text{V}, V_{GS} = 4.5\text{V}, I_D = 0.5\text{A}, R_{GEN} = 10\Omega$	-	6.7	-	ns
Turn-on Rise Time ³	t_r		-	4.8	-	
Turn-off Delay Time ³	$t_{d(off)}$		-	17.3	-	
Turn-off Fall Time ³	t_f		-	7.4	-	
Source-Drain Diode Characteristics						
Body Diode Voltage	V_{SD}	$I_S = 0.15\text{A}, V_{GS} = 0\text{V}$	-	-	1.2	V

Notes:

1. Surface mounted on FR4 board using the minimum recommended pad size.
2. Pulse Test: Pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.
3. Guaranteed by design, not subject to producing.

Typical Characteristics

Figure 1. Output Characteristics

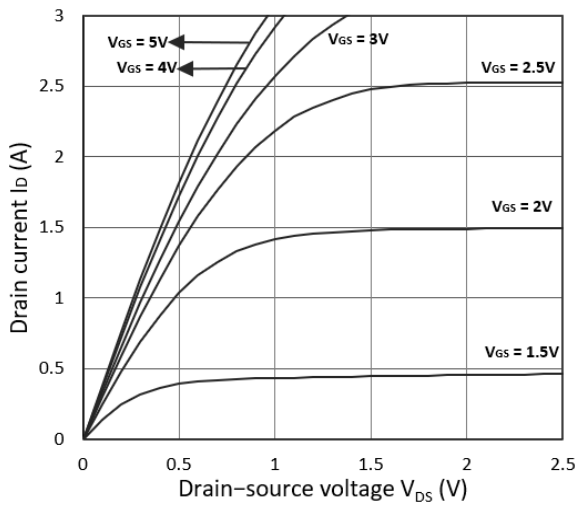


Figure 2. Transfer Characteristics

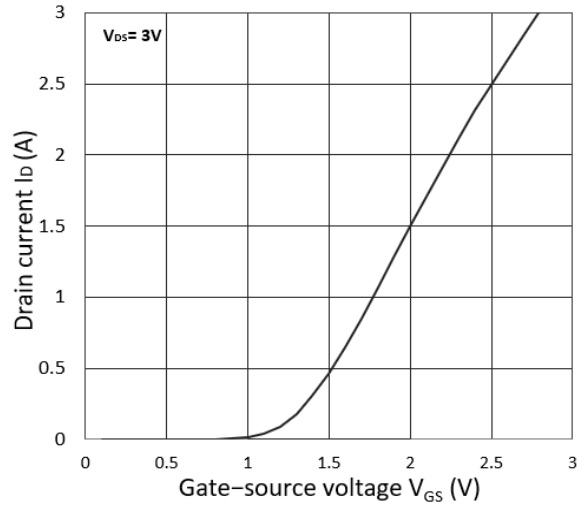


Figure 3. $R_{DS(ON)}$ vs. I_D

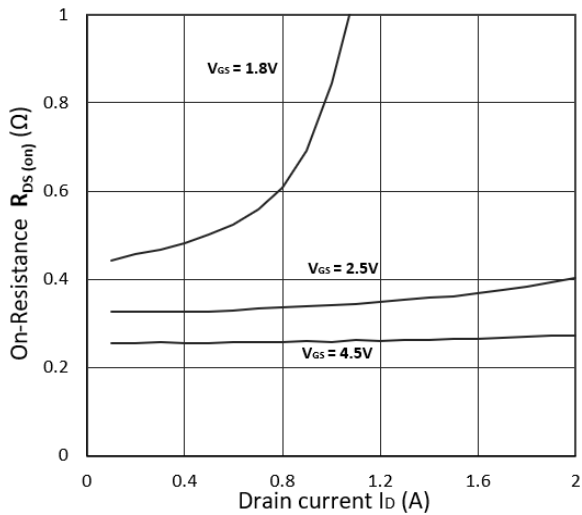


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

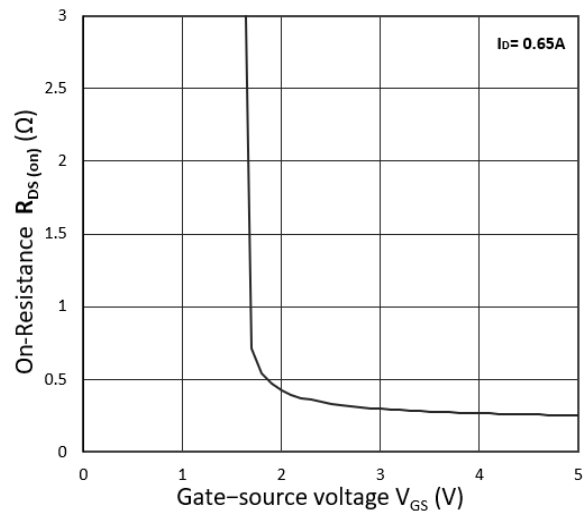


Figure 5. I_S vs. V_{SD}

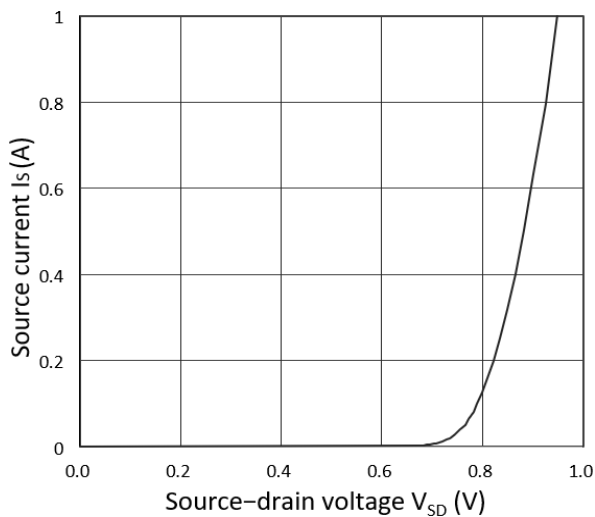
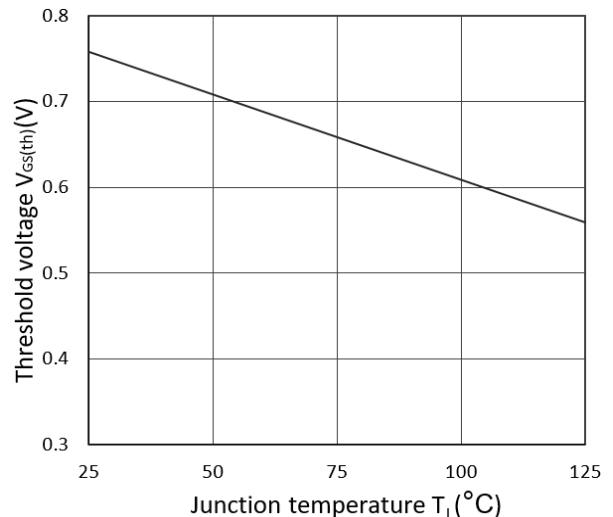


Figure 6. Threshold Voltage



Outline Drawing – SOT-363

PACKAGE OUTLINE

SOT-363

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
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E1	1.150	1.350	0.045	0.053
E	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.110	2.79
G	0.043	1.09
C	0.076	1.94
P	0.026 TYP	0.65 TYP
X	0.016	0.40
Y	0.033	0.85

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	WM02DN08D
Marking Code	

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

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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.*