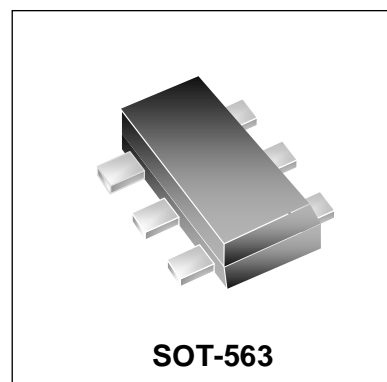


Features

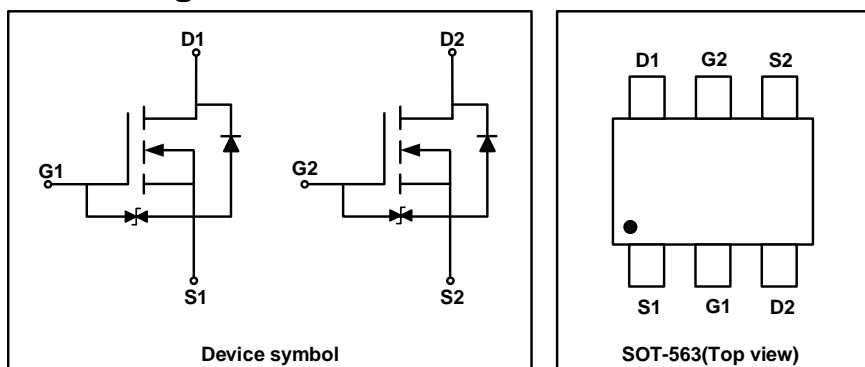
- $V_{DS} = 20\text{ V}$, $I_D = 0.75\text{ A}$
 $R_{DS(on)} < 0.38\Omega$ @ $V_{GS} = 4.5\text{ V}$
 $R_{DS(on)} < 0.45\Omega$ @ $V_{GS} = 2.5\text{ V}$
- Trench MOSFET Technology
- ESD Protected

Mechanical Characteristics

- SOT-563 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	I_D	0.75	A
Pulsed Drain Current ¹ ($t_p=10\mu s$)	I_{DM}	1.8	A
Power Dissipation	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 ²	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	-	-	1	μA
Gate-body Leakage Current	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 10V$	-	-	± 20	μA
Gate threshold voltage ³	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.35	0.75	1.1	V
Drain-Source On-state Resistance ³	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 0.65A$	-	0.19	0.38	Ω
		$V_{GS} = 2.5V, I_D = 0.55A$	-	0.26	0.45	
		$V_{GS} = 1.8V, I_D = 0.45A$	-	0.39	-	
Dynamic Characteristics						
Input Capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 16V,$ $f = 1MHz$	-	60	-	μF
Output Capacitance	C_{oss}		-	13	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Switching Characteristics³						
Total Gate Charge	Q_g	$V_{GS} = 4.5V, V_{DS} = 10V,$ $I_D = 7A$	-	18	-	nC
Gate-Source Charge	Q_{gs}		-	0.8	-	
Gate-Drain Charge	Q_{gd}		-	3.7	-	
Turn-on Delay Time	$t_{d(on)}$	$V_{DS} = 10V, V_{GS} = 4.5V,$ $I_D = 0.5A, R_{GEN} = 10\Omega$	-	6.2	-	nS
Turn-on Rise Time	t_r		-	4.5	-	
Turn-off Delay Time	$t_{d(off)}$		-	16.8	-	
Turn-off Fall Time	t_f		-	7	-	
Source-Drain Diode characteristics						
Body Diode Voltage	V_{SD}	$I_S = 0.1A, V_{GS} = 0V$	-	-	1.2	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 $\leq 300\mu s$, duty cycle $\leq 2\%$.
4. Guaranteed by design, not subject to product

Typical Characteristics

Figure 1. Output Characteristics

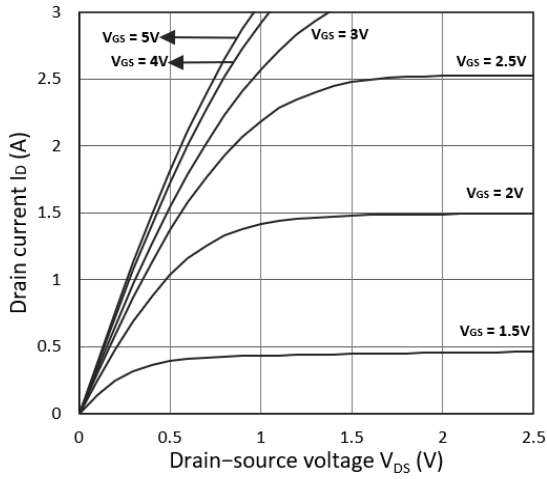


Figure 2. Transfer Characteristics

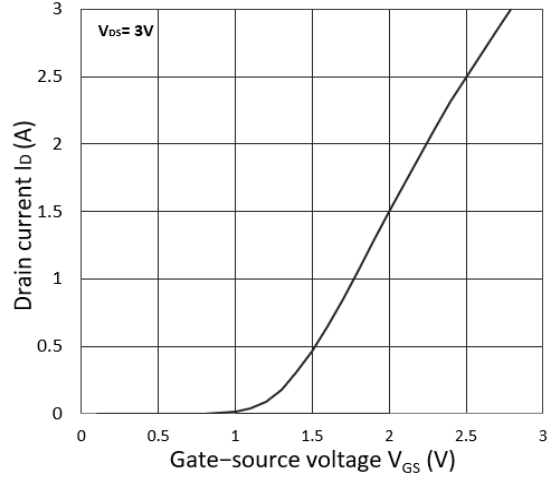


Figure 3. $R_{DS(ON)}$ vs. I_D

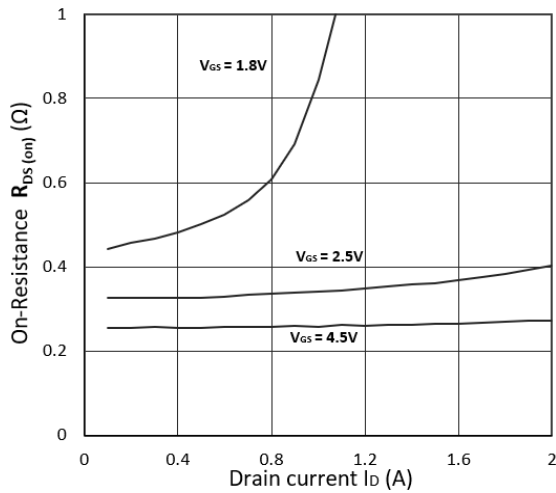


Figure 4. $R_{DS(ON)}$ vs. V_{GS}

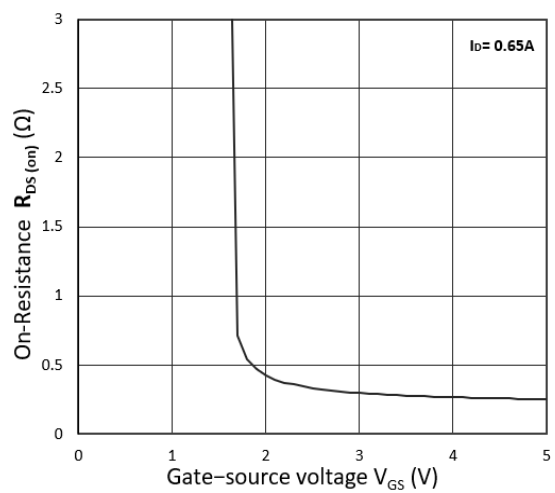


Figure 5. I_S vs. V_{SD}

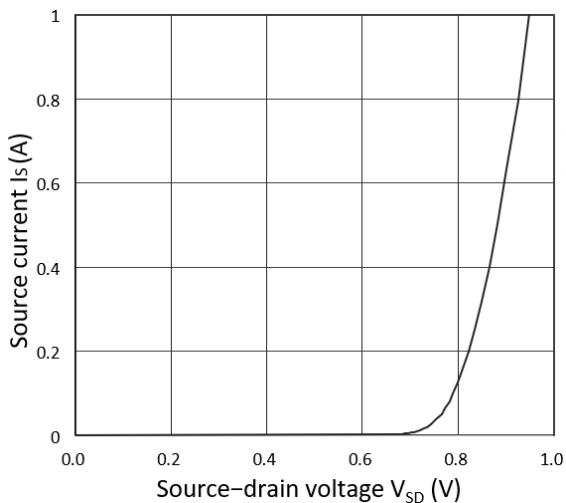
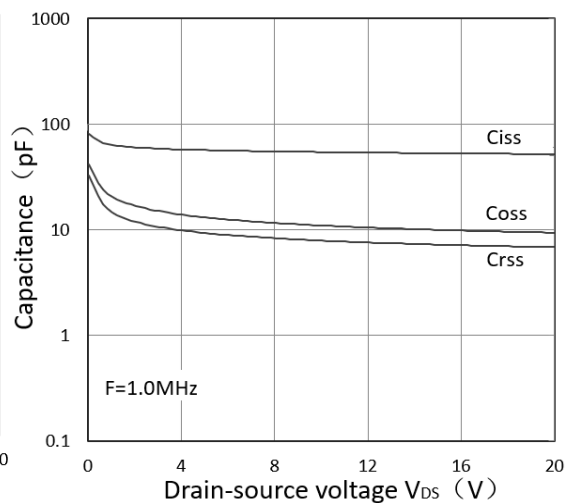


Figure 6. Capacitance Characteristics



Outline Drawing – SOT-563

PACKAGE OUTLINE

SOT-563

DIMENSIONS				
SYMBOL	INCHES		MILLIMETER	
	MIN	MAX	MIN	MAX
A	0.021	0.024	0.525	0.600
A1	0.000	0.002	0.000	0.050
e	0.018	0.022	0.450	0.550
c	0.004	0.006	0.090	0.160
D	0.059	0.067	1.500	1.700
b	0.007	0.011	0.170	0.270
E1	0.043	0.051	1.100	1.300
E	0.059	0.067	1.500	1.700
L	0.004	0.012	0.100	0.300
θ	7°REF		7°REF	

DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.0752	1.91
G	0.0350	0.89
P	0.020TYP	0.51 TYP
X	0.0118	0.3
Y	0.0201	0.51

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	WM02DN08T
Marking Code	

Package Information

Qty: 3k/Reel

CONTACT INFORMATION

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