WM02DN08T

Dual N-Channel MOSFET

Features

- V_{DS}= 20 V, I_D = 0.75 A

  $R_{DS(on)}$ < 0.38Ω @ V_{GS} = 4.5 V

  $R_{DS(on)}$ < 0.45Ω @ V_{GS} = 2.5V

- Trench MOSFET Technology
- ESD Protected
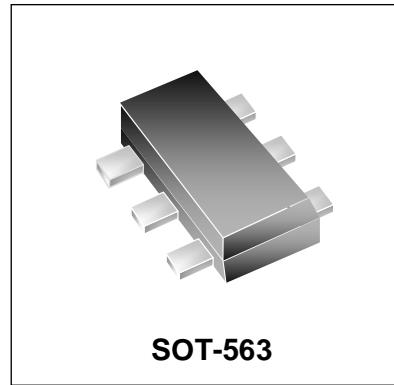
Mechanical Characteristics

- SOT-563 Package
- Marking : Making Code
- RoHS Compliant

SOT-563

Schematic & PIN Configuration

Device symbol

SOT-563(Top view)
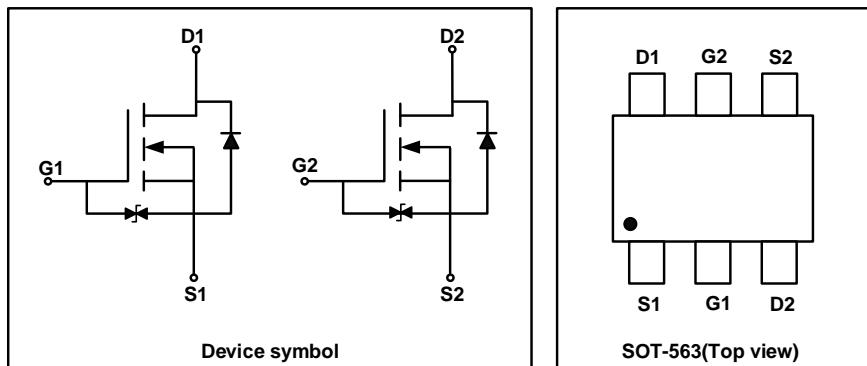
Absolute Maximum Rating

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](tp=10µs)	I_{DM}	1.8	A
Power Dissipation	P_D	150	mW
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 to +150	°C
Thermal Resistance from Junction to Ambient[2]	$R_{\theta JA}$	833	°C/W

Electrical Characteristics (T_{amb}=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
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =20V, V_{GS} = 0 V	-	-	1	μA
Gate-body Leakage Current	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±10V	-	-	±20	μA
Gate threshold voltage[3]	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250μA	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	-	pF
Output Capacitance	C_{oss}		-	13	-	
Reverse Transfer Capacitance	C_{rss}		-	9	-	
Switching Characteristics[3]						
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}=10Ω	-	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≤300μs, duty cycle≤2%.

4. Guaranteed by design, not subject to product

Typical Characteristics

Figure 1. Output Characteristics
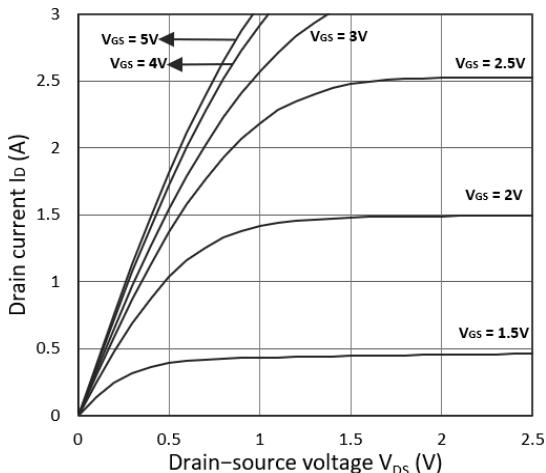
Figure 2. Transfer Characteristics
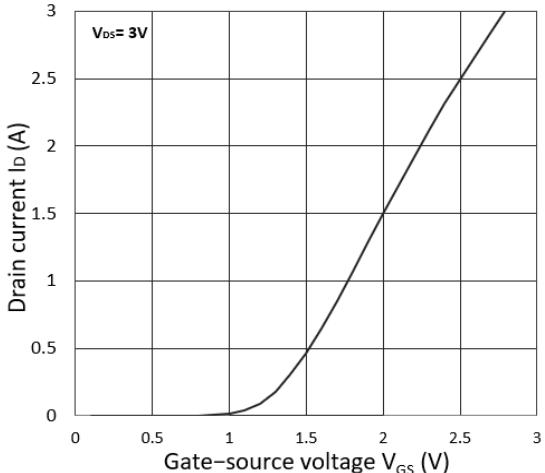
Figure 3. $R_{DS(ON)}$ vs. I_D
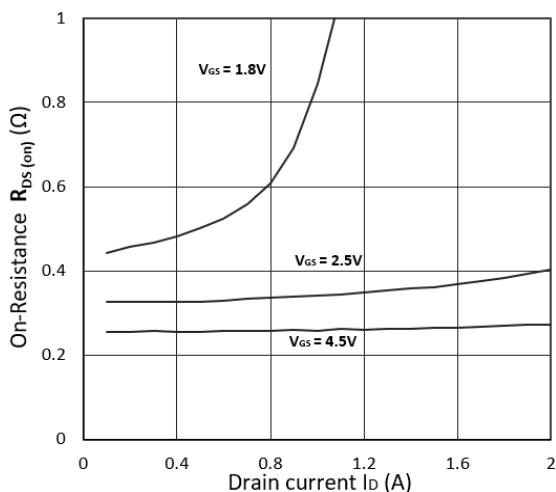
Figure 4. $R_{DS(ON)}$ vs. V_{GS}
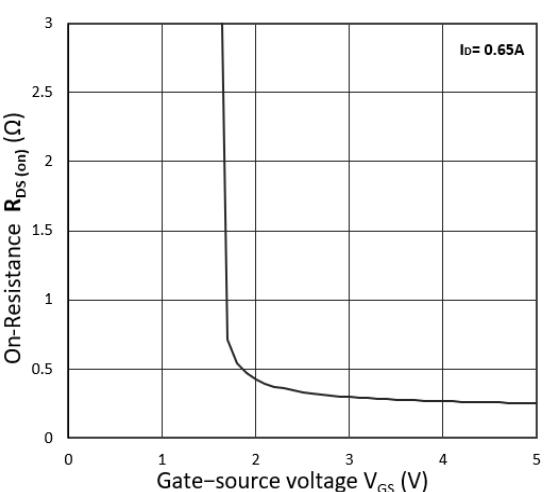
Figure 5. I_S vs. V_{SD}
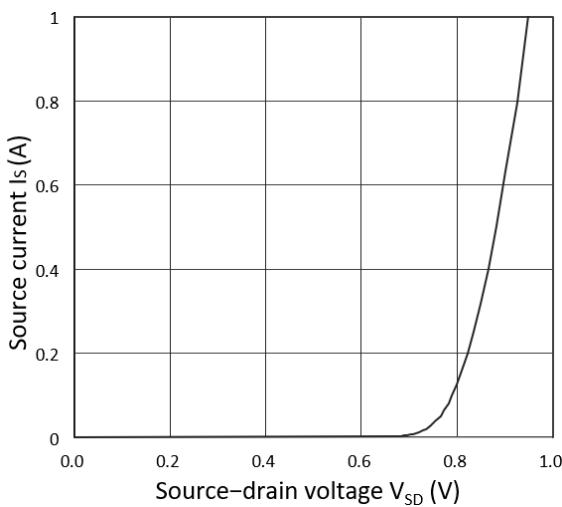
Figure 6. Capacitance Characteristics
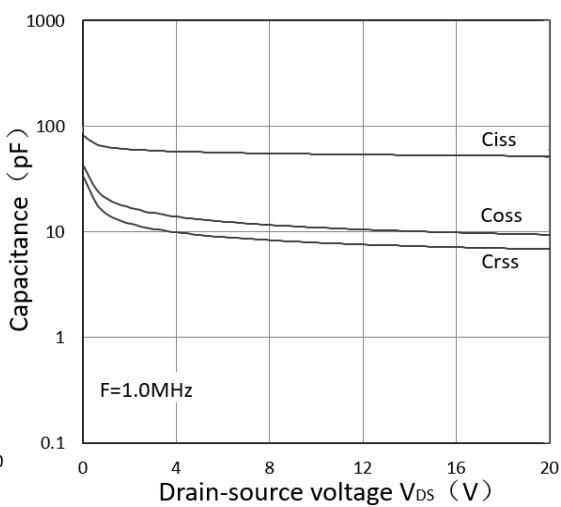
Outline Drawing – SOT-563

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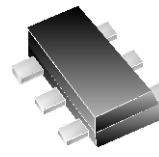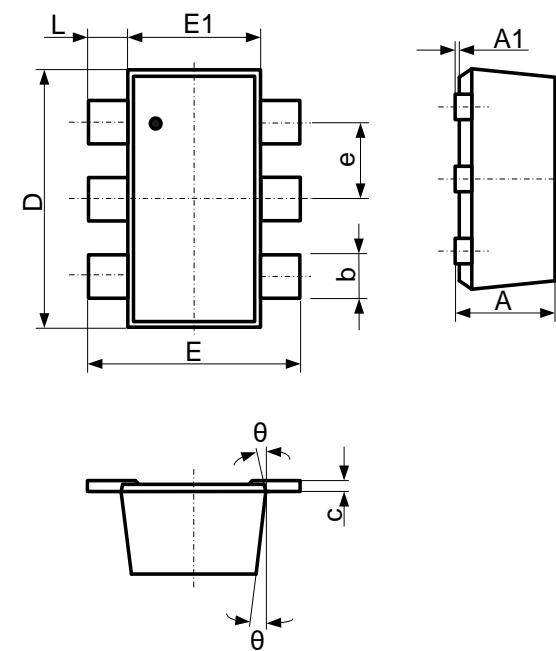
DIMENSIONS		
DIM	INCHES	MILLIMETERS
Z	0.0752	1.91
G	0.0350	0.89
P	0.020TYP	0.51 TYP
X	0.0118	0.3
Y	0.0201	0.51
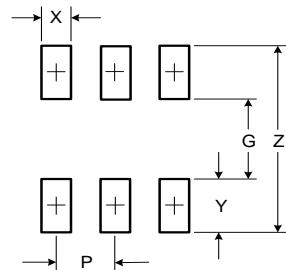
Notes

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	02K

Package Information

Qty：3k/Reel

CONTACT INFORMATION

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