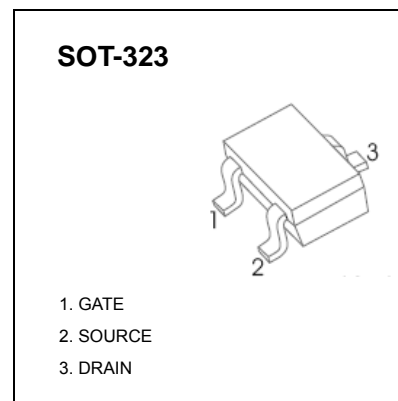


SOT-323 Plastic-Encapsulate MOSFETS

WNM2021 N-Channel MOSFET

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	58mΩ@4.5V	2.3A
	86mΩ@2.5V	



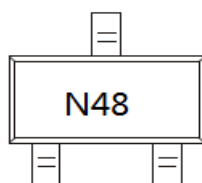
FEATURE

- TrenchFET Power MOSFET

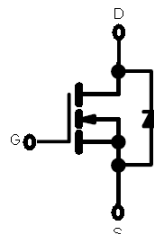
APPLICATION

- Load Switch for Portable Devices
- DC/DC Converter

MARKING



Equivalent Circuit



Maximum ratings ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±10	
Continuous Drain Current	I_D	2.3	A
Continuous Source-Drain Current(Diode Conduction)	I_S	0.6	
Power Dissipation	P_D	0.2	W
Thermal Resistance from Junction to Ambient ($t \leq 5s$)	$R_{\theta JA}$	625	$^{\circ}C/W$
Operating Junction	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 ~ +150	

MOSFET ELECTRICAL CHARACTERISTICS
 $T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 10\mu A$	20			V
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 50\mu A$	0.65	0.95	1.2	
Gate-body leakage	I_{GSS}	$V_{DS} = 0V, V_{GS} = \pm 8V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$			1	μA
Drain-source on-resistance ¹	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 2A$			0.058	Ω
		$V_{GS} = 2.5V, I_D = 1A$			0.086	
Forward transconductance ¹	g_{fs}	$V_{DS} = 5V, I_D = 2.3A$		8		S
Diode forward voltage	V_{SD}	$I_S = 0.94A, V_{GS} = 0V$		0.76	1.2	V
Dynamic Characteristics						
Total gate charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 3.6A$		4.0	10	nC
Gate-source charge	Q_{gs}			0.65		
Gate-drain charge	Q_{gd}			1.5		
Input capacitance ²	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		300		μF
Output capacitance ²	C_{oss}			120		
Reverse transfer capacitance ²	C_{rss}			80		
Switching Characteristics²						
Turn-on delay time	$t_{d(on)}$	$V_{DD} = 10V,$ $R_L = 5.5\Omega, I_D \approx 2.3A,$ $V_{GEN} = 4.5V, R_g = 6\Omega$		7	15	ns
Rise time	t_r			55	80	
Turn-off delay time	$t_{d(off)}$			16	60	
Fall time	t_f			10	25	

Notes :

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. These parameters have no way to verify.