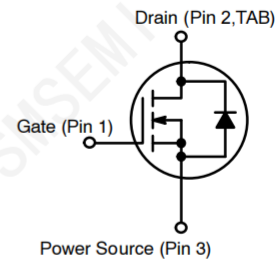


Features

- ◆ High density cell design for low $R_{DS(ON)}$
- ◆ Voltage controlled small signal switch
- ◆ Rugged and reliable
- ◆ ESD protected
- ◆ Device Marking Code



MAXIMUM RATINGS ($T_a = 25\text{ }^{\circ}\text{C}$)

SOT-323

Symbol	Parameter	Value	Units
V_{DS}	Drain-source Voltage	60	V
V_{GS}	Gate-source Voltage	± 20	V
I_D	Continuous Drain Current	340	mA
P_d	Total Power Dissipation	200	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-55 to 150	$^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ }^{\circ}\text{C}$) Static Characteristics

Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$V_{(BR)DSS}$	Drain-source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	60			V
$V_{GS(th)}$	Gate-Threshold Voltage (note 1)	$V_{DS}=V_{GS}, I_D=1mA$	1.0		2.5	V
I_{GSS}	Gate-body Leakage Current	$V_{DS}=0V, V_{GS}=\pm 20V$			± 10	μA
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS}=48V, V_{GS}=0V$			1	μA
$R_{DS(ON)}$	Drain-source On-resistance (note 1)	$V_{GS}=4.5V, I_D=200mA$ $V_{GS}=10V, I_D=500mA$			5.3 5.0	Ω
V_{SD}	Diode Forward Voltage	$V_{GS}=0V, I_S=300mA$			1.5	V

Dynamic Characteristics

C_{iss}	Input Capacitance	$V_{DS}=10V$ $V_{GS}=0V$ $f=1MHz$			40	pF
C_{oss}	Output Capacitance				30	
C_{rss}	Reverse Transfer Capacitance				10	

Switching Characteristics

$t_{d(on)}$	Turn-on delay time	$V_{DD}=50V, V_{GS}=10V, R_L=250\ \Omega, R_{GS}=50\ \Omega, R_{GEN}=50\ \Omega$			10	ns
$t_{d(off)}$	Turn-off delay time				15	
t_{rr}	Reverse Recovery Time	$V_{GS}=0V, I_S=300mA, V_R=25V, di/dt=-100A/\mu s$		30		ns
Q_r	Recovered Charge	$V_{GS}=0V, I_S=300mA, V_R=25V, di/dt=-100A/\mu s$		30		nC

GATE-SOURCE ZENER DIODE

BV_{GSO}	Gate-Source Breakdown Voltage	$I_{GS}=\pm 1mA(\text{Open Drain})$	± 21.5		± 30	V
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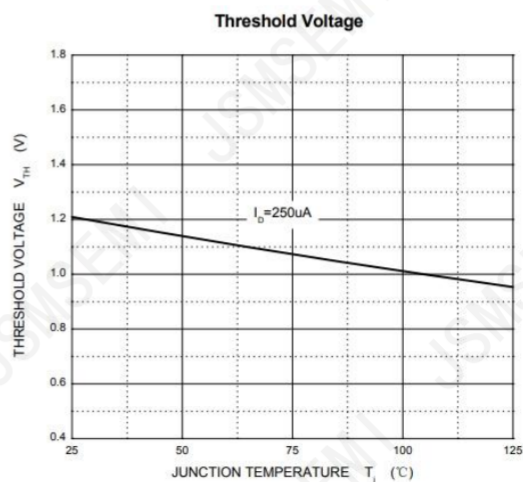
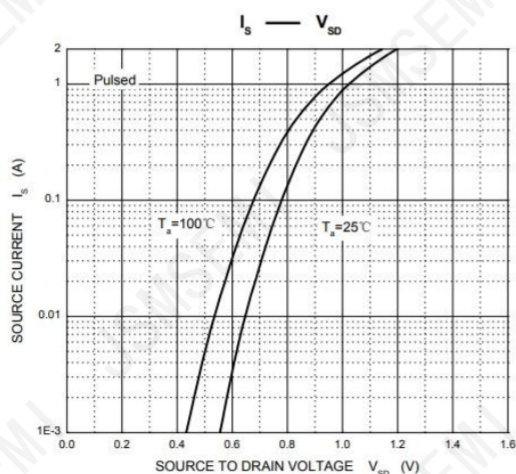
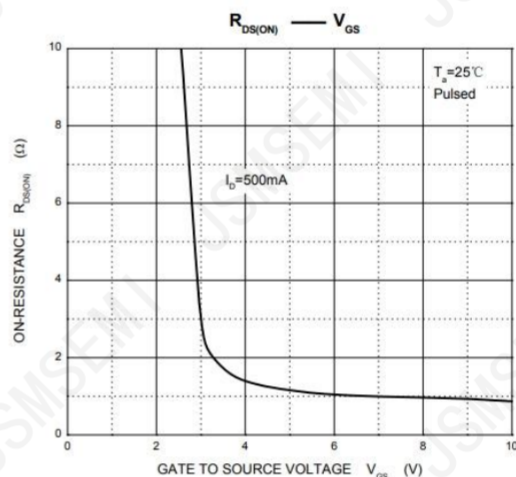
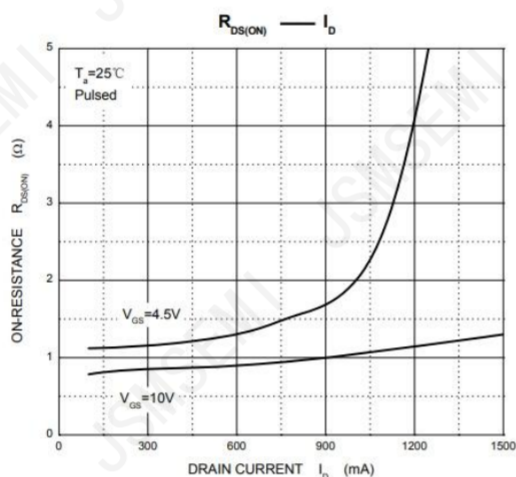
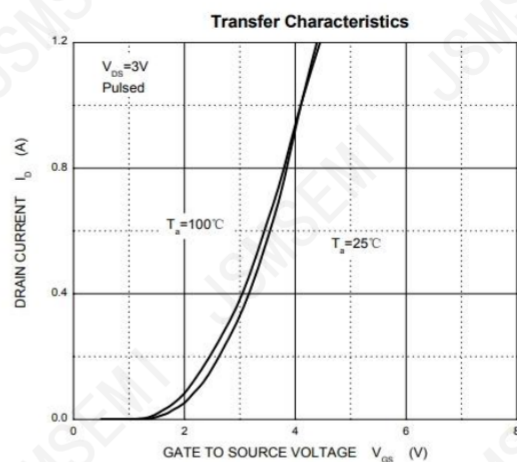
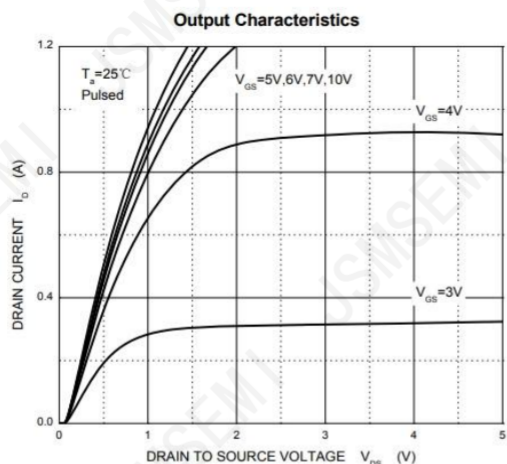
DRAIN-SOURCE DIODE

V_{SD}	Diode Forward Voltage(note 1)	$I_S=300mA, V_{GS}=0V$			1.5	V
I_S	Continuous Diode Forward Current				0.2	A
I_{SM}	Pulsed Diode Forward Current				0.53	A

Note:

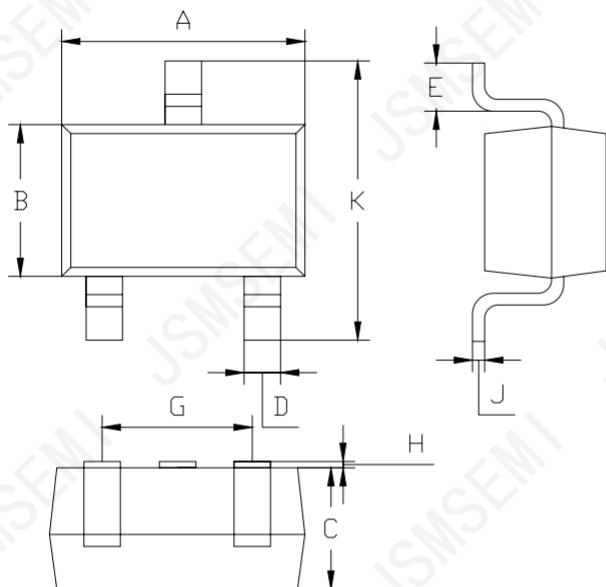
1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$.

TYPICAL CHARACTERISTICS



Package Information

SOT-323



SOT-323		
Dim	Min	Max
A	1.8	2.2
B	1.15	1.35
C	1.0Typical	
D	0.15	0.35
E	0.25	0.40
G	1.2	1.4
H	0.02	0.1
J	0.1Typical	
K	2.1	2.3
All Dimensions in mm		

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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