MOSPEC

0Z22NE50S

50V N-Channel MOSFET

DESCRIPTION：

V_{DSS}	50V
I_D	0.22A
$R_{DS(ON)_Typ.}$ @V_{GS}=10V	1.1Ω

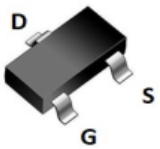
·Epoxy meets UL 94 V-0 flammability rating

·High density cell design for low $R_{DS(ON)}$

·Voltage controlled small signal switch

·Rugged and reliable

·ESD Protected



SOT-23

MAXIMUM RATINGS (at T_A = 25 °C, unless otherwise specified)

Characteristic	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	50	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	0.22	A
Total Power Dissipation	P_D	350	mW
Junction & Storage temperature Range	T_J, T_{STG}	-55~+150	℃

Notes： 1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.

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THERMAL CHARACTERISTICS

Characteristic	Condition	Symbol	Value	Unit
Thermal resistance,	Junction to Ambient	$R_{\theta JA}$	357	℃/W

ELECTRICAL CHARATERISTICS (at T_J = 25 °C, unless otherwise specified)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage VGS = 0V, ID = 250uA	$V_{(BR)DSS}$	50			V
Gate-Source threshold voltage VDS = VGS, ID = 250uA	$V_{GS(th)}$	0.8	1.0	1.45	V
Gate-Source Leakage Current VGS = ±20V, VDS = 0V	I_{GSS}			±10	uA
Zero Gate Voltage Drain Current VDS = 48 V, VGS = 0 V	I_{DSS}			1	uA
Drain-Source On-State Resistance VGS = 4.5V, ID = 0.2A VGS = 10V, ID = 0.5A	$R_{DS(on)}$		1.3 1.1	4 3	Ω
Diode Forward Voltage VGS = 0V, IS = 0.5A	V_{SD}	0.5		1.3	V
Forward Transconductance VDS = 10 V, ID = 0.2A	g_{FS}	100			mS
Input capacitance f=1MHz, VDS=25 V, VGS=0 V	C_{iss}		22.8		pF
Output capacitance f=1MHz, VDS=25 V, VGS=0 V	C_{oss}		3.5		pF
Reverse transfer capacitance f=1MHz, VDS=25 V, VGS=0 V	C_{rss}		2.9		pF
Turn-on delay time V_{DD}=30V, V_{GEN}=10V,ID= 0.5A, R_{GEN}=25Ω, R_L=60Ω	$td_{(ON)}$		3.8		ns
Turn-off delay time V_{DD}=30V, V_{GEN}=10V,ID= 0.5A, R_{GEN}=25Ω, R_L=60Ω	$td_{(OFF)}$		19		ns

Typical Performance Characteristics

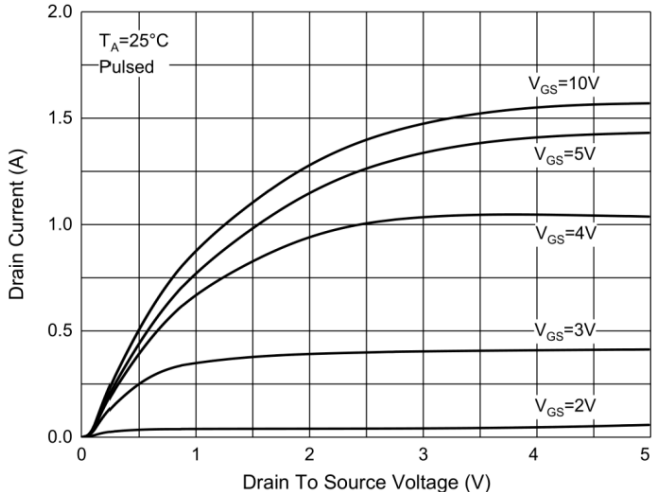


Figure 1. Output Characteristics

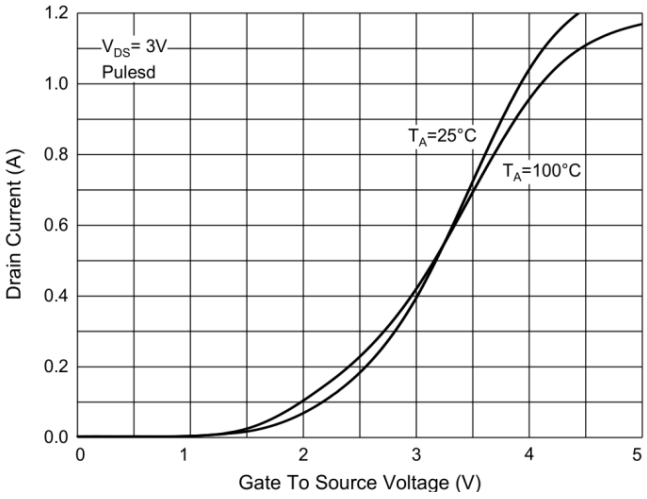


Figure 2. Transfer Characteristics

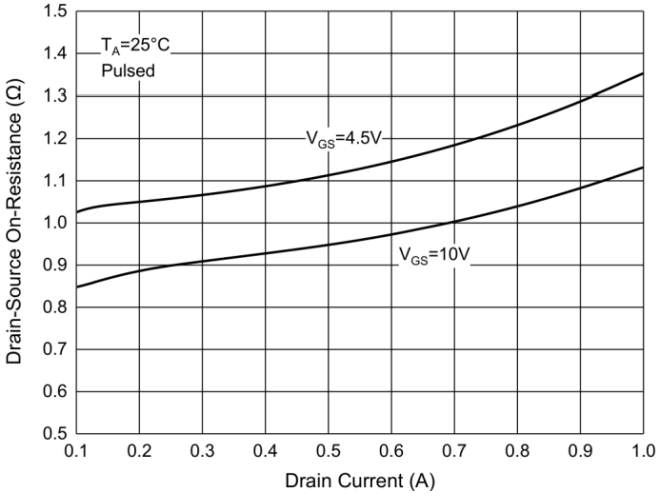


Figure 3. $R_{DS(ON)}$ —I_D Characteristics

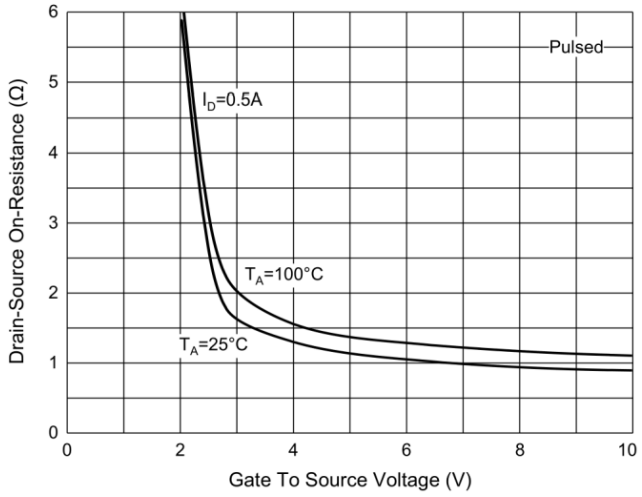


Figure 4. $R_{DS(ON)}$ —V_{GS} Characteristics

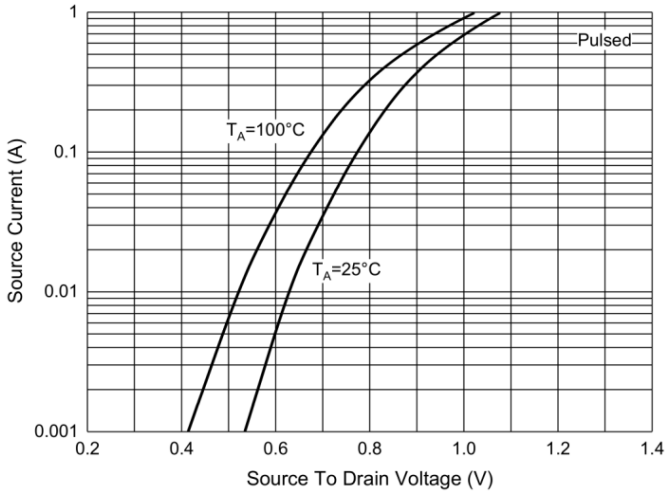


Figure 5. I_S —V_{SD} Characteristics

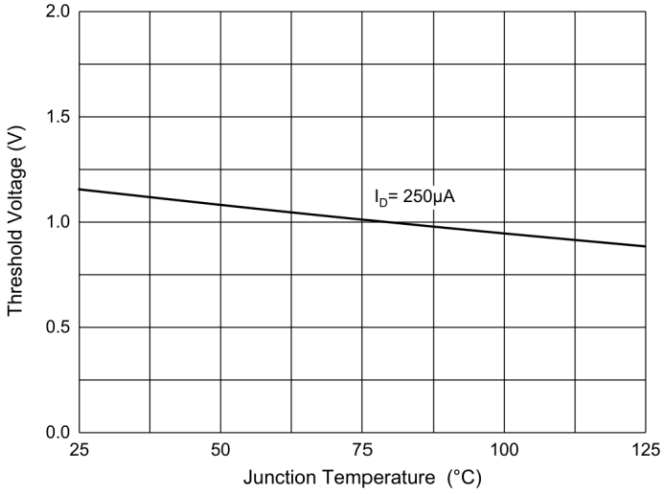
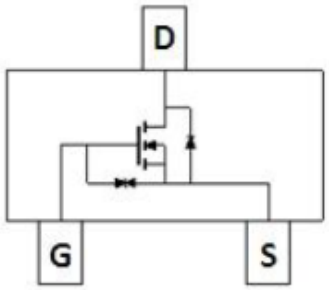
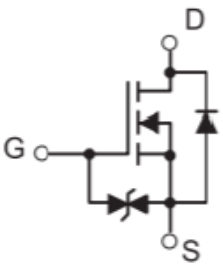


Figure 6. Threshold Voltage Characteristics

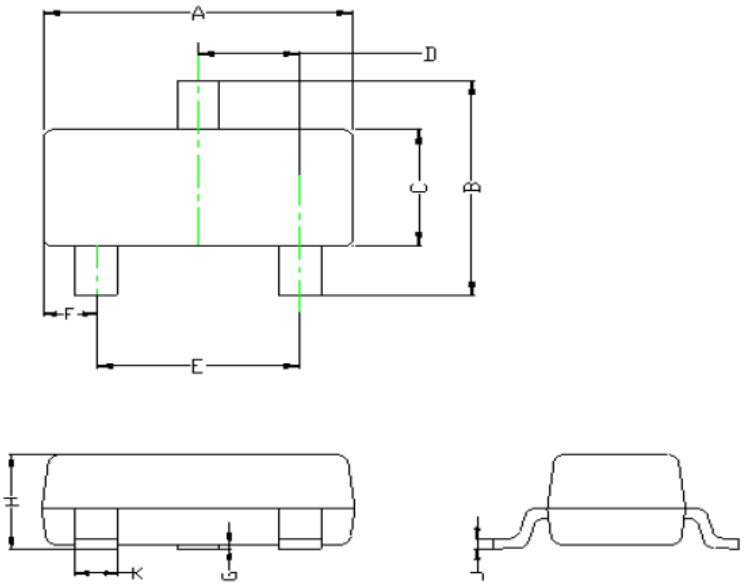
·Circuit diagram





1.GATE
2.SOURCE
3.DRAIN

·Package outlines : Dimensions in (mm)



Symbol	Dimensions in mm	
	Min.	Max.
A	2.800	3.040
B	2.100	2.640
C	1.200	1.400
D	0.890	1.030
E	1.780	2.050
F	0.450	0.600
G	0.013	0.100
H	0.900	1.110
J	0.090	0.180
K	0.370	0.510

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