

## FEATURES

- | TrenchFET Power MOSFET

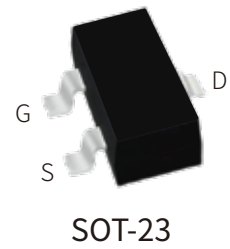
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- | Load Switch for Portable Devices

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- | DC/DC Converter

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## APPLICATION

- | SOT-23 Small Outline Plastic Package

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- | Epoxy UL: 94V-0

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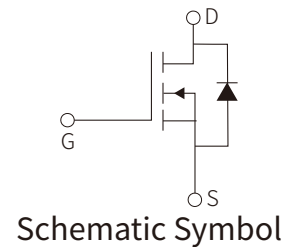
- | Mounting Position: Any

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## APPROVALS

<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	100	V
Drain-Source Voltage $R_{GS} \leq 20\text{K}\Omega$	$V_{DRG}$	100	V
Continuous Drain Current (note1)	$I_D$	0.17	A
Pulsed Drain Current ( $t_p=10\mu\text{s}$ )	$I_{DM}$	0.68	A
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Power Dissipation	$P_D$	350	mW
Thermal Resistance From Junction to Ambient (note1)	$R_{\theta JA}$	357	$^{\circ}\text{C}/\text{W}$
Junction Temperature	$T_J$	150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to 150	$^{\circ}\text{C}$

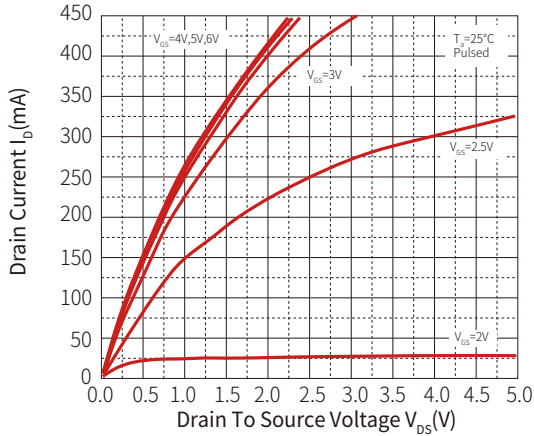
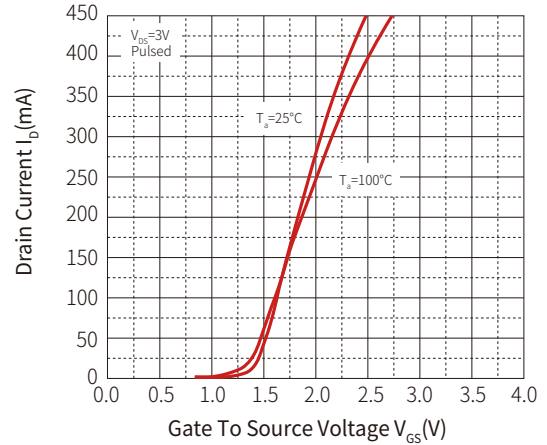
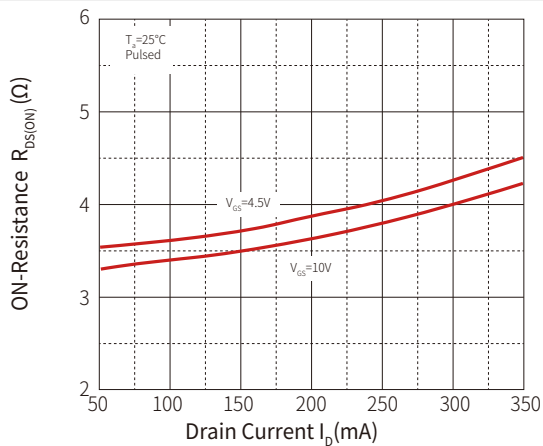
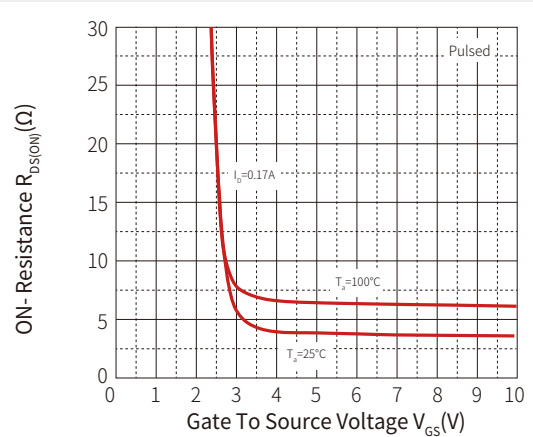
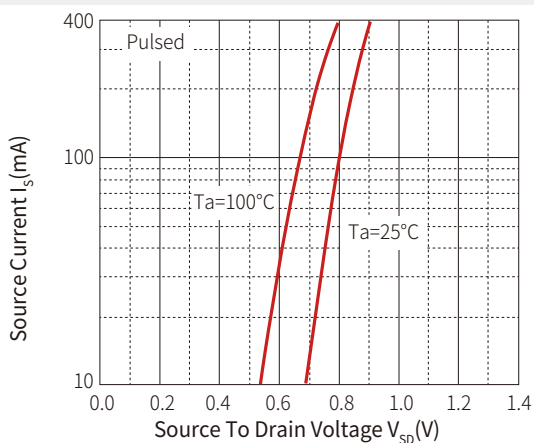
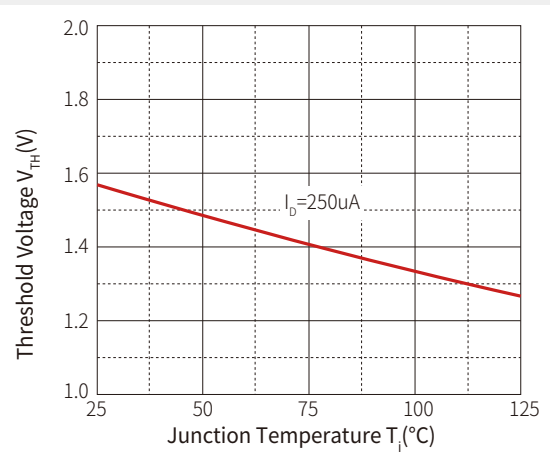
## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
<b>Static</b>						
Drain-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =250μA	100			V
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =100V, V <sub>GS</sub> =0V			1.00	μA
		V <sub>DS</sub> =20V, V <sub>GS</sub> =0V			0.01	μA
Gate-body Leakage	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V			±50	nA
Gate-Threshold voltage(note2)	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250μA	1.0	1.6	2.8	V
Drain-Source On-Resistance (note2)	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =0.17A			6	Ω
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =0.17A			10	Ω
Forward trans conductance (note2)	gfs	V <sub>DS</sub> =10V, I <sub>D</sub> =0.17A	80			mS
Diode forward voltage	V <sub>SD</sub>	I <sub>S</sub> =0.34A, V <sub>GS</sub> =0V			1.3	V
<b>Dynamic(note4)</b>						
Input capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =25V, f=1MHz		29	60	pF
Output capacitance	C <sub>oss</sub>		10	15	pF	
Reverse transfer capacitance	C <sub>rss</sub>		2	6	pF	
<b>Switching(note3,4)</b>						
Turn-on Delay Time	t <sub>d(on)</sub>	V <sub>DD</sub> =30V, V <sub>GS</sub> =10V I <sub>D</sub> =0.28A, R <sub>GEN</sub> =50Ω			8	ns
Turn-on Rise Time	t <sub>r</sub>				8	ns
Turn-Off Delay Time	t <sub>d(off)</sub>				13	ns
Turn-Off Fall Time	t <sub>f</sub>				16	ns
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =10V I <sub>D</sub> =0.22A		1.4	2	nC
Gate-Source Charge	Q <sub>gs</sub>			0.15	0.25	nC
Gate-Drain Charge	Q <sub>gd</sub>			0.2	0.4	nC

Notes:

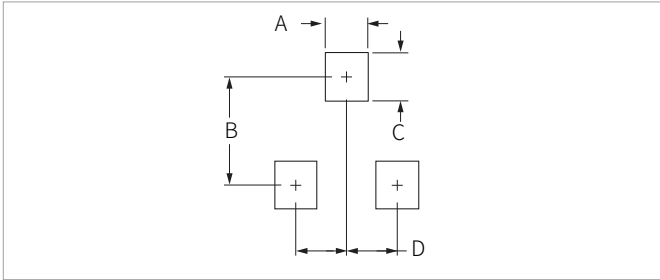
- 1). Surface mounted on FR4 board using the minimum recommended pad size.
- 2). Pulse Test: Pulse Width ≤300us, Duty Cycle ≤2%.
- 3). Switching characteristics are independent of operating junction temperature

# PARAMETER CHARACTERISTIC CURVE

**Figure1 : Output Characteristics**

**Figure2 : Transfer Characteristics**

**Figure3 :  $R_{DS(ON)}$  —  $I_D$** 

**Figure4 :  $R_{DS(ON)}$  —  $V_{GS}$** 

**Figure5 :  $I_S$  —  $V_{SD}$** 

**Figure6 : Threshold Voltage**




## RECOMMENDED PAD LAYOUT DIMENSIONS



Ref.	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.71	0.97	0.028	0.038
B	1.88	2.13	0.074	0.084
C	0.71	0.97	0.028	0.038
D	0.81	1.07	0.032	0.042

## ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
SNM123	SOT-23	3000PCS	7"

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