

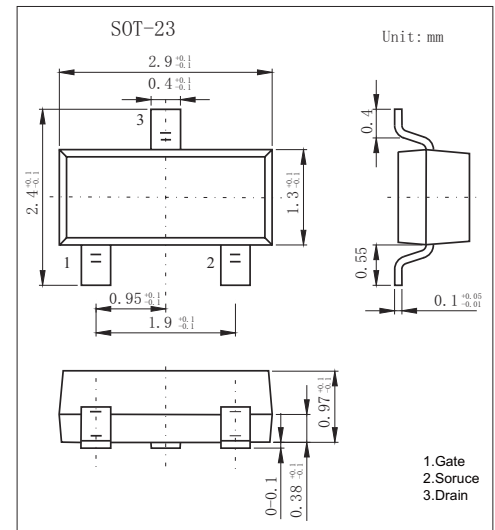
## SOT-23 Plastic-Encapsulate MOSFETS

### FEATURE

- TrenchFET Power MOSFET
- P-Channel Enhancement Mode Field Effect Transistor

### MECHANICAL DATA

- Case style: SOT-23 molded plastic
- Mounting position: any



### MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	±20	V
Continuous Drain Current	$I_D$	-4.1	A
Power Dissipation	$P_D$	350	mW
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	°C/W
Junction Temperature	$T_J$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	$I_D$
-30V	60mΩ@-10V	-4.1A
	87mΩ@-4.5V	

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Units	
<b>Static characteristics</b>							
Drain-source breakdown voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-30			V	
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -24V, V_{GS} = 0V$			-1	$\mu A$	
Gate-source leakage current	$I_{GSS}$	$V_{GS} = \pm 20V, V_{DS} = 0V$			±100	nA	
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -4.1A$		50	60	mΩ	
		$V_{GS} = -4.5V, I_D = -3A$		68	87	mΩ	
Forward transconductance (note 1)	$g_{FS}$	$V_{DS} = -5V, I_D = -4A$	5.5			S	
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-1.4	-3	V	
Diode forward voltage (note 1)	$V_{SD}$	$I_S = -1A, V_{GS} = 0V$			-1	V	
<b>Dynamic characteristics (note 2)</b>							
Input capacitance	$C_{iss}$	$V_{DS} = -15V, V_{GS} = 0V, f = 1MHz$		700		pF	
Output capacitance	$C_{oss}$				120		pF
Reverse transfer capacitance	$C_{rss}$				75		pF
<b>Switching Characteristics (note 2)</b>							
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -10V, V_{DS} = -15V, R_L = 3.6\Omega, R_{GEN} = 3\Omega$		8.6		ns	
Turn-on rise time	$t_r$			5.0		ns	
Turn-off delay time	$t_{d(off)}$			28.2		ns	
Turn-off fall time	$t_f$			13.5		ns	

#### Notes:

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

## Typical Characteristics

