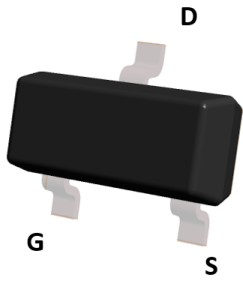




# THE DATASHEET OF SL2319A

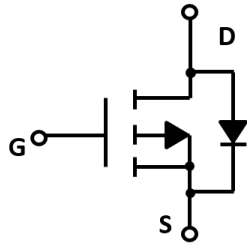
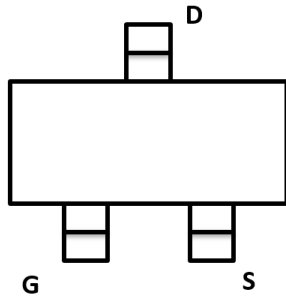


## P-Channel Enhancement Mode Field Effect Transistor



Top View

SOT-23



### Product Summary

- $V_{DS}$  -40V
- $I_D$  -4.4A
- $R_{DS(ON)}$ ( at  $V_{GS}=-10V$ ) <90mohm
- $R_{DS(ON)}$ ( at  $V_{GS}=-4.5V$ ) <150mohm

### General Description

- Trench Power LV MOSFET technology
- High density cell design for Low  $R_{DS(ON)}$
- High Speed switching

### ■ Absolute Maximum Ratings ( $T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Maximum	Unit
Drain-source Voltage	$V_{DS}$	-40	V
Gate-source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current	$I_D$	-4.4	A
Pulsed Drain Current <sup>A</sup>	$I_{DM}$	-15	A
Total Power Dissipation @ $T_A=25^\circ C$	$P_D$	1.5	W
Thermal Resistance Junction-to-Ambient <sup>B</sup>	$R_{\theta JA}$	82	$^\circ C / W$
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55~+150	$^\circ C$

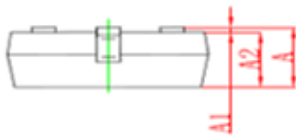
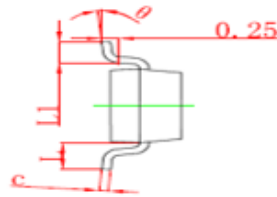
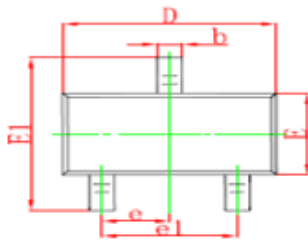
## ■ Electrical Characteristics ( $T_J=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-40			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-32V, V_{GS}=0V, T_C=25^{\circ}\text{C}$			-1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-1.0	-1.9	-2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS}=-10V, I_D=-2.0A$			90	m $\Omega$
		$V_{GS}=-4.5V, I_D=-1.0A$			150	
Diode Forward Voltage	$V_{SD}$	$I_S=-2.5A, V_{GS}=0V$		-0.8	-1.2	V
Maximum Body-Diode Continuous Current	$I_S$				-2.0	A
<b>Dynamic Parameters</b>						
Input Capacitance	$C_{iss}$	$V_{DS}=-30V, V_{GS}=0V, f=1\text{MHz}$		553		pF
Output Capacitance	$C_{oss}$			29		
Reverse Transfer Capacitance	$C_{rss}$			20		
<b>Switching Parameters</b>						
Total Gate Charge	$Q_g$	$V_{GS}=-10V, V_{DS}=-30V, I_D=-1.0A$		4.3		nC
Gate Source Charge	$Q_{gs}$			1.1		
Gate Drain Charge	$Q_{gd}$			1.5		
Turn-on Delay Time	$t_{D(on)}$	$V_{GS}=-10V, V_{DD}=-50V, I_D=-1A, R_{GEN}=2.5\Omega$		12		ns
Turn-on Rise Time	$t_r$			6.8		
Turn-off Delay Time	$t_{D(off)}$			33		
Turn-off Fall Time	$t_f$			3		

A. Pulse Test: Pulse Width  $\leq 300\mu s$ , Duty cycle  $\leq 2\%$ .

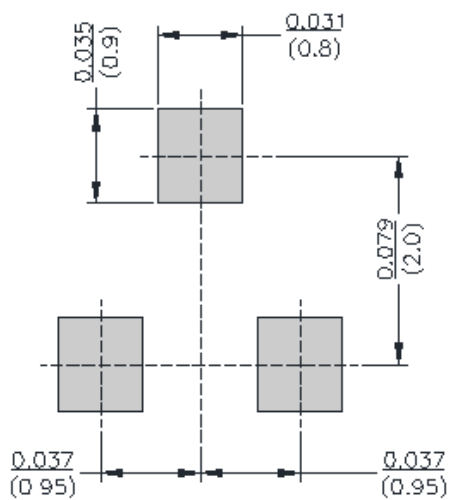
B. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch.

## ■ SOT-23 Package information



Symbol	Dimensions in Millimeter		Dimensions in Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950Type		0.037Type	
e1	1.800	2.000	0.071	0.079
L	0.550REF		0.220REF	
L1	0.300	0.500	0.012	0.020
$\theta$	0°	8°	0°	8°

## ■ SOT-23 Suggested Pad Layout



## Looking for pricing, stock, or lifecycle information?

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