



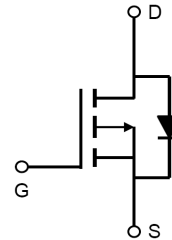
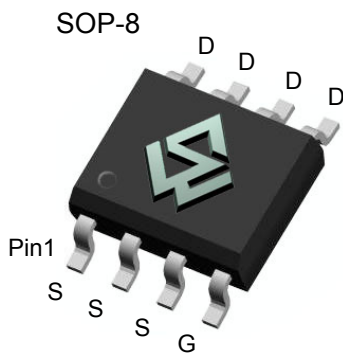
## 30V Single P-Channel Enhancement-Mode MOSFET

### General Description

- Low gate charge.
- Use as a load switch.
- Use in PWM applications

### Product Summary

- $BV_{DSS}$  -30V
- $R_{DS(on)}$  @VGS = -10V < 25mΩ
- $R_{DS(on)}$  @VGS = -4.5V < 38mΩ



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

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	$V_{DS}$	-30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current ( $T_A=25^\circ\text{C}$ )	$I_D$	-9	A
Drain Current ( $T_A=75^\circ\text{C}$ )		-7	A
Pulsed Drain Current <sup>a</sup>	$I_{DM}$	-60	A
Avalanche Energy (L= 0.1 mH)	$E_{AS}$	25	mJ
Power Dissipation <sup>b</sup> ( $T_A=25^\circ\text{C}$ )	$P_D$	2.5	W
Power Dissipation <sup>b</sup> ( $T_A=75^\circ\text{C}$ )		1.8	W
Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 ~ +150	$^\circ\text{C}$

### Thermal Characteristics

Parameter	Symbol	Maximum	Units
Junction-to-Ambient <sup>a</sup> ( $t \leq 10\text{s}$ )	$R_{\theta JA}$	50	$^\circ\text{C/W}$
Junction-to-Ambient <sup>a,d</sup> (Steady-State)		90	$^\circ\text{C/W}$
Junction-to-Lead (Steady-State)	$R_{\theta JL}$	25	$^\circ\text{C/W}$

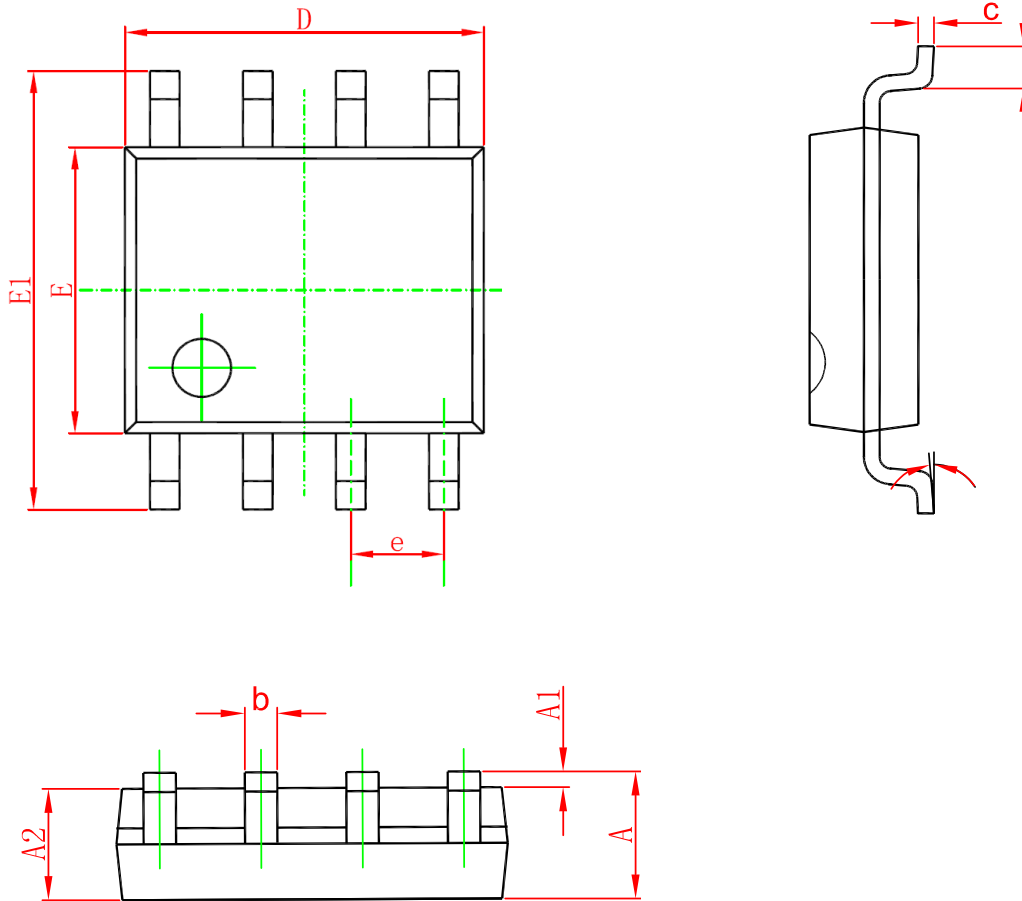


Electrical Characteristics (T <sub>A</sub> = 25°C unless otherwise noted)						
Symbol	Parameter	Conditions	Min	Typ	Max	Units
<b>Off Characteristics</b>						
BV <sub>DSS</sub>	Drain-Source Breakdown Voltage	V <sub>GS</sub> = 0V , I <sub>D</sub> = -250uA	-30			V
I <sub>DSS</sub>	Zero Gate Voltage Drain Current	V <sub>DS</sub> = -30V , V <sub>GS</sub> = 0V			-1	uA
I <sub>GSS</sub>	Gate-Body Leakage Current	V <sub>GS</sub> = ±25V, V <sub>DS</sub> = 0V			±100	nA
<b>On Characteristics</b>						
V <sub>GS(th)</sub>	Gate Threshold Voltage	V <sub>DS</sub> = V <sub>GS</sub> , I <sub>D</sub> = -250uA	-1		-3.0	V
R <sub>DS(ON)</sub>	Drain-Source On-State Resistance	V <sub>GS</sub> = -10V , I <sub>D</sub> = -9A		18	25	mΩ
		V <sub>GS</sub> = -4.5V , I <sub>D</sub> = -6.5A		30	38	mΩ
g <sub>FS</sub>	Forward Transconductance	V <sub>DS</sub> = -10V , I <sub>D</sub> = -9A		24		S
<b>Drain-Source Diode Characteristics</b>						
V <sub>SD</sub>	Diode Forward Voltage	V <sub>GS</sub> = 0V , I <sub>S</sub> = -1.0A			-1.2	V
I <sub>S</sub>	Maximum Body-Diode Continuous Current				-3.0	A
<b>Dynamic Characteristics</b>						
C <sub>iss</sub>	Input Capacitance	V <sub>DS</sub> = -15V , V <sub>GS</sub> = 0V f = 1.0MHz		1490		pF
C <sub>oss</sub>	Output Capacitance			301		pF
C <sub>rss</sub>	Reverse Transfer Capacitance			190		pF
<b>Switching Characteristics</b>						
Q <sub>g</sub>	Total Gate Charge	V <sub>DS</sub> = -15V , I <sub>D</sub> = -9A V <sub>GS</sub> = -10V		26		nC
Q <sub>gs</sub>	Gate-Source Charge			4		nC
Q <sub>gd</sub>	Gate-Drain Charge			5		nC
t <sub>D(ON)</sub>	Turn-On Delay Time	V <sub>DD</sub> = -15V , I <sub>D</sub> = -1A V <sub>GS</sub> = -10 V R <sub>GEN</sub> = -6 ohm		5.7		ns
t <sub>r</sub>	Turn-On Rise Time			10		ns
t <sub>D(OFF)</sub>	Turn-Off Delay Time			18		ns
t <sub>f</sub>	Turn-Off Fall Time			5		ns

- a. Repetitive rating, Pulse width limited by junction temperature T<sub>J(MAX)</sub>=150 °C. Ratings are based on low frequency and duty cycles to keep initial T<sub>J</sub>=25 °C
- b. The power dissipation P<sub>D</sub> is based on T<sub>J(MAX)</sub>=150 °C , using ≤10s junction-to-ambient thermal resistance.
- c. The value of R<sub>θJA</sub> is measured with the device mounted on 1in<sup>2</sup> FR-4 board with 2oz. Copper, in a still air environment with T<sub>A</sub> = 25°C. The value in any given application depends on the user's specific board design.
- d. The R<sub>θJA</sub> is the sum of the thermal impedance from junction to lead R<sub>θJL</sub> and lead to ambient.



## SOP-8 Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

单击下面可查看定价，库存，交付和生命周期等信息

[>>SiliconWisdom\(矽睿半导体\)](#)