



Product Summary

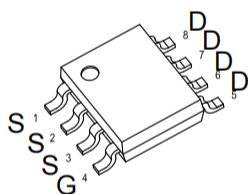
- V_{DS} -30V
- I_D -10A
- $R_{DS(ON)}$ (at $V_{GS}=-10V$) <23 mohm
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) <34 mohm

Applications

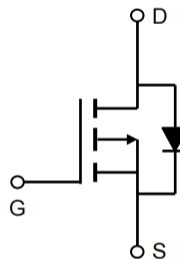
- Battery protection
- Load switch
- Power management

General Description

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



SOP-8



Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

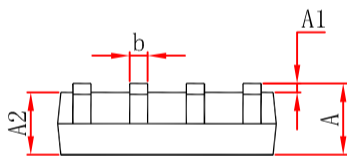
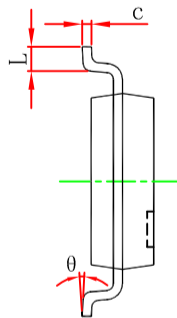
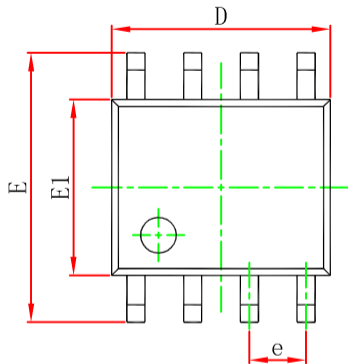
Parameter		Symbol	Maximum	Unit
Drain-source Voltage		V_{DS}	-30	V
Gate-source Voltage		V_{GS}	± 20	V
Drain Current	$T_A=25^\circ\text{C}$ @ Steady State	I_D	-10	A
	$T_A=70^\circ\text{C}$ @ Steady State		-8	
Pulsed Drain Current ^A		I_{DM}	-50	A
Total Power Dissipation @ $T_A=25^\circ\text{C}$		P_D	3.0	W
Thermal Resistance Junction-to-Ambient @ Steady State ^B		$R_{\theta JA}$	42	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range		T_J, T_{STG}	-55~+150	$^\circ\text{C}$

Electrical Characteristics (T_J=25 °C, unless otherwise noted)
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Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} = 0V, I _D =-250μA	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V,V _{GS} =0V,T _C =25℃			-1	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} = ±20V, V _{DS} =0V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =-250μA	-1.0	-1.5	-2.5	V
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} = -10V, I _D =-10A		15	23	mΩ
		V _{GS} = -4.5V, I _D =-5.0A		22	34	
Diode Forward Voltage	V _{SD}	I _S =-10A,V _{GS} =0V		-0.8	-1.2	V
Maximum Body-Diode Continuous Current	I _S				-10	A
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{DS} =-15V,V _{GS} =0V,f=1MHZ		1500		pF
Output Capacitance	C _{oss}			327		
Reverse Transfer Capacitance	C _{rss}			276		
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =-10V,V _{DS} =-15V,I _D =-9.1A		30		nC
Gate Source Charge	Q _{gs}			5.3		
Gate Drain Charge	Q _{gd}			7.6		
Turn-on Delay Time	t _{D(on)}	V _{GS} =-10V,V _{DS} =-15V, I _D =-6A, R _{GEN} =2.5Ω		14		ns
Turn-on Rise Time	t _r			20		
Turn-off Delay Time	t _{D(off)}			95		
Turn-off Fall Time	t _f			65		

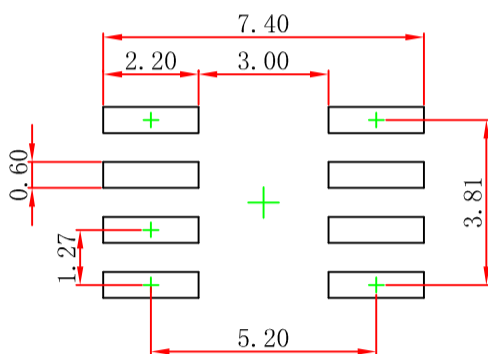
Outline Drawing - SOP

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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	0.007	0.010
D	4.800	5.000	0.189	0.197
e	1.270 (BSC)		0.050 (BSC)	
E	5.800	6.200	0.228	0.244
E1	3.800	4.000	0.150	0.157
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

SOP8 Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.