



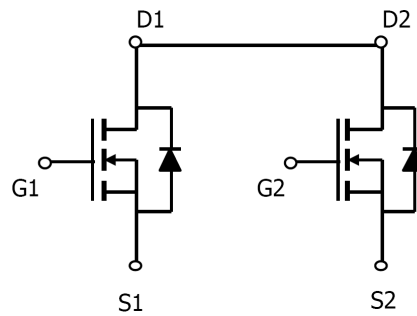
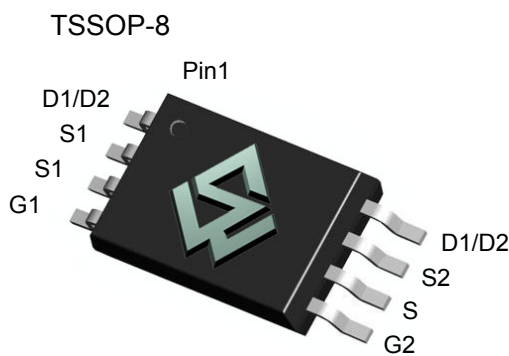
20V Single N-Channel Enhancement-Mode MOSFET

General Description

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

Product Summary

- BV_{DSS} 20V
- $R_{DS(on)}$ @VGS = 4.0V < 28mΩ
- $R_{DS(on)}$ @VGS = 2.5V < 40mΩ



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

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	±8	V
Drain Current ($T_A=25^\circ\text{C}$)	I_D	6.0	A
Drain Current ($T_A=75^\circ\text{C}$)		3.2	A
Pulsed Drain Current ^a	I_{DM}	24	A
Power Dissipation ^b ($T_A=25^\circ\text{C}$)	P_D	1.5	W
Power Dissipation ^b ($T_A=75^\circ\text{C}$)		1.0	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	°C

Thermal Characteristics

Parameter	Symbol	Maximum	Units
Junction-to-Ambient ^a ($t \leq 10\text{s}$)	$R_{\theta JA}$	90	°C/W
Junction-to-Ambient ^{a,d} (Steady-State)		130	°C/W
Junction-to-Lead (Steady-State)	$R_{\theta JL}$	80	°C/W

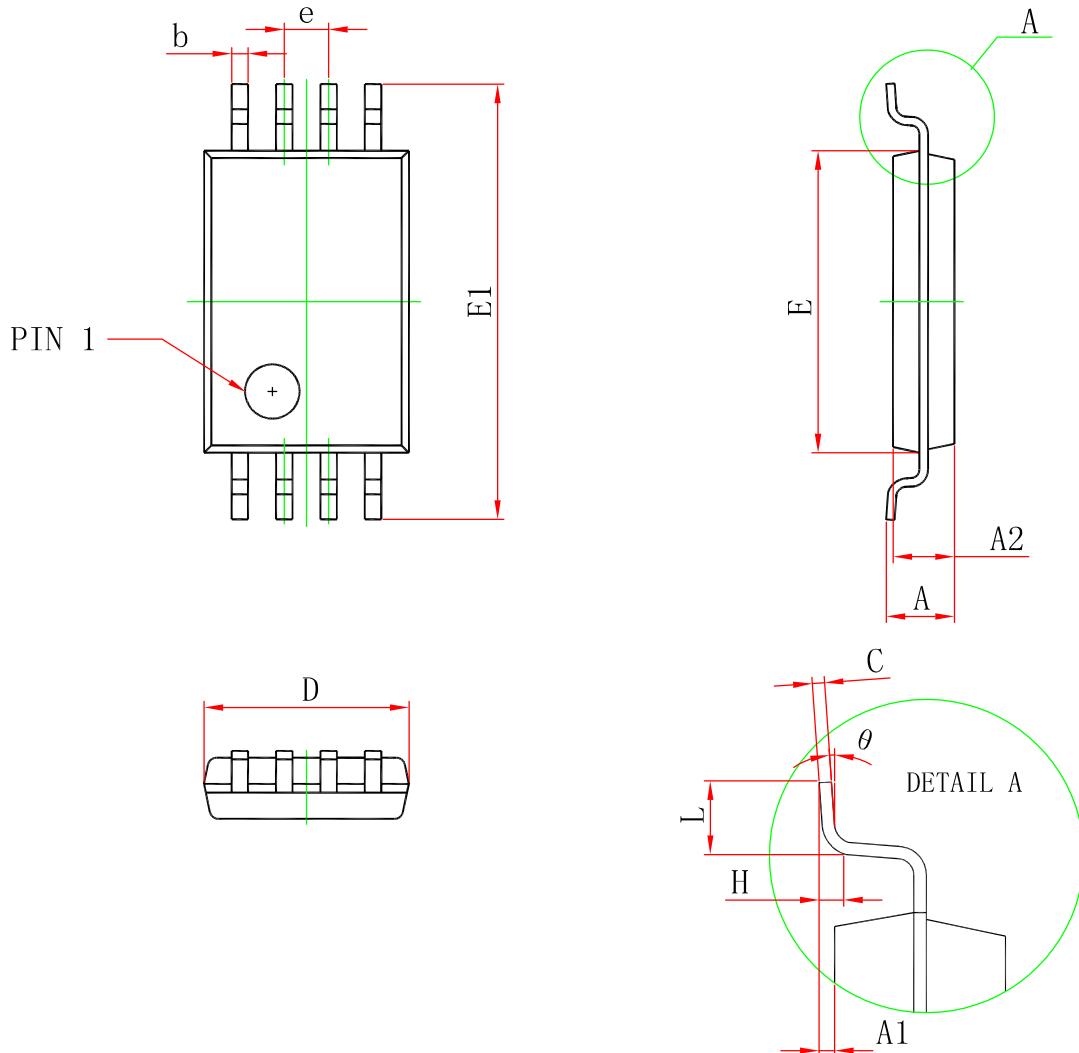


Electrical Characteristics (T _A = 25°C unless otherwise noted)						
Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
B _V DSS	Drain-Source Breakdown Voltage	V _{GS} = 0V , I _D = 250uA	20			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 20V , V _{GS} = 0V			1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±8V , V _{DS} = 0V			±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250uA	0.45		1.2	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} = 4.0V , I _D = 6.0A			28	mΩ
		V _{GS} = 2.5V , I _D = 5.0A			40	mΩ
g _{FS}	Forward Transconductance	V _{DS} = 4.0V , I _D = 6.0A		20		S
Drain-Source Diode Characteristics						
V _{SD}	Diode Forward Voltage	V _{GS} = 0V , I _S = 1.0A			1.2	V
I _S	Maximum Body-Diode Continuous Current				2.0	A
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} = 10V , V _{GS} = 0V f = 1.0MHz		650		pF
C _{oss}	Output Capacitance			165		pF
C _{rss}	Reverse Transfer Capacitance			143		pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} = 10V , I _D = 6A V _{GS} = 4V		11.5		nC
Q _{gs}	Gate-Source Charge			1.2		nC
Q _{gd}	Gate-Drain Charge			3.5		nC
t _{D(ON)}	Turn-On Delay Time	V _{DD} = 10V , I _D = 1A V _{GS} = 4 V R _{GEN} = 3 ohm		4.5		ns
t _r	Turn-On Rise Time			14		ns
t _{D(OFF)}	Turn-Off Delay Time			29		ns
t _f	Turn-Off Fall Time			8.2		ns

- a. Repetitive rating, Pulse width limited by junction temperature T_{J(MAX)}=150 °C. Ratings are based on low frequency and duty cycles to keep initial T_J=25 °C
- b. The power dissipation P_D is based on T_{J(MAX)}=150 °C , using ≤10s junction-to-ambient thermal resistance.
- c. The value of R_{θJA} is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A = 25°C. The value in any given application depends on the user's specific board design.
- d. The R_{θJA} is the sum of the thermal impedance from junction to lead R_{θJL} and lead to ambient.



TSSOP-8 Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
D	2.900	3.100	0.114	0.122
E	4.300	4.500	0.169	0.177
b	0.190	0.300	0.007	0.012
c	0.090	0.200	0.004	0.008
E1	6.250	6.550	0.246	0.258
A		1.200		0.047
A2	0.800	1.000	0.031	0.039
A1	0.050	0.150	0.002	0.006
e	0.65 (BSC)		0.026(BSC)	
L	0.500	0.700	0.020	0.028
H	0.25(TYP)		0.01(TYP)	
theta	1°	7°	1°	7°

单击下面可查看定价，库存，交付和生命周期等信息

[>>SiliconWisdom\(矽睿半导体\)](#)