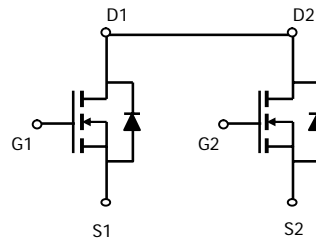
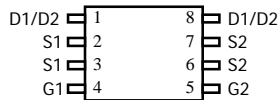
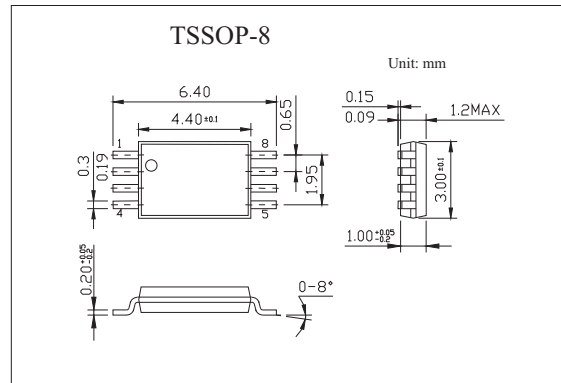


SI8822

Features

- $V_{DS} (V) = 20V$
- $I_D = 7A (V_{GS}=10V)$
- $R_{DS(ON)} < 21m\Omega (V_{GS} = 10V)$
- $R_{DS(ON)} < 24m\Omega (V_{GS} = 4.5V)$
- $R_{DS(ON)} < 32m\Omega (V_{GS} = 2.5V)$
- $R_{DS(ON)} < 50m\Omega (V_{GS} = 1.8V)$



Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current *1	I_D	$T_A=25^\circ C$	7
		$T_A=70^\circ C$	5.7
Pulsed Drain Current *2	I_{DM}	30	A
Power Dissipation *1	P_D	$T_A=25^\circ C$	1.5
		$T_A=70^\circ C$	0.96
Maximum Junction-to-Ambient *1	$R_{\theta JA}$	$t \leq 10s$	83
Maximum Junction-to-Ambient *1		Steady-State	130
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	$^\circ C$

*1The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz.

Copper, in a still air environment with $T_A = 25^\circ C$

*2 Repetitive rating, pulse width limited by junction temperature.

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250μA, V _{GS} =0V	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =16V, V _{GS} =0V			1	μA
		V _{DS} =16V, V _{GS} =0V, T _J =55°C			5	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±10V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =250μA	0.5	0.8	1	V
On state drain current	I _{D(ON)}	V _{GS} =4.5V, V _{DS} =5V	30			A
Static Drain-Source On-Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =7A		16.5	21	mΩ
		V _{GS} =4.5V, I _D =7A T _J =125°C		23	28	
		V _{GS} =4.5V, I _D =6.6A		19	24	
		V _{GS} =2.5V, I _D =5.5A		25	32	
		V _{GS} =1.8V, I _D =2A		36	50	
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =7A		24		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz		630		pF
Output Capacitance	C _{oss}			164		
Reverse Transfer Capacitance	C _{rss}			137		
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		1.5		Ω
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =7A		9.3		nC
Gate Source Charge	Q _{gs}			0.6		
Gate Drain Charge	Q _{gd}			3.6		
Turn-On DelayTime	t _{D(on)}	V _{GS} =5V, V _{DS} =10V, R _L =1.4Ω, R _{GEN} =3Ω		5.7		ns
Turn-On Rise Time	t _r			11.5		ns
Turn-Off DelayTime	t _{D(off)}			31.5		ns
Turn-Off FallTime	t _f			9.7		ns
Body Diode Reverse Recovery Time	t _{rr}		I _F =7A, di/dt=100A/μs		15.2	
Body Diode Reverse Recovery Charge	Q _{rr}	I _F =7A, di/dt=100A/μs		6.3		nC
Maximum Body-Diode Continuous Current	I _S				2.5	A
Diode Forward Voltage	V _{SD}	I _S =1A, V _{GS} =0V		0.7	1	V

■ Marking

Marking	8822
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