TY Semicondutor®

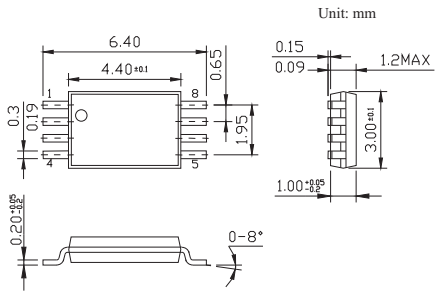
Product specification

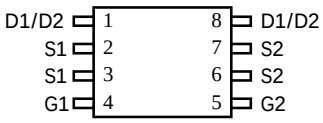
KO8822

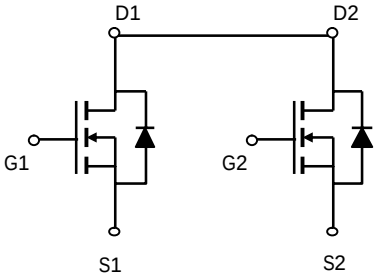
■ Features

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

TSSOP-8







■ Absolute Maximum Ratings Ta = 25℃

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

*1The value of $R_{\theta JA}$ is measured with the device mounted on 1in ^{2} FR-4 board with 2oz. Copper, in a still air environment with T_A =25℃

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

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	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℃			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℃		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		ns
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