

## Common-Drain Dual N-Channel Enhancement Mode Field Effect Transistor KO8822

### Features

$V_{DS} (V) = 20V$

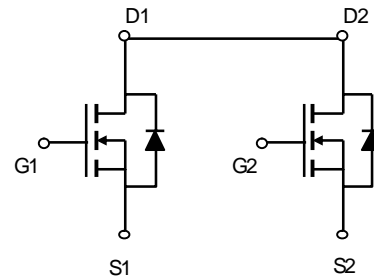
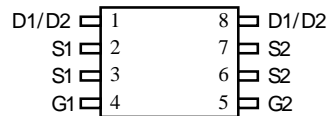
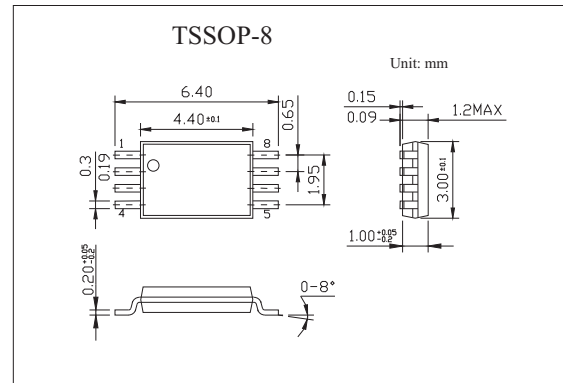
$I_D = 7A (V_{GS}=10V)$

$R_{DS(ON)} = 21m\Omega (V_{GS} = 10V)$

$R_{DS(ON)} = 24m\Omega (V_{GS} = 4.5V)$

$R_{DS(ON)} = 32m\Omega (V_{GS} = 2.5V)$

$R_{DS(ON)} = 50m\Omega (V_{GS} = 1.8V)$



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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current *1	$I_D$	$T_A=25^\circ C$	7
		$T_A=70^\circ C$	
Pulsed Drain Current *2	$I_{DM}$	30	A
Power Dissipation *1	$P_D$	$T_A=25^\circ C$	1.5
		$T_A=70^\circ C$	
Maximum Junction-to-Ambient *1	$R_{\theta JA}$	t 10s	83
Maximum Junction-to-Ambient *1		Steady-State	
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  $1in^2$  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.

## KO8822

Electrical Characteristics Ta = 25°C

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