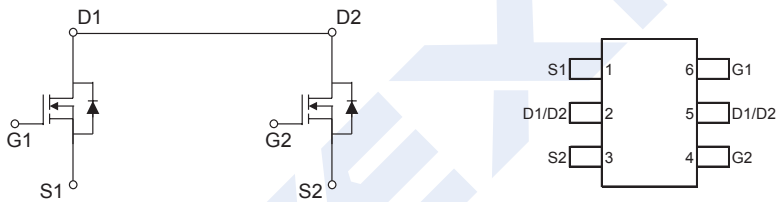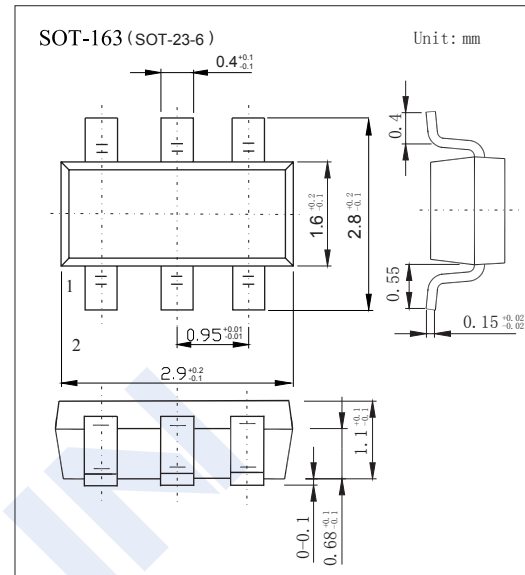# Dual N-Channel High Density Trench MOSFET

KI8205T

■ Features

● Super high dense cell trench design for low $R_{DS(on)}$.

● Rugged and reliable.

● Surface Mount package.

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous @ T_A = 25 ℃ *1	I_D	4.3	A
Drain Current-Continuou -Pulse *2	I_{DM}	21.5	A
Drain-Source Diode Forward Current *1	I_S	1.7	A
Maximum Power Dissipation T_A=25℃ *1	P_D	1.25	W
T_A=75℃		0.75	
Operating Junction and Storage Temperature Range	T_J,T_{STG}	- 55 to 150	℃
Thermal Resistance,Junction-to-Ambient	R_{thJA}	100	℃/W

*1 Surface Mounted on FR4 Board , t ≤ 10sec .

*2 Pulse width limited by maximum junction temperature.

Dual N-Channel High Density Trench MOSFET

KI8205T

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V$_{DSS}$	V$_{GS}$ = 0V , I$_D$ = 250μA	20			V
Zero Gate Voltage Drain Current	I$_{DSS}$	V$_{DS}$ = 20V , V$_{GS}$ = 0V			1	μA
Gate-Body Leakage	I$_{GSS}$	V$_{GS}$ = ±12V , V$_{DS}$ = 0V			±100	nA
Gate Threshold Voltage *1	V$_{GS(th)}$	V$_{DS}$ = V$_{GS}$, I$_D$ = 250uA	0.45		1	V
Drain-Source On-State Resistance *1	R$_{DS(on)}$	V$_{GS}$ = 4V , I$_D$ = 4.3A			30	mΩ
		V$_{GS}$ = 2.5V , I$_D$ = 3.4A			46	
Input Capacitance	C$_{ISS}$	V$_{DS}$ = 8V , V$_{GS}$ = 0V,f = 1.0MHz		550		pF
Output Capacitance	C$_{OSS}$			164		
Reverse Transfer Capacitance	C$_{RSS}$			138		
Turn-On Delay Time	t$_{d(on)}$	V$_{DD}$ = 10V , I$_D$ = 1A		10		ns
Turn-Off Delay Time	t$_r$	V$_{GEN}$ = 4.5V		8.2		ns
Rise Time	t$_{d(off)}$	R$_L$ = 10Ω		25		ns
Fall Time	t$_f$	R$_{GEN}$ = 6Ω		6.7		ns
Total Gate Charge	Q$_g$	V$_{DS}$ = 10V , I$_D$ = 3A,V$_{GS}$ = 4.5V		6.2		nC
Gate-Source Charge	Q$_{gs}$			1.8		nC
Gate-Drain Charge	Q$_{gd}$			1.5		nC
Diode Forward Voltage	V$_{SD}$	V$_{GS}$ = 0V , I$_S$ = 1.7A *1			1.2	V

*1 Pulse width ≤ 300μs , Duty Cycle ≤ 2% .

■ Marking

Marking	8205