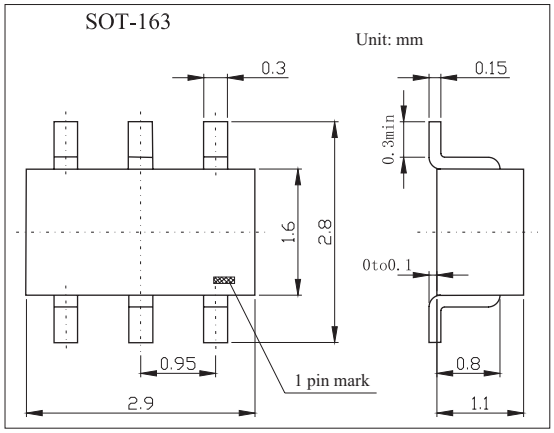
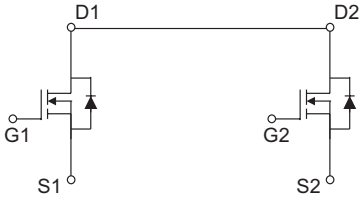
Dual N-Channel High Density Trench MOSFET

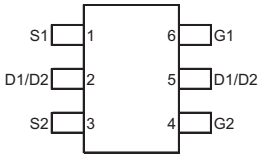
KI8205T



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
-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.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	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_{GS} = 20V , V_{DS} = 0V			1	μA
Gate-Body Leakage	I_{GSS}	V_{DS} = ±12V , V_{GS} = 0V			±100	nA
Gate Threshold Voltage *1	$V_{GS(th)}$	V_{DS} = V_{GS} , I_D = 250uA	0.6	0.9	1.5	V
Drain-Source On-State Resistance *1	$R_{DS(on)}$	V_{GS} = 4V , I_D = 4.3A		25	30	mΩ
		V_{GS} = 2.5V , I_D = 3.4A		34	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} = 6 Ω		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% .