

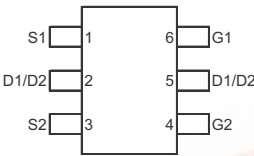
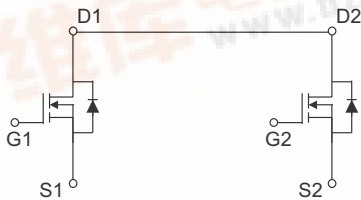
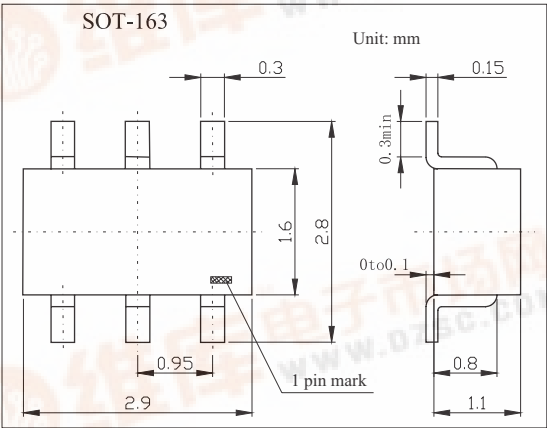
SMD Type

MOSFET

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 $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Drain Current-Continuous @ $T_a = 25^{\circ}\text{C}$ *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 $T_a=25^{\circ}\text{C}$ *1	P_D	1.25	W
$T_a=75^{\circ}\text{C}$		0.75	
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to 150	$^{\circ}\text{C}$
Thermal Resistance, Junction-to-Ambient	R_{thJA}	100	$^{\circ}\text{C/W}$

*1 Surface Mounted on FR4 Board , $t \leq 10\text{sec}$.

*2 Pulse width limited by maximum junction temperature.



Dual N-Channel High Density Trench MOSFET

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	V _{GS} = 0V , I _D = 250 μ A	20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} = 20V , V _{DS} = 0V			1	μ A
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	m Ω
		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 = 10 Ω		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 ≤ 300 μ s , Duty Cycle ≤ 2% .