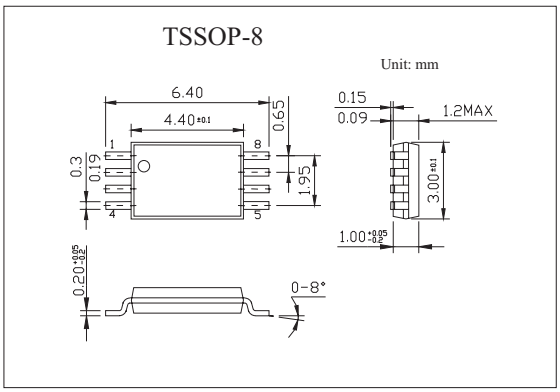
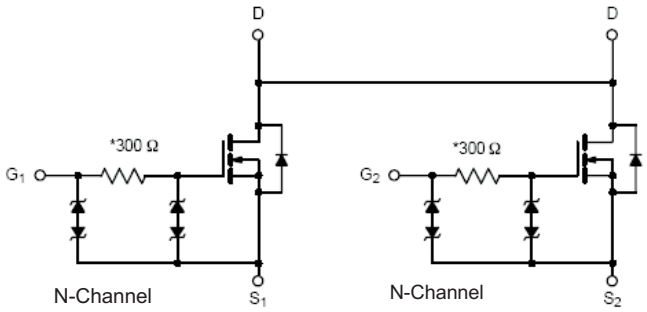
Dual N-Channel 2.5-V (G-S) MOSFET
Common Drain, ESD Protection
KI6968BEDQ(SI6968BEDQ)



■ Features

- V_{DS}=20V,$r_{DS(on)}$=0.022Ω @V_{GS}=4.5V,I_D=6.5A
- V_{DS}=20V,$r_{DS(on)}$=0.030Ω @V_{GS}=2.5V,I_D=5.5A



* Typical value by design

■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	10 secs	Steady State	Unit
Drain-Source Voltage		V_{DS}	20		V
Gate-Source Voltage		V_{GS}	±12		
Continuous Drain Current*	T_A = 25℃	I_D	6.5	5.2	A
	T_A = 70℃		5.5	3.5	
Pulsed Drain Current		I_{DM}	30		
Continuous Source Current *		I_S	1.5	1.0	
Maximum Power Dissipation	T_A = 25℃	P_D	1.5	1.0	W
	T_A = 70℃		0.96	0.64	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55 to 150		℃
Parameter		Symbol	Typ	Max	Unit
Maximum Junction-to-Ambient*	t ≤ 10 sec	R_{thJA}	72	83	℃/W
	Steady-State		100	120	
Maximum Junction-to-Foot (Drain)	Steady-State	R_{thJF}	55	70	

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

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 250 μA	0.6		1.6	V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ± 4.5 V			±200	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 16 V, V_{GS} = 0 V			1	μA
		V_{DS} = 16 V, V_{GS} = 0 V, T_J = 70℃			25	μA
On-State Drain Current*	$I_{D(on)}$	V_{DS} ≤ 5 V, V_{GS} = 4.5 V	30			A
Drain-Source On-State Resistance	$r_{DS(on)}$	V_{GS} = 4.5 V, I_D = 6.5 A		0.0165	0.022	Ω
		V_{GS} = 2.5 V, I_D = 5.5 A		0.023	0.030	Ω
Forward Transconductance*	g_{fs}	V_{DS} = 10 V, I_D = 6.5 A		30		S
Total Gate Charge	Q_g	V_{DS} = 10V, V_{GS} = 4.5V, I_D = 6.5A		12	18	nC
Gate-Source Charge	Q_{gs}			2.2		nC
Gate-Drain Charge	Q_{gd}			3.6		nC
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = 10 V, R_L = 10 Ω I_D = 1 A, V_{GEN} = 4.5V, R_G = 6 Ω		245	365	ns
Rise Time	t_r			330	495	ns
Turn-Off Delay Time	$t_{d(off)}$			860	1300	ns
Fall Time	t_f			510	765	ns
Schottky Diode Forward Voltage*	V_{SD}	I_S = 1.5 A, V_{GS} = 0 V		0.71	1.2	V

* Pulse test; pulse width ≤300 μs, duty cycle ≤2%.