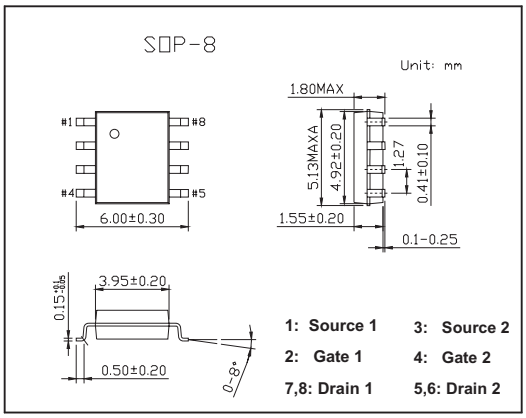
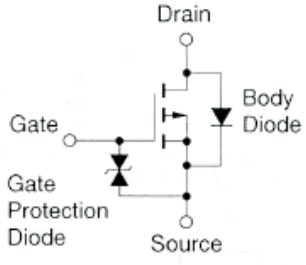
MOS Field Effect Transistor

KPA1750

■ Features

- Dual MOSFET chips in small package
- 4V Gate Drive Type and Low On-Resistance
  $R_{DS(on)1}$ = 0.09Ω TYP. (V_{GS} = -10 V, I_D = -1.8 A)
  $R_{DS(on)2}$ = 0.18Ω TYP. (V_{GS} = -4 V, I_D = -1.8A)
- Low C_{iss} : C_{iss} = 540 pF TYP.
- Built-in G-S protection diode
- Small and surface mount package





■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V_{DSS}	-20	V
Gate to Source Voltage	V_{GSS}	±20	V
Drain Current (DC) Ta = 25℃	$I_{D(DC)}$	±3.5	A
Drain Current (Pulse) *1	$I_{D(pulse)}$	±14	A
Total Power DissipationTa = 25℃ *2	P_T	1.7	W
Total Power DissipationTa = 25℃ *2		2.0	W
Channel Temperature	T_{ch}	150	℃
Storage Temperature	T_{stg}	-55 to + 150	℃

*1 PW ≤ 10 μs, Duty cycle ≤ 1 %

*2 Mounted on ceramic substrate of 1200mm^2 X1.0 mm

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain to Source On-state Resistance	$R_{DS(on)1}$	V_{DS} = -10V, I_D = -1.8 A		0.065	0.090	mΩ
	$R_{DS(on)2}$	V_{GS} = -4V, I_D = -1.8 A		0.125	0.180	mΩ
Gate Cut-off Voltage	$V_{GS(off)}$	V_{DS} = -10 V, I_D = -1 mA	-1.0	-1.7	-2.5	V
Forward Transfer Admittance	$\|y_{fs}\|$	V_{DS} = -10 V, I_D = -1.8A	2.0	4.4		S
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = -20 V, V_{GS} = 0			-10	μA
Gate Leakage Current	I_{GSS}	V_{GS} = ±20V, V_{DS} = 0			± 10	μA
Input Capacitance	C_{iss}	V_{DS} = -10 V, V_{GS} = 0, f = 1 MHz		540		pF
Output Capacitance	C_{oss}			385		pF
Reverse Transfer Capacitance	C_{rss}			105		pF
Turn-on Delay Time	$t_{d(on)}$	I_D = -1.8 A, $V_{GS(on)}$ = -10 V, V_{DD} =-10 V, R_G = 10 Ω		10		ns
Rise Time	t_r			110		ns
Turn-off Delay Time	$t_{d(off)}$			340		ns
Fall Time	t_f			230		ns
Total Gate Charge	Q_G	I_D = -3.5A, V_{DD} = -16V, V_{GS} = -10 V		18		nC
Gate to Source Charge	Q_{GS}			2.0		nC
Gate to Drain Charge	Q_{GD}			5.1		nC
Body Diode forward Voltage	$V_{F(S-D)}$	I_F = 3.5 A, V_{GS} = 0		0.8		V
Reverse Recovery Time	trr	I_F = 3.5 A, V_{GS} = 0 V		160		ns
Reverse Recovery Charge	Qrr	di/dt = 100 A/μs		310		nC