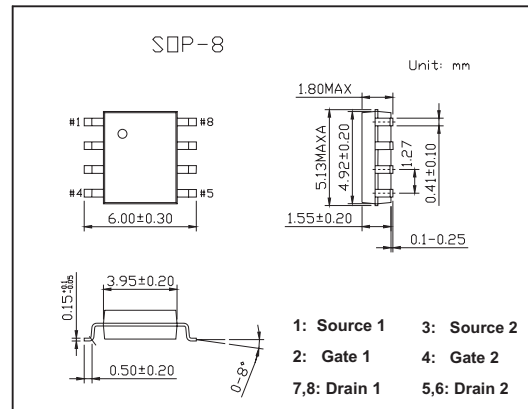
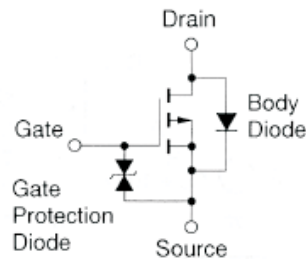


## MOS Field Effect Transistor

### KPA1750

#### ■ Features

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



#### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

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

\*1  $PW \leq 10 \mu s$ , Duty cycle  $\leq 1 \%$

\*2 Mounted on ceramic substrate of  $1200mm^2 \times 1.0 mm$

## KPA1750

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain to Source On-state Resistance	R <sub>DS(on)1</sub>	V <sub>DS</sub> = -10V, I <sub>D</sub> = -1.8 A		0.065	0.090	mΩ
	R <sub>DS(on)2</sub>	V <sub>GS</sub> = -4V, I <sub>D</sub> = -1.8 A		0.125	0.180	mΩ
Gate Cut-off Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -1 mA	-1.0	-1.7	-2.5	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> = -10 V, I <sub>D</sub> = -1.8A	2.0	4.4		S
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> = -20 V, V <sub>GS</sub> = 0			-10	μA
Gate Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±20V, V <sub>DS</sub> = 0			± 10	μA
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> = -10 V, V <sub>GS</sub> = 0, f = 1 MHz		540		pF
Output Capacitance	C <sub>oss</sub>			385		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			105		pF
Turn-on Delay Time	t <sub>d(on)</sub>	I <sub>D</sub> = -1.8 A, V <sub>GS(on)</sub> = -10 V, V <sub>DD</sub> = -10 V, R <sub>G</sub> = 10 Ω		10		ns
Rise Time	t <sub>r</sub>			110		ns
Turn-off Delay Time	t <sub>d(off)</sub>			340		ns
Fall Time	t <sub>f</sub>			230		ns
Total Gate Charge	Q <sub>G</sub>	I <sub>D</sub> = -3.5A, V <sub>DD</sub> = -16V, V <sub>GS</sub> = -10 V		18		nC
Gate to Source Charge	Q <sub>GS</sub>			2.0		nC
Gate to Drain Charge	Q <sub>GD</sub>			5.1		nC
Body Diode forward Voltage	V <sub>F(S-D)</sub>	I <sub>F</sub> = 3.5 A, V <sub>GS</sub> = 0		0.8		V
Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 3.5 A, V <sub>GS</sub> = 0 V		160		ns
Reverse Recovery Charge	Q <sub>rr</sub>	di/dt = 100 A/μs		310		nC