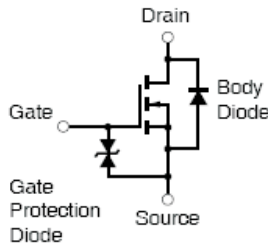
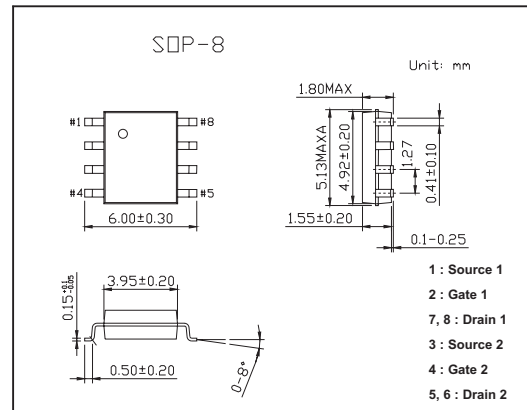


## MOS Field Effect Transistor

### KPA1758

#### ■ Features

- Dual MOS FET chips in small package
- 2.5 V gate drive type low on-state resistance  
 $R_{DS(on)1} = 30 \text{ m}\Omega$  (MAX.) ( $V_{GS} = 4.5 \text{ V}$ ,  $I_D = 3.0 \text{ A}$ )  
 $R_{DS(on)2} = 40 \text{ m}\Omega$  (MAX.) ( $V_{GS} = 2.5 \text{ V}$ ,  $I_D = 3.0 \text{ A}$ )
- Low  $C_{iss}$  :  $C_{iss} = 1100 \text{ pF}$  (TYP.)
- Built-in G-S protection diode
- Small and surface mount package



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

Parameter	Symbol	Rating	Unit
Drain to Source Voltage ( $V_{GS} = 0$ )	$V_{DSS}$	30	V
Gate to Source Voltage ( $V_{DS} = 0$ )	$V_{GSS}$	$\pm 12.0$	V
Drain Current (DC)	$I_{D(DC)}$	$\pm 6.0$	A
Drain Current (Pulse) *1	$I_D(\text{pulse})$	$\pm 24$	A
Total Power Dissipation (1 unit) *2	$P_T$	1.7	W
Total Power Dissipation (2 unit) *2	$P_T$	2.0	W
Channel Temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to + 150	$^\circ\text{C}$

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

\*2 Mounted on ceramic substrate of  $2000 \text{ mm}^2 \times 1.1 \text{ mm}$

## KPA1758

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain to Source On-state Resistance	R <sub>DS(on)1</sub>	V <sub>GS</sub> = 4.5 V, I <sub>D</sub> = 3.5 A		20	30	mΩ
	R <sub>DS(on)2</sub>	V <sub>GS</sub> = 2.5 V, I <sub>D</sub> = 3.5 A		25	40	mΩ
Gate to Source Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 1.0 mA	0.5	0.8	1.5	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> = 10 V, I <sub>D</sub> = 3.5 A	5.0	13		S
Drain Leakage Current	I <sub>DSS</sub>	V <sub>DS</sub> = 30 V, V <sub>GS</sub> = 0			10	μA
Gate to Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±12.0 V, 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		1100		pF
Output Capacitance	C <sub>oss</sub>			370		pF
Reverse Transfer Capacitance	C <sub>rss</sub>			170		pF
Turn-on Delay Time	t <sub>d(on)</sub>	I <sub>D</sub> = 3.0 A, V <sub>GS(on)</sub> = 4.0 V, V <sub>DD</sub> = 15 V, R <sub>G</sub> = 10 Ω		50		ns
Rise Time	t <sub>r</sub>			190		ns
Turn-off Delay Time	t <sub>d(off)</sub>			550		ns
Fall Time	t <sub>f</sub>			490		ns
Total Gate Charge	Q <sub>G</sub>	I <sub>D</sub> = 6.0 A, V <sub>DD</sub> = 24 V, V <sub>GS</sub> = 4.0 V		15.0		nC
Gate to Source Charge	Q <sub>GS</sub>			2.0		nC
Gate to Drain Charge	Q <sub>GD</sub>			6.5		nC
Body Diode forward Voltage	V <sub>F(S-D)</sub>	I <sub>F</sub> = 6.0 A, V <sub>GS</sub> = 0		0.8		V