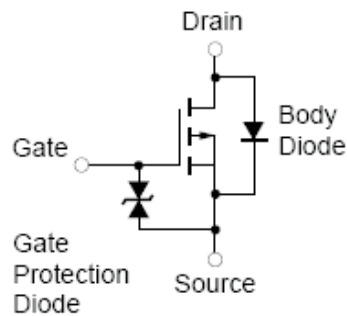
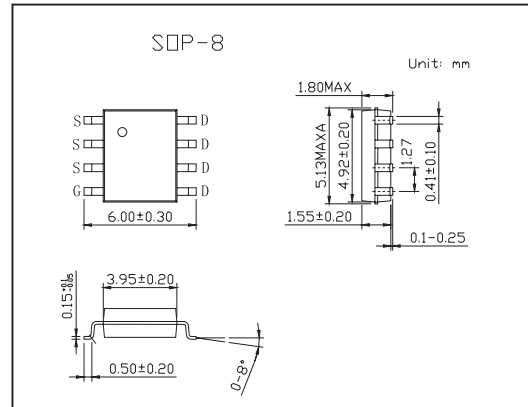


## MOS Field Effect Transistor

### KPA1716

#### ■ Features

- Low on-state resistance  
 $R_{DS(on)1} = 12.5 \text{ m}\Omega$  TYP. ( $V_{GS} = -10 \text{ V}$ ,  $I_D = -4 \text{ A}$ )  
 $R_{DS(on)2} = 17 \text{ m}\Omega$  TYP. ( $V_{GS} = -4.5 \text{ V}$ ,  $I_D = -4 \text{ A}$ )  
 $R_{DS(on)3} = 19 \text{ m}\Omega$  TYP. ( $V_{GS} = -4.01 \text{ V}$ ,  $I_D = -4 \text{ A}$ )
- Low  $C_{iss}$  :  $C_{iss} = 2100 \text{ pF}$  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 ( $V_{DS} = 0$ )	$V_{GSS}$	$\pm 20$	V
Drain Current (DC) $T_a = 25^\circ\text{C}$	$I_{D(DC)}$	$\pm 8$	A
Drain Current (Pulse) *1	$I_{D(pulse)}$	$\pm 32$	A
Total Power Dissipation $T_a = 25^\circ\text{C}$ *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  $1200\text{mm}^2 \times 1.0 \text{ mm}$

## KPA1716

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain to Source On-state Resistance	RDS(on)1	VDS = -10V, ID = -4.0 A		12.5	16	mΩ
	RDS(on)2	VGS = -4.5V, ID = -4.0 A		17	23	mΩ
	RDS(on)3	VGS = -4.0V, ID = -4.0 A		19	26	mΩ
Gate Cut-off Voltage	VGS(off)	VDS = -10 V, ID = 1 mA	-1.0	-1.6	-2.5	V
Forward Transfer Admittance	yfs	VDS = 10 V, ID = -4.0A	7	14		S
Zero Gate Voltage Drain Current	IDSS	VDS = -30 V, VGS = 0			-1	μA
Gate Leakage Current	IGSS	VGS = ±20V, VDS = 0			±10	μA
Input Capacitance	Ciss	VDS = -10 V, VGS = 0, f = 1 MHz		2100		pF
Output Capacitance	Coss			700		pF
Reverse Transfer Capacitance	Crss			300		pF
Turn-on Delay Time	td(on)	ID = -4.0 A, VGS(on) = -10 V, VDD = -15 V, RG = 10 Ω		30		ns
Rise Time	tr			150		ns
Turn-off Delay Time	td(off)			120		ns
Fall Time	tf			76		ns
Total Gate Charge	QG	ID = -8.0A, VDD = -24V, VGS = -10 V		40		nC
Gate to Source Charge	QGS			6		nC
Gate to Drain Charge	QGD			10		nC
Body Diode forward Voltage	VF(S-D)	IF = 8.0 A, VGS = 0		0.8		V
Reverse Recovery Time	trr	IF = 8.0 A, VGS = 0 V		45		ns
Reverse Recovery Charge	Qrr	di/dt = 100 A/μs		33		nC