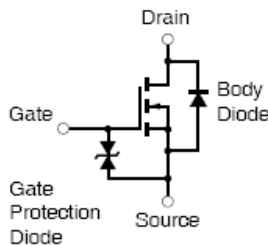
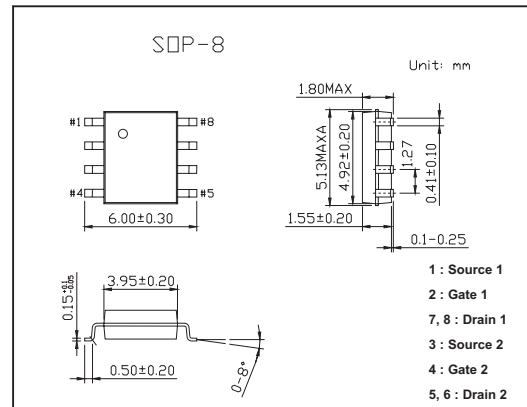


MOS Field Effect Transistor

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}	± 12.0	V
Drain Current (DC)	$I_{D(DC)}$	± 6.0	A
Drain Current (Pulse) *1	$I_D(\text{pulse})$	± 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	Testconditions	Min	Typ	Max	Unit
Drain to Source On-state Resistance	R _{DS(on)1}	V _{GS} = 4.5 V, I _D = 3.5 A		20	30	mΩ
	R _{DS(on)2}	V _{GS} = 2.5 V, I _D = 3.5 A		25	40	mΩ
Gate to Source Cutoff Voltage	V _{GS(off)}	V _{DS} = 10 V, I _D = 1.0 mA	0.5	0.8	1.5	V
Forward Transfer Admittance	y _{fs}	V _{DS} = 10 V, I _D = 3.5 A	5.0	13		S
Drain Leakage Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0			10	μA
Gate to Source Leakage Current	I _{GSS}	V _{GS} = ±12.0 V, V _{DS} = 0			±10	μA
Input Capacitance	C _{iss}	V _{DS} = 10 V, V _{GS} = 0, f = 1 MHz		1100		pF
Output Capacitance	C _{oss}			370		pF
Reverse Transfer Capacitance	C _{rss}			170		pF
Turn-on Delay Time	t _{d(on)}	I _D = 3.0 A, V _{GS(on)} = 4.0 V, V _{DD} = 15 V, R _G = 10 Ω		50		ns
Rise Time	t _r			190		ns
Turn-off Delay Time	t _{d(off)}			550		ns
Fall Time	t _f			490		ns
Total Gate Charge	Q _G	I _D = 6.0 A, V _{DD} = 24 V, V _{GS} = 4.0 V		15.0		nC
Gate to Source Charge	Q _{GS}			2.0		nC
Gate to Drain Charge	Q _{GD}			6.5		nC
Body Diode forward Voltage	V _{F(S-D)}	I _F = 6.0 A, V _{GS} = 0		0.8		V