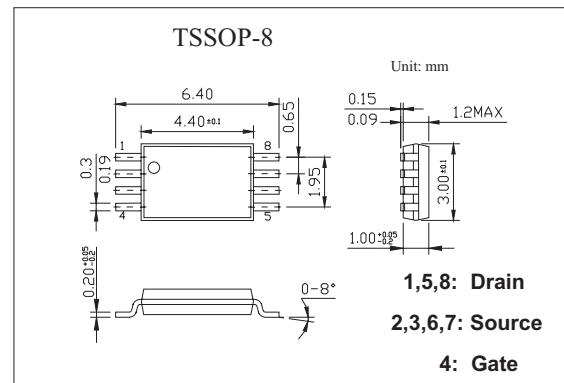


## DC-DC Converter Applications

## KTS2001

## ■ Features

- Low ON resistance.
- 2.5V drive.
- Mount height 1.1mm.

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

Parameter	Symbol	Rating	Unit
Drain-to-Source Voltage	$V_{bss}$	20	V
Gate-to-Source Voltage	$V_{gss}$	$\pm 10$	V
Drain Current(DC)	$I_D$	5	A
Drain Current(pulse) *1	$I_{DP}$	30	A
Allowable Power Dissipation *2	$P_D$	1.5	W
Channel Temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

\*2 Mounted on a ceramic board ( $1000\text{mm}^2 \times 0.8\text{mm}$ )

## KTS2001

## ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-to Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	20			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS} = 20 V, V_{GS} = 0 V$			100	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8 V, V_{DS} = 0 V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = 10 V, I_D = 1 mA$	0.4		1.3	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10 V, I_D = 5 A$	9	15		S
Drain to Source On-state Resistance	$R_{DS(on)1}$	$V_{GS} = 4 V, I_D = 5 A$		23	30	$m\Omega$
	$R_{DS(on)2}$	$V_{GS} = 2.5 V, I_D = 2 A$		32	46	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS} = 10 V$		750		pF
Output Capacitance	$C_{oss}$	$V_{GS} = 0 V$		520		pF
Reverse Transfer Capacitance	$C_{rss}$	$f = 1 MHz$		300		pF
Turn-on Delay Time	$t_{d(on)}$	See Specified Test Circuit		20		ns
Rise Time	$t_r$			200		ns
Turn-off Delay Time	$t_{d(off)}$			150		ns
Fall Time	$t_f$			150		ns
Total Gate Charge	$Q_g$	$V_{DS} = 10 V$		30		nC
Gate-to-Source "Miller" Charge	$Q_{gs}$	$V_{GS} = 10 V$		5		nC
Gate-Drain Charge	$Q_{gd}$	$I_D = 5 A$		7		nC
Diode Forward Voltage	$V_{SD}$	$I_F = 5 A, V_{GS} = 0 V$		1.0	1.2	V

## ■ Switching Time Test Circuit

