



# FTS2002

## DC-DC Converter Applications

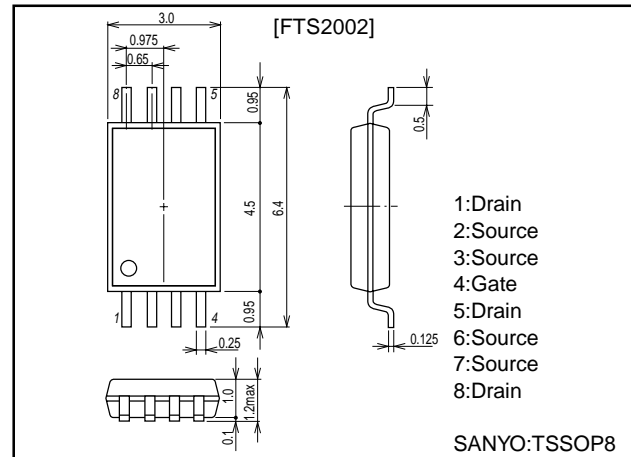
### Features

- Low ON resistance.
- 4V dirve.
- Mount height 1.1mm.

### Package Dimensions

unit:mm

2147



### Specifications

**Absolute Maximum Ratings** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		±20	V
Drain Current (DC)	$I_D$		5	A
Drain Current (pulse)	$I_{DP}$	PW≤10μs, duty cycle≤1%	30	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (1000mm²×0.8mm)	1.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

**Electrical Characteristics** at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30V, V_{GS}=0$			100	μA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=±16V, V_{DS}=0$			±10	μA
Gate-to-Source Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.0		2.5	V
Forward Transfer Admittance	yfs	$V_{DS}=10V, I_D=5A$	8	10		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=5A, V_{GS}=10V$		24	32	mΩ
	$R_{DS(on)2}$	$I_D=3A, V_{GS}=4V$		37	50	mΩ
Input Capacitance	Ciss	$V_{DS}=10V, f=1MHz$		700		pF
Output Capacitance	Coss	$V_{DS}=10V, f=1MHz$		380		pF
Reverse Transfer Capacitance	Crss	$V_{DS}=10V, f=1MHz$		180		pF

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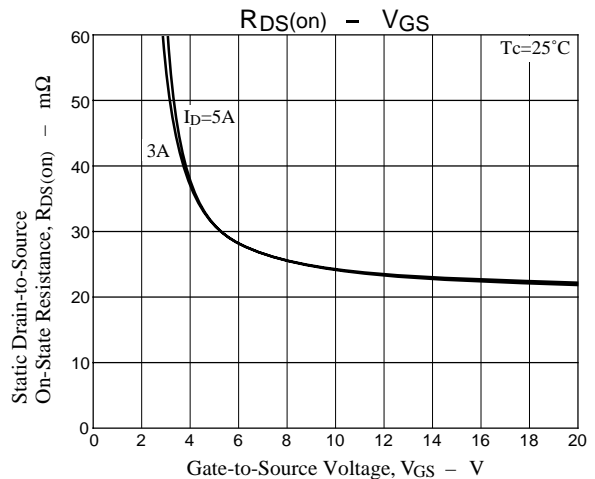
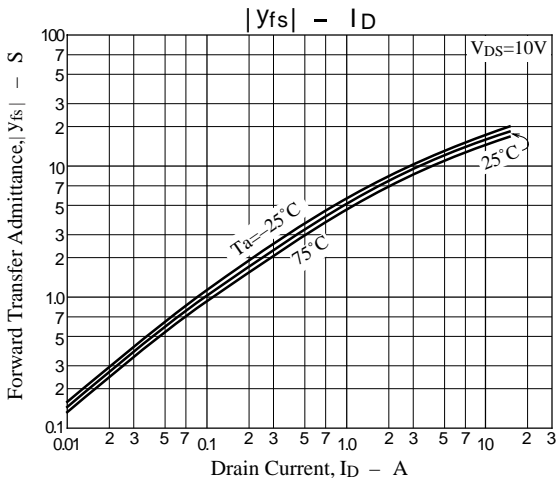
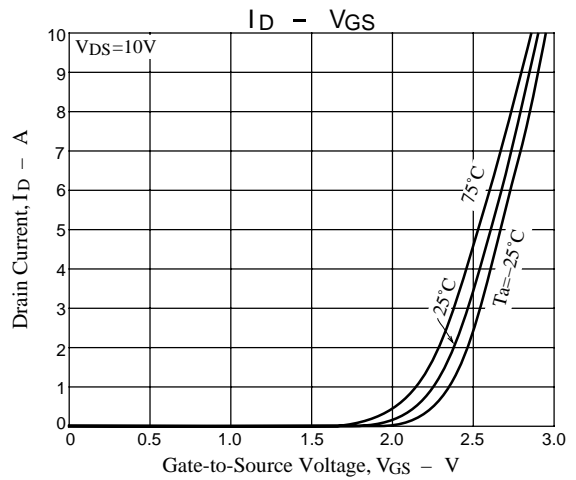
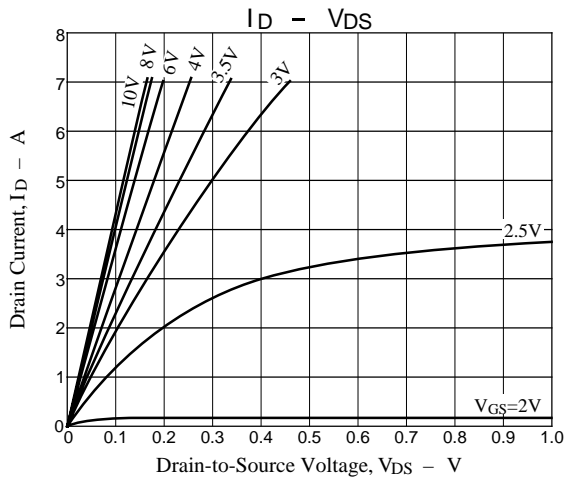
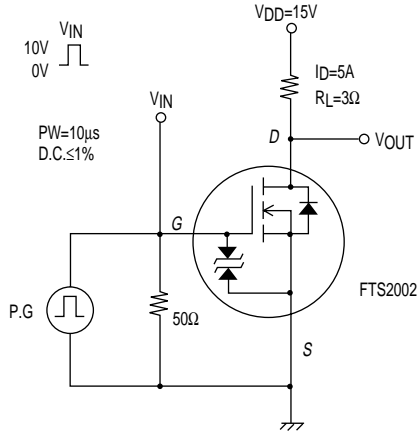
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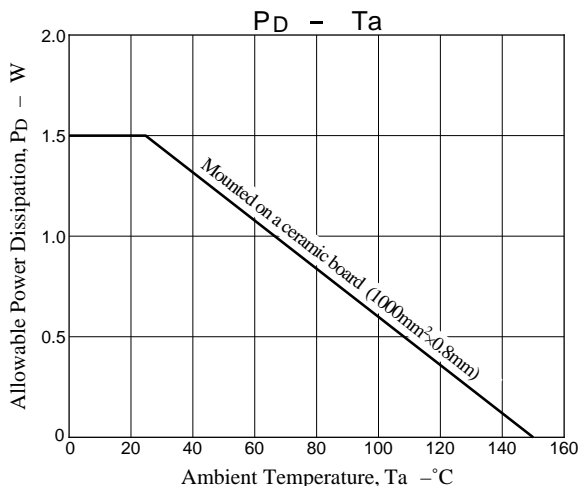
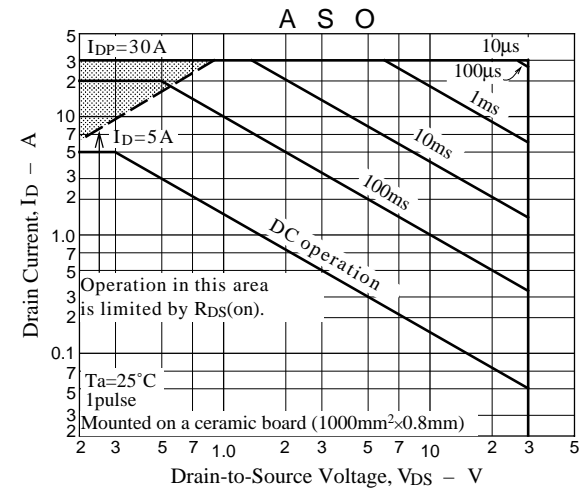
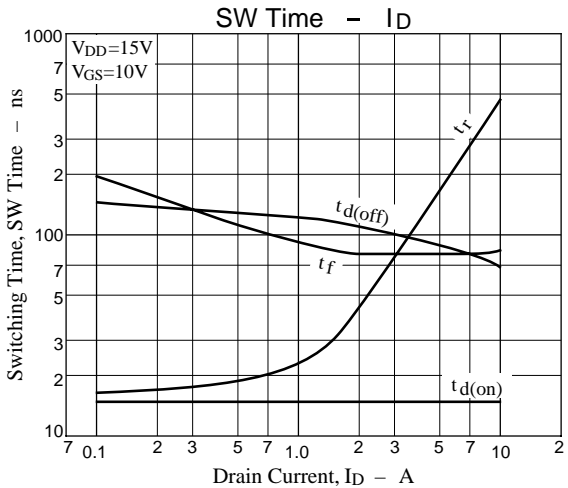
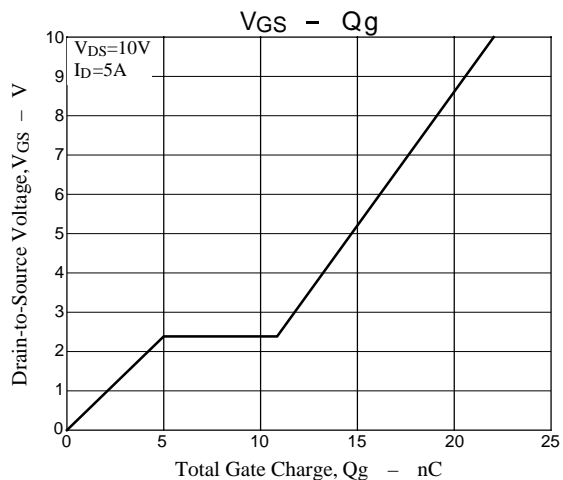
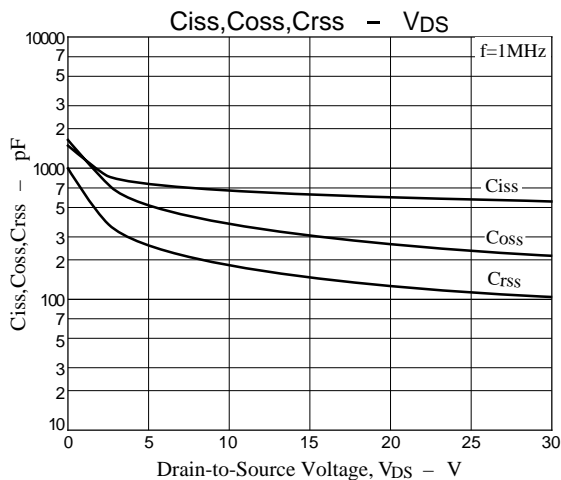
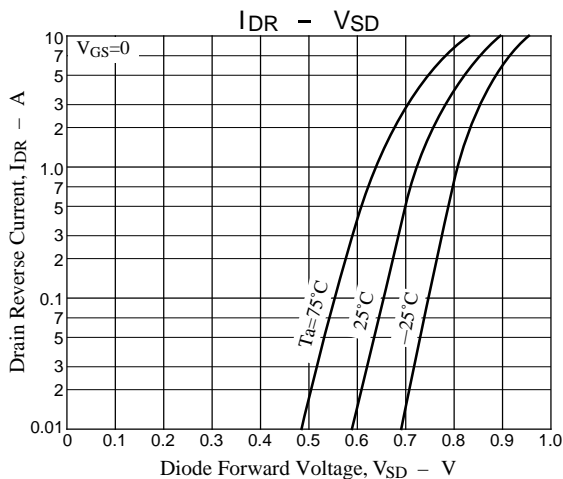
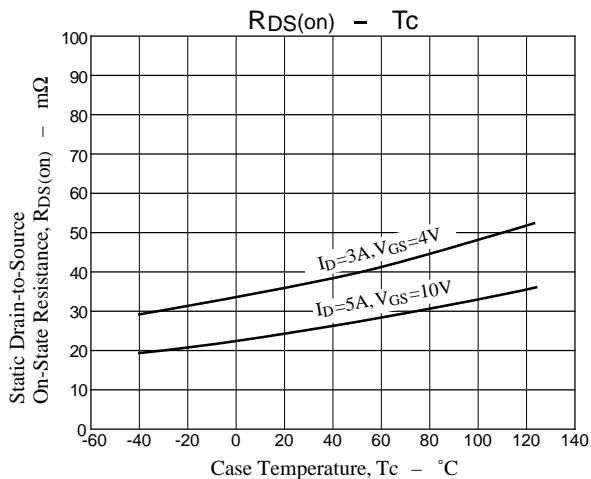
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Parameter	Symbol	Conditions	Ratings		Unit
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit	15		ns
Rise Time	$t_r$	See specified Test Circuit	180		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit	90		ns
Fall Time	$t_f$	See specified Test Circuit	80		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=5A$	22		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=5A$	5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=5A$	6		nC
Diode Forward Voltage	$V_{SD}$	$I_S=5A, V_{GS}=0$	1.0	1.2	V

## Switching Time Test Circuit





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