



# FTS2012

## Ultrahigh-Speed Switching Applications

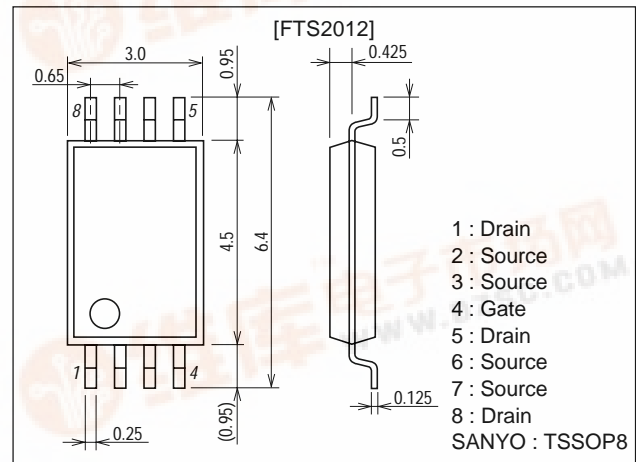
### Features

- Low ON resistance.
- 4V drive.
- Mounting height 1.1mm.

### Package Dimensions

unit:mm

2147A



### Specifications

Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DS}$		30	V
Gate-to-Source Voltage	$V_{GS}$		±20	V
Drain Current (DC)	$I_D$		8	A
Drain Current (pulse)	$I_{DP}$	$PW \leq 10\mu s$ , duty cycle $\leq 1\%$	32	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (1000mm <sup>2</sup> ×0.8mm)	1.3	W
Channel Temperature	$T_{ch}$		150	°C
Storage Temperature	$T_{stg}$		-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	$I_{DSS}$	$V_{DS}=30V, V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0$			±10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=8A$	9.8	14		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=8A, V_{GS}=10V$		14	19	mΩ
	$R_{DS(on)2}$	$I_D=4A, V_{GS}=4V$		22	31	mΩ
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		1550		pF
Output Capacitance	$C_{oss}$	$V_{DS}=10V, f=1MHz$		350		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10V, f=1MHz$		220		pF

Marking : S2012

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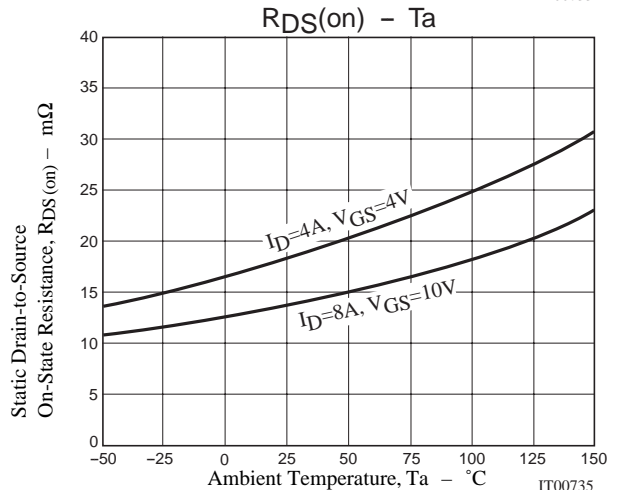
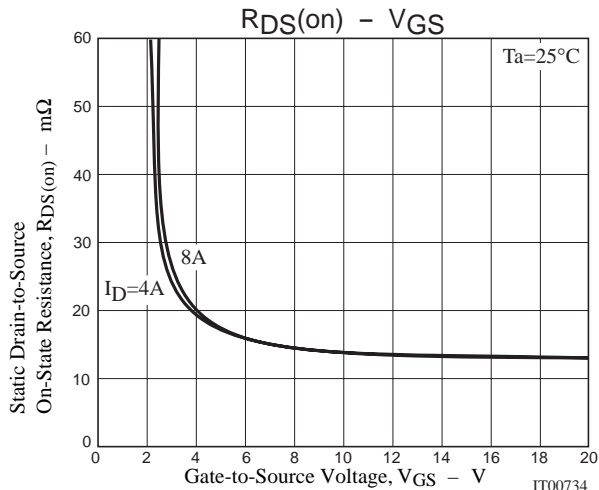
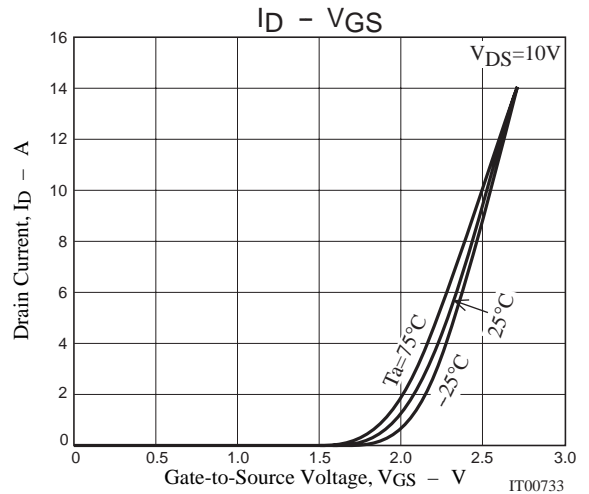
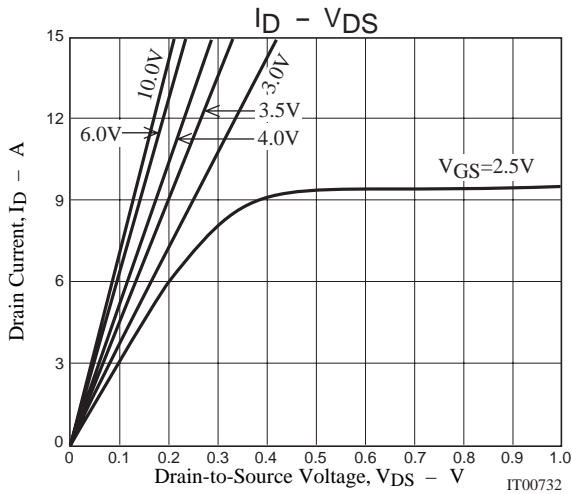
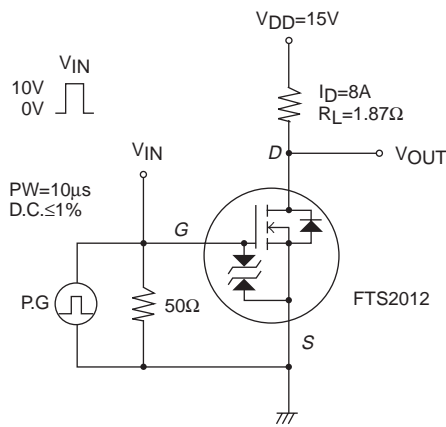


# FTS2012

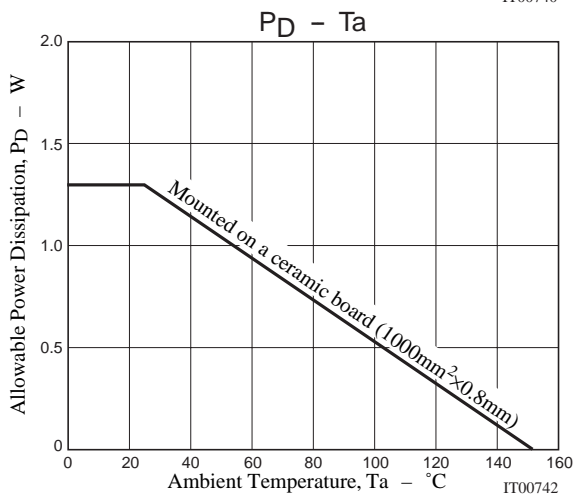
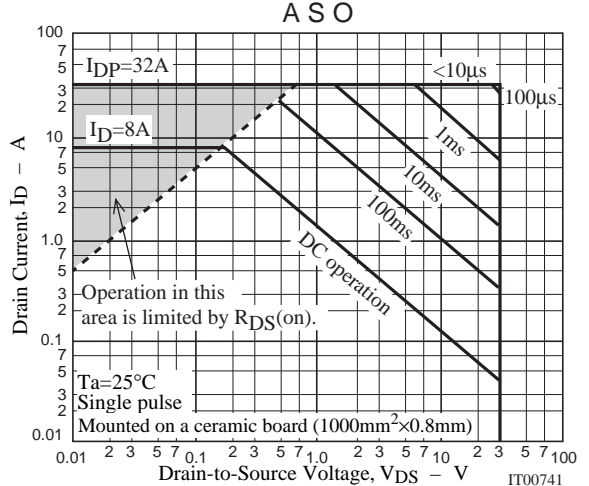
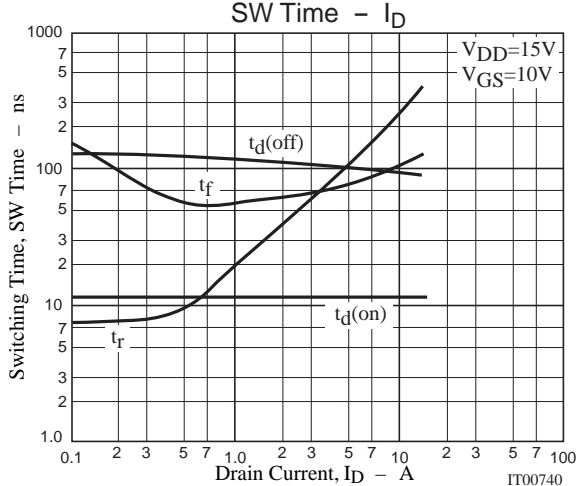
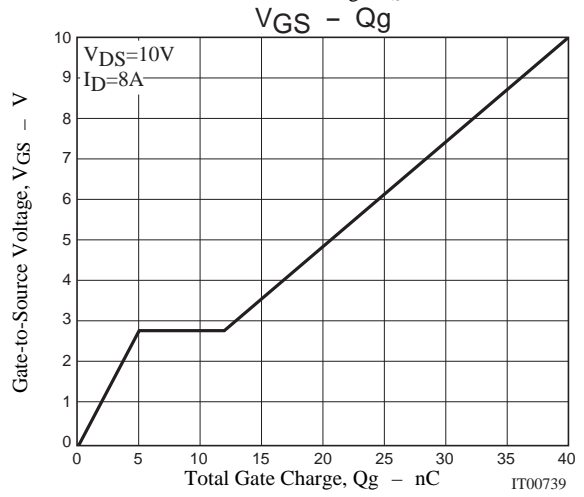
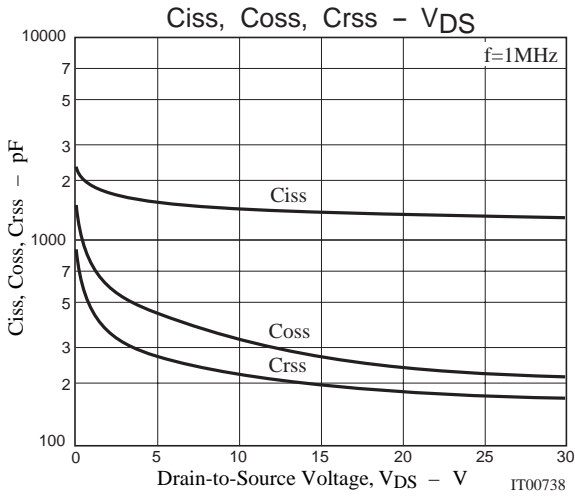
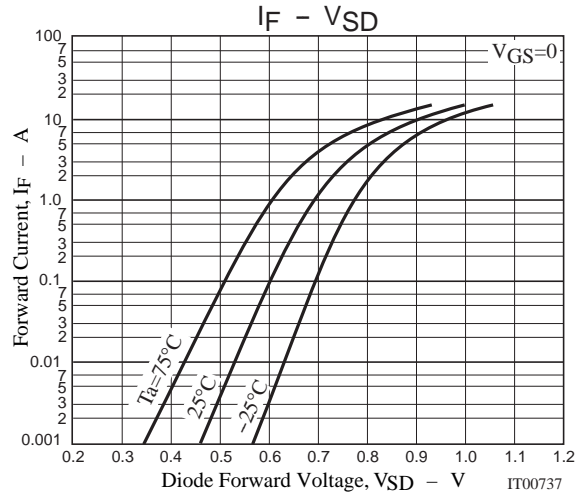
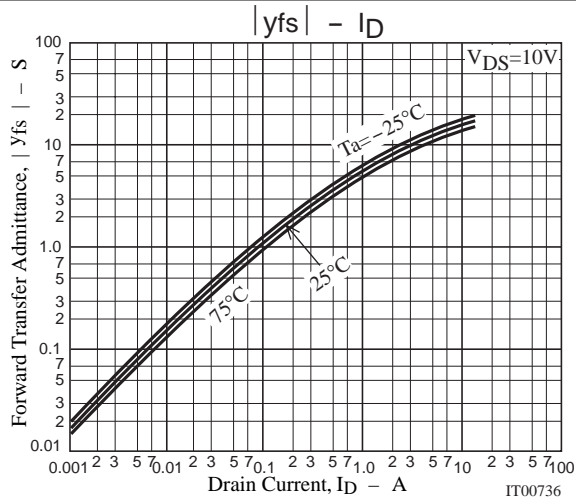
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		12		ns
Rise Time	$t_r$	See specified Test Circuit		210		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		110		ns
Fall Time	$t_f$	See specified Test Circuit		95		ns
Total Gate Charge	Qg	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		40		nC
Gate-to-Source Charge	Qgs	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=10V, V_{GS}=10V, I_D=8A$		7		nC
Diode Forward Voltage	VSD	$I_S=8A, V_{GS}=0$		0.82	1.2	V

## Switching Time Test Circuit



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