



SANYO Semiconductors

DATA SHEET

FTS2022 — DC / DC Converter Applications

N-Channel Silicon MOSFET

Features

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

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		7	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	28	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1000mm²×0.8mm) 1unit	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} =±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 =7A	7.7	11		S
Static Drain-to-Source On-State Resistance	R _{DS(on) 1}	I _D =7A, V _{GS} =10V		19	25	mΩ
	R _{DS(on) 2}	I _D =4A, V _{GS} =4.5V		27	38	mΩ
Input Capacitance	C _{iss}	V _{DS} =10V, f=1MHz		750		pF
Output Capacitance	C _{oss}	V _{DS} =10V, f=1MHz		300		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =10V, f=1MHz		120		pF

Marking : S2022

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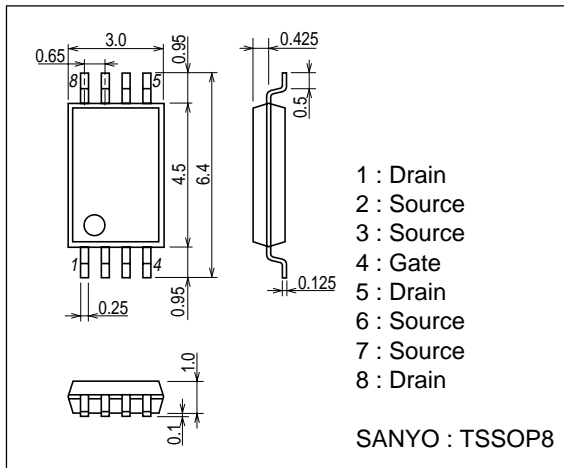
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		10		ns
Rise Time	t_r	See specified Test Circuit.		147		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		53		ns
Fall Time	t_f	See specified Test Circuit.		58		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		14		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		2.5		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=10V, V_{GS}=10V, I_D=7A$		1.3		nC
Diode Forward Voltage	V_{SD}	$I_S=7A, V_{GS}=0$			1.2	V

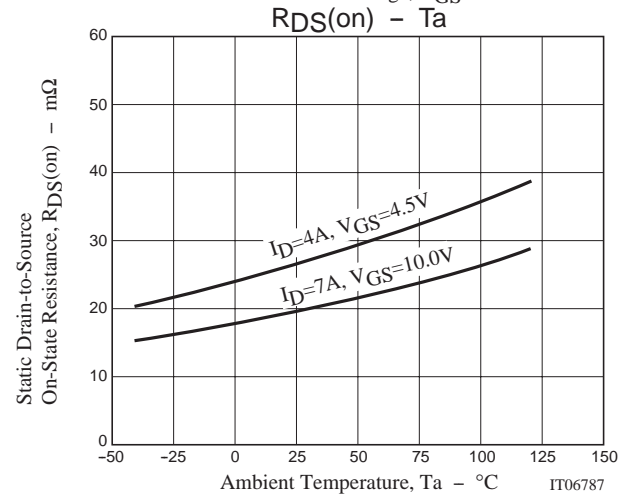
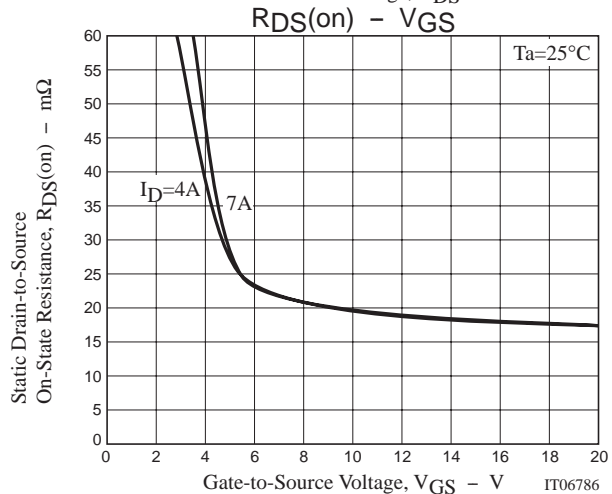
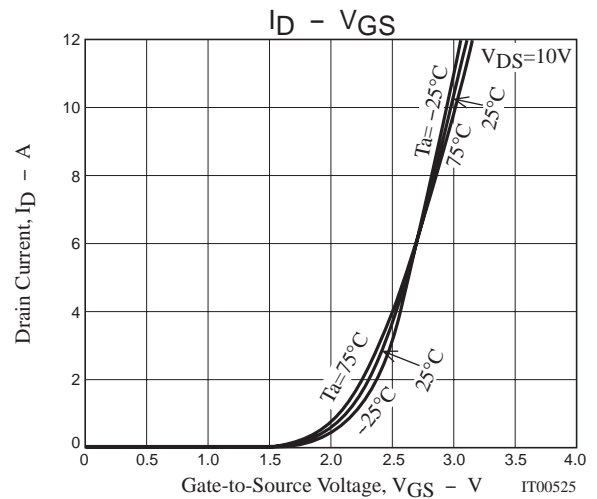
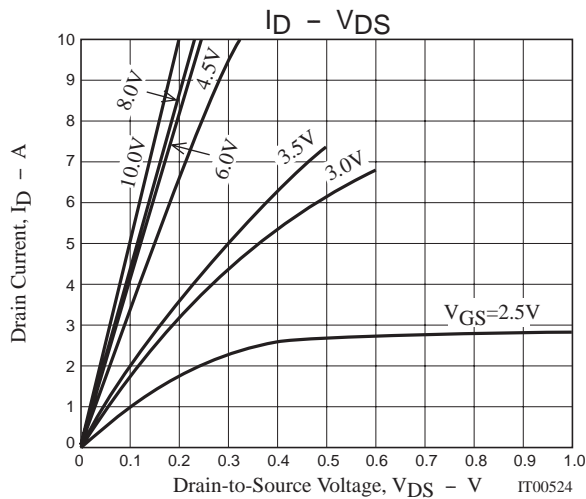
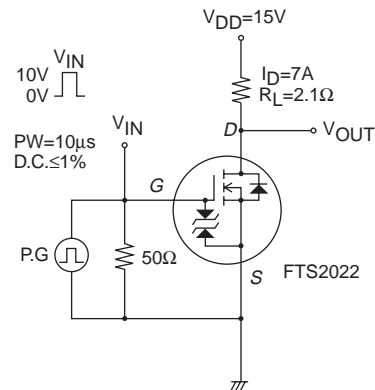
Package Dimensions

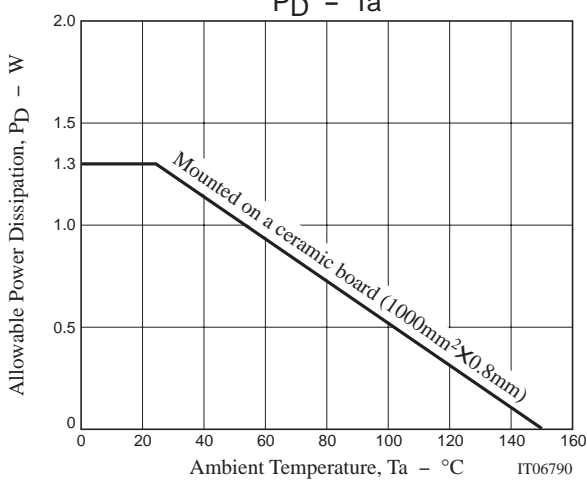
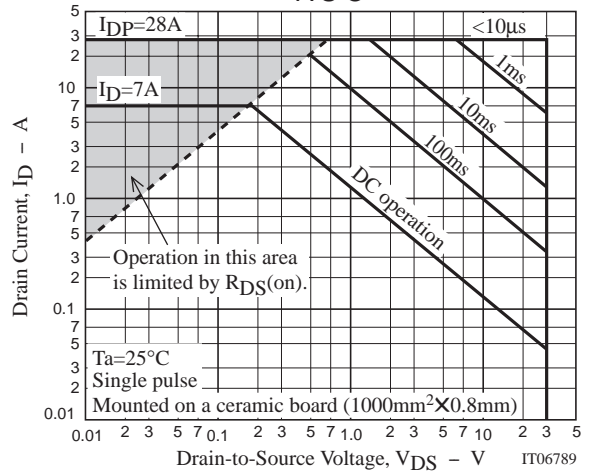
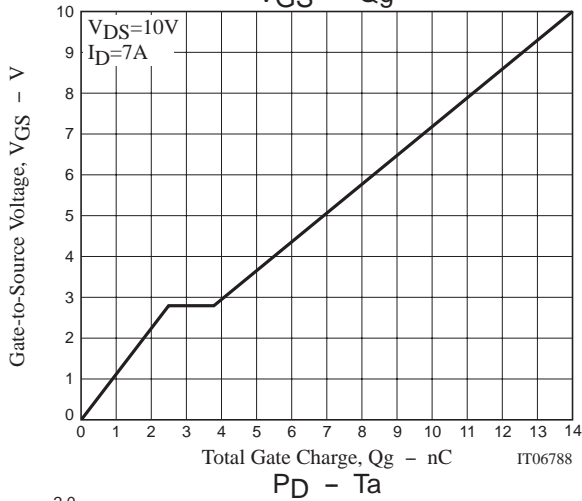
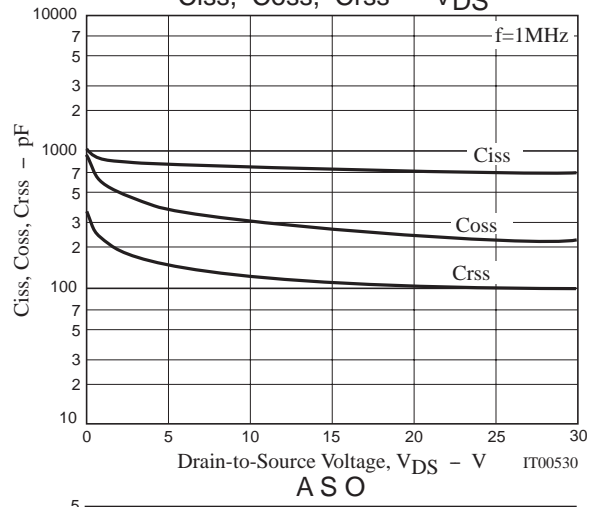
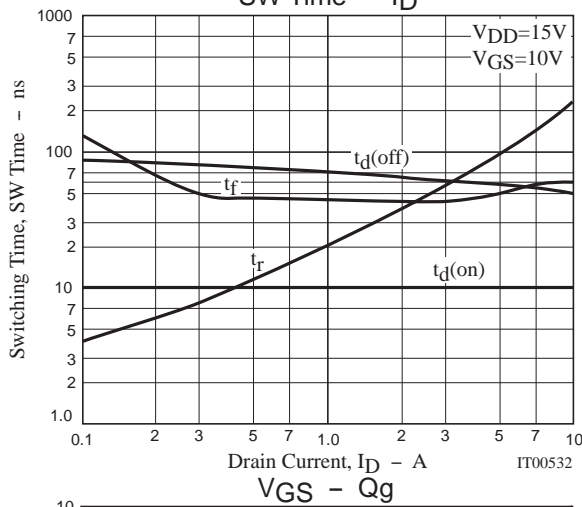
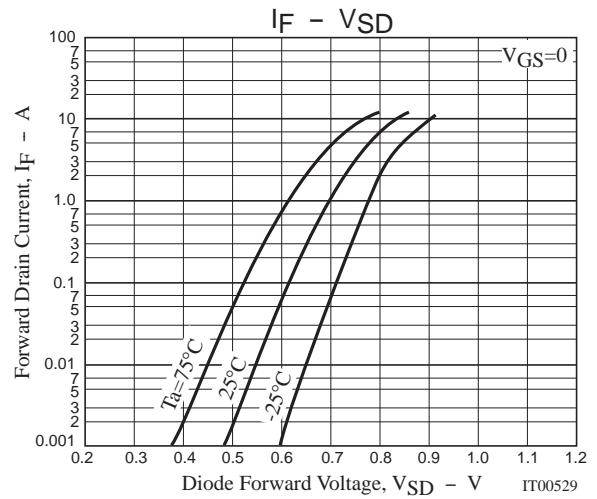
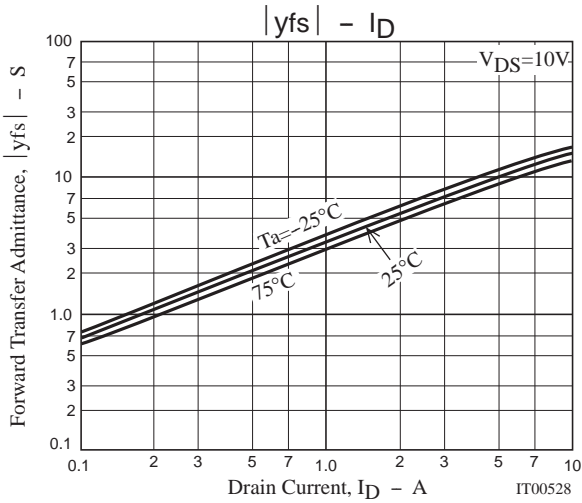
unit : mm

2147A



Switching Time Test Circuit





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