



FTD8002

N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Ultralow ON-resistance.
- 2.5V drive.
- Mount height 1.1mm.
- Best suited for switching of lithium-ion battery with drain common.

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}		±12	V
Drain Current (DC)	I _D		8	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	40	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1000mm ² ×0.8mm)1unit	1.4	W
Total Dissipation	P _T	Mounted on a ceramic board (1000mm ² ×0.8mm)	1.45	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} = ±8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	0.5		1.3	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =8A	11	19		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =8A, V _{GS} =4.5V	7	13	17	mΩ
	R _{DS(on)2}	I _D =6A, V _{GS} =4V	7.5	14	19	mΩ
	R _{DS(on)3}	I _D =4A, V _{GS} =3.1V	8.5	15	22	mΩ
	R _{DS(on)4}	I _D =4A, V _{GS} =2.5V	9.5	17	24	mΩ

Marking : D8002

Continued on next page.

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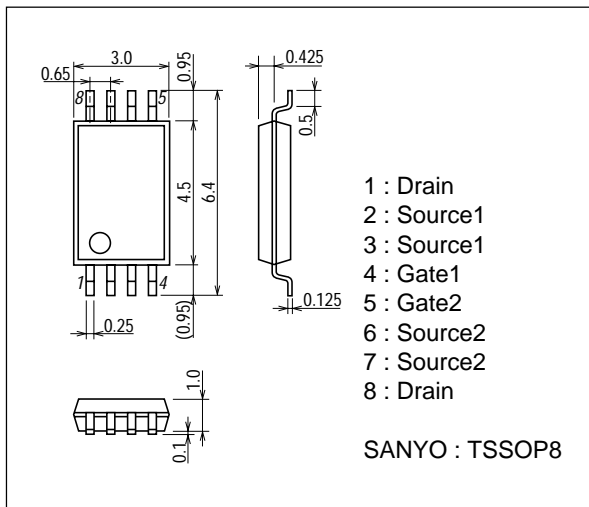
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =10V, f=1MHz		2610		pF
Output Capacitance	Coss	V _{DS} =10V, f=1MHz		310		pF
Reverse Transfer Capacitance	Crss	V _{DS} =10V, f=1MHz		300		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		30		ns
Rise Time	t _r	See specified Test Circuit.		195		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		220		ns
Fall Time	t _f	See specified Test Circuit.		185		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4V, I _D =8A		26		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =10V, V _{GS} =4V, I _D =8A		3.5		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =10V, V _{GS} =4V, I _D =8A		8.0		nC
Diode Forward Voltage	V _{SD}	I _S =8A, V _{GS} =0	0.82	1.2		V

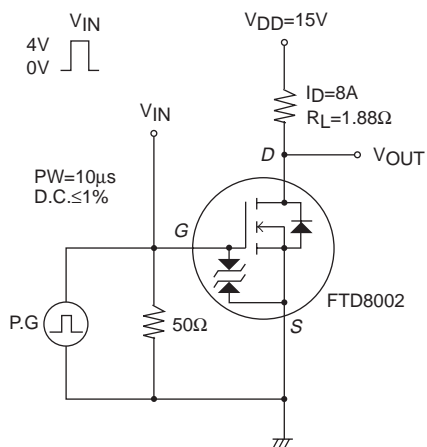
Package Dimensions

unit : mm

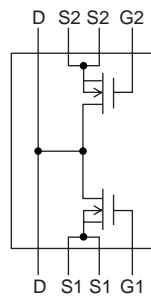
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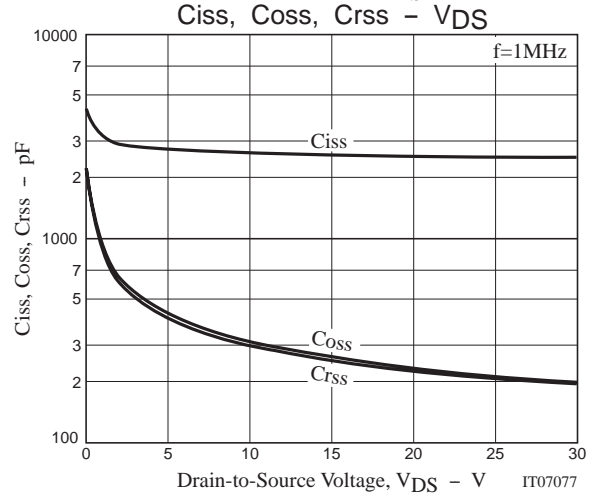
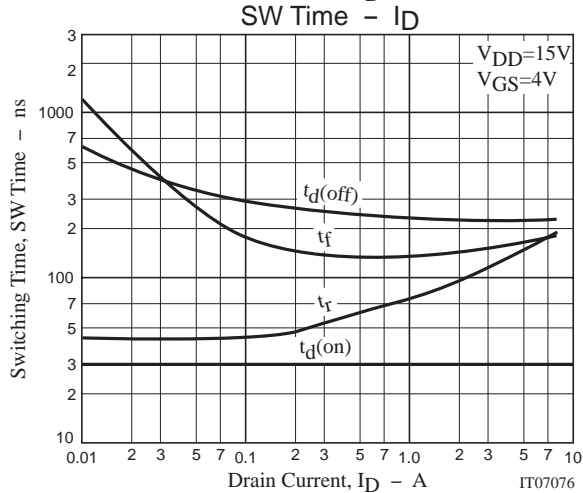
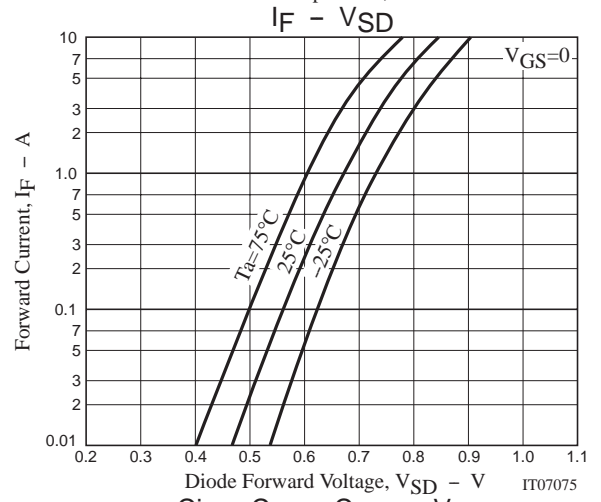
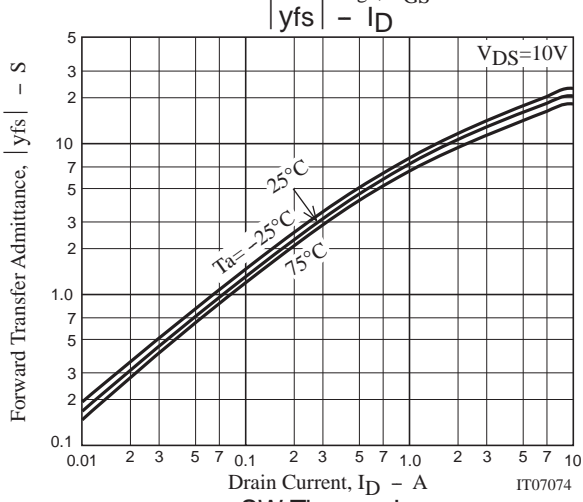
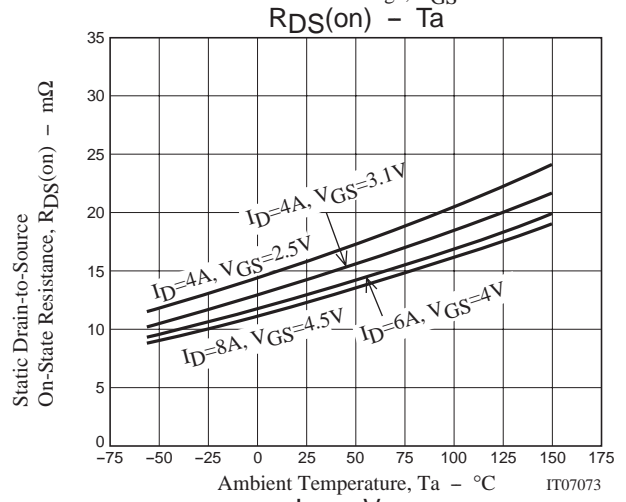
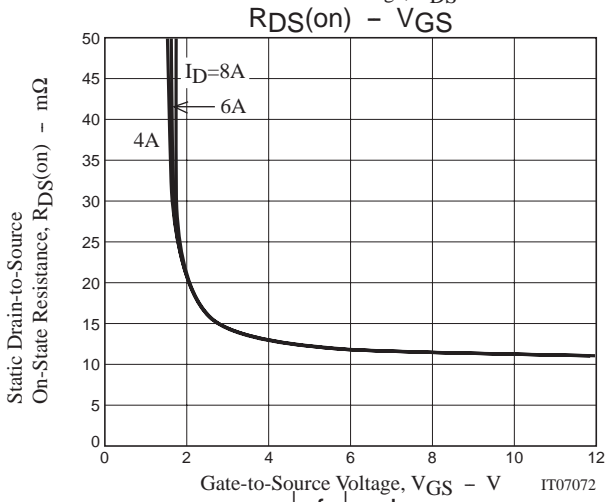
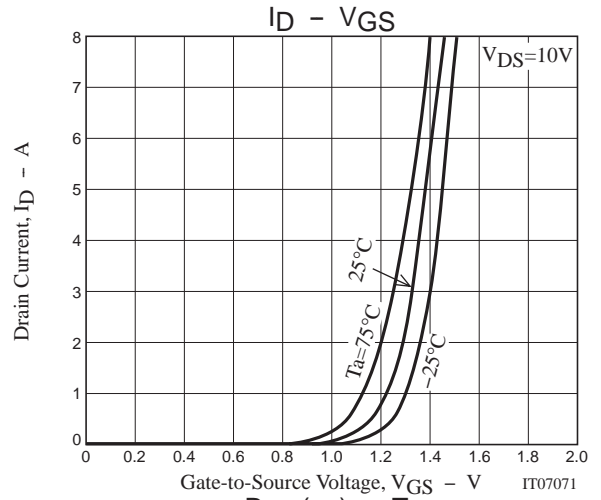
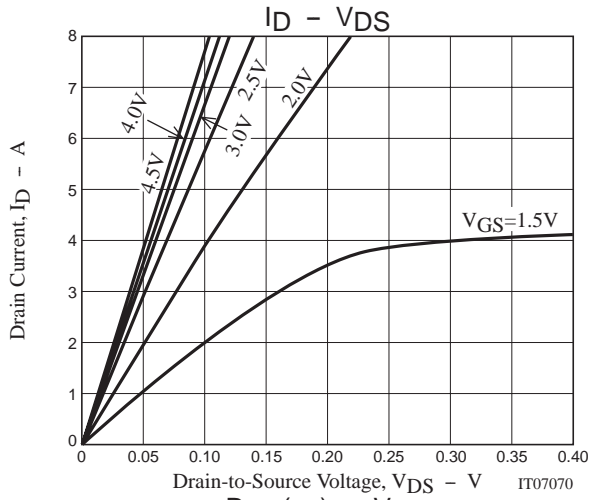
Switching Time Test Circuit

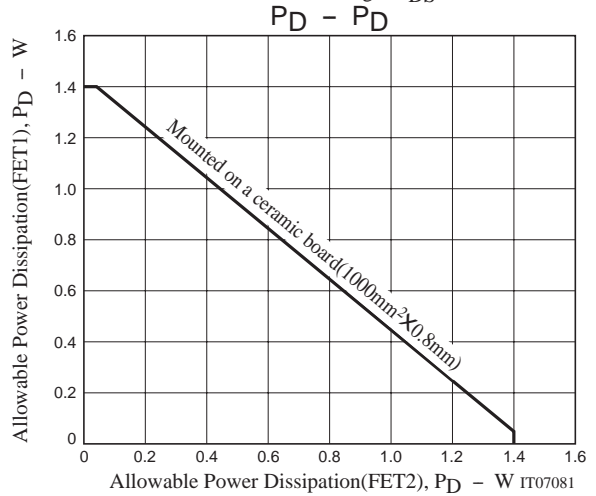
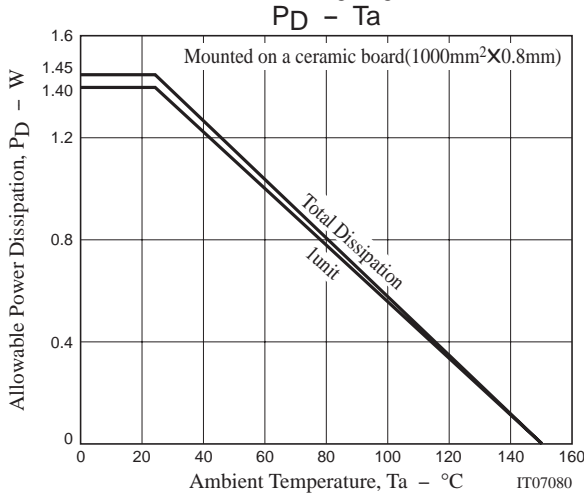
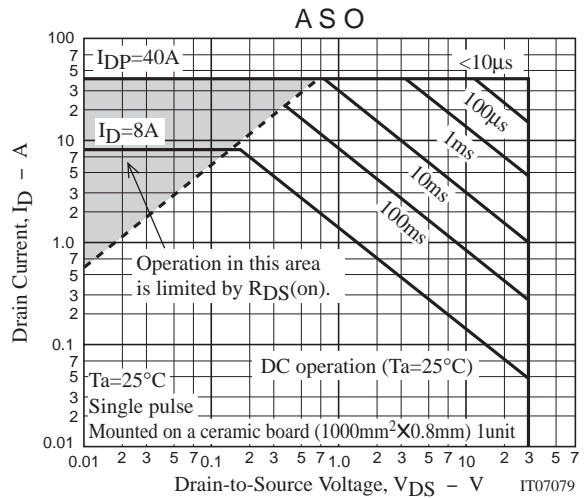
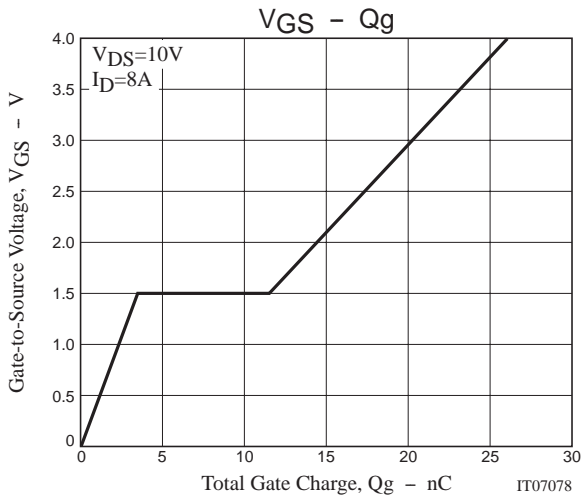


Electrical Connection



FTD8002





Note on usage : Since the FTD8002 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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