

Ordering number : ENN7302

P-Channel Silicon MOSFET



FTD7003

High-Speed Switching Applications

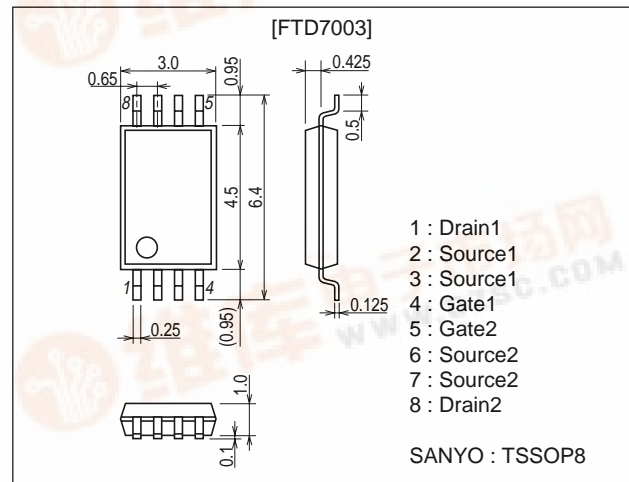
Features

- Low ON-resistance.
- 1.8V drive.
- Mounting height 1.1mm.
- Composite type, facilitating high-density mounting.

Package Dimensions

unit : mm

2155A



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-12	V
Gate-to-Source Voltage	V _{GSS}		±8.5	V
Drain Current (DC)	I _D		-6	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-30	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1200mm²×0.8mm) 1unit PW≤10s	1.4	W
Total Dissipation	P _T	Mounted on a ceramic board (1200mm²×0.8mm) PW≤10s	1.6	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	-12			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-12V, V _{GS} =0			-10	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±6.8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-6V, I _D =-1mA	-0.3		-1.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-6V, I _D =-6A	12.6	18		S

Marking : D7003

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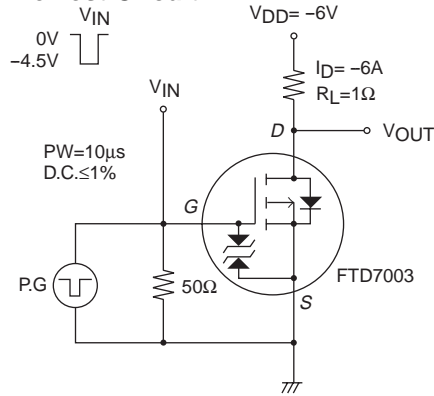


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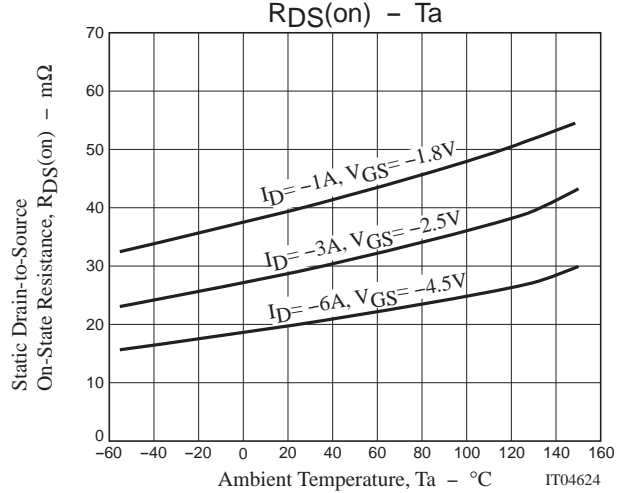
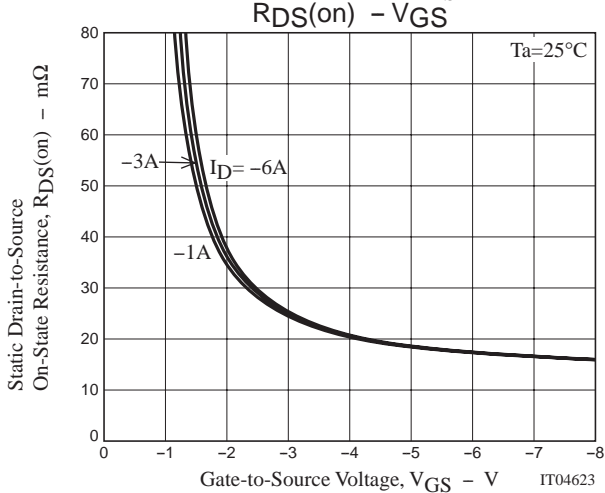
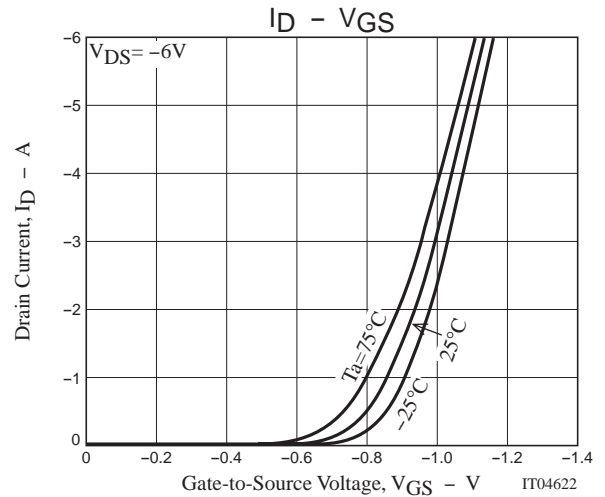
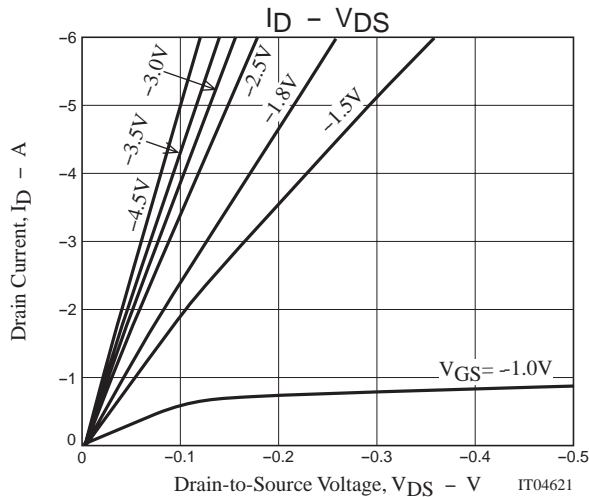
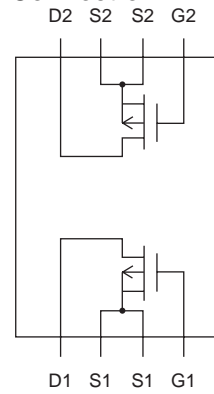
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	R _{DS(on) 1}	I _D =-6A, V _{GS} =-4.5V		20	25	mΩ
	R _{DS(on) 2}	I _D =-3A, V _{GS} =-2.5V		29	40	mΩ
	R _{DS(on) 3}	I _D =-1A, V _{GS} =-1.8V		40	60	mΩ
Input Capacitance	C _{iss}	V _{DS} =-6V, f=1MHz		2100		pF
Output Capacitance	C _{oss}	V _{DS} =-6V, f=1MHz		580		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-6V, f=1MHz		500		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		20		ns
Rise Time	t _r	See specified Test Circuit		380		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		220		ns
Fall Time	t _f	See specified Test Circuit		230		ns
Total Gate Charge	Q _g	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-6A		28		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-6A		2.5		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-6V, V _{GS} =-4.5V, I _D =-6A		6.5		nC
Diode Forward Voltage	V _{SD}	I _S =-6A, V _{GS} =0		-0.83	-1.5	V

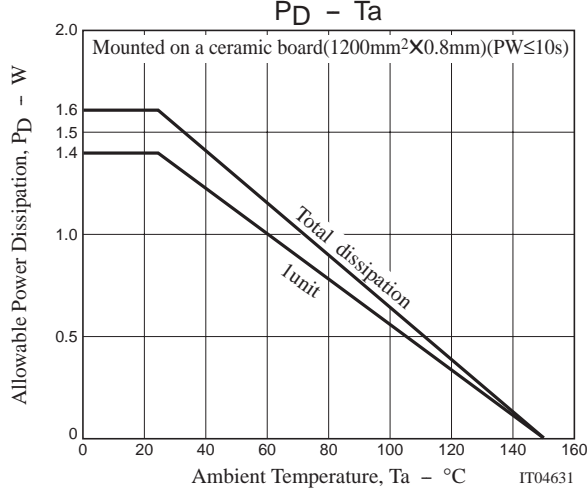
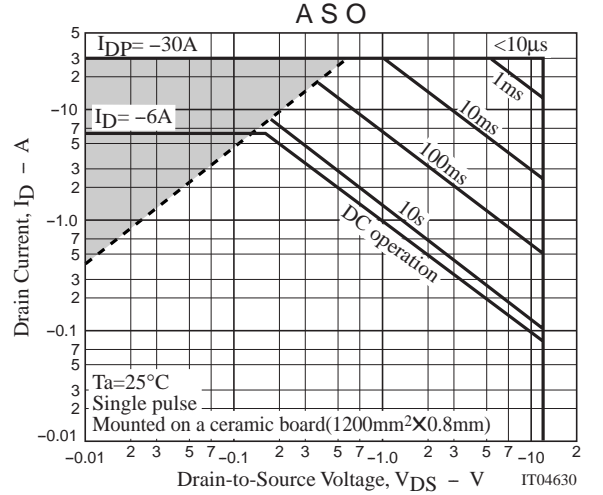
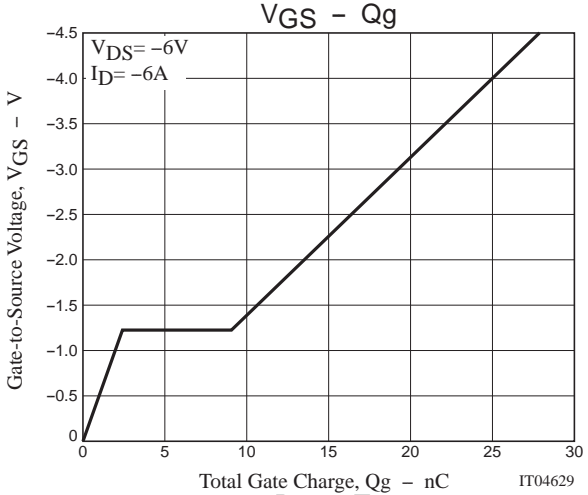
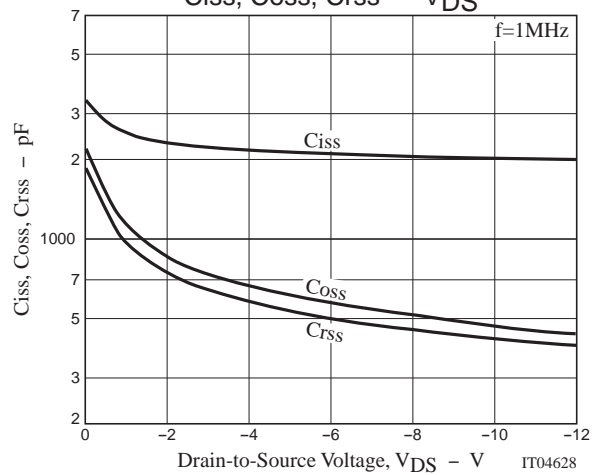
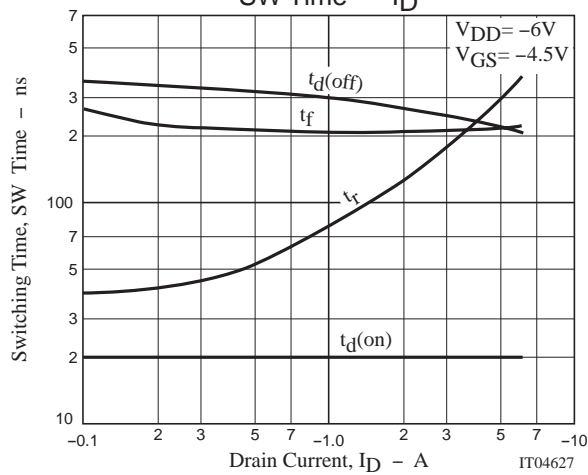
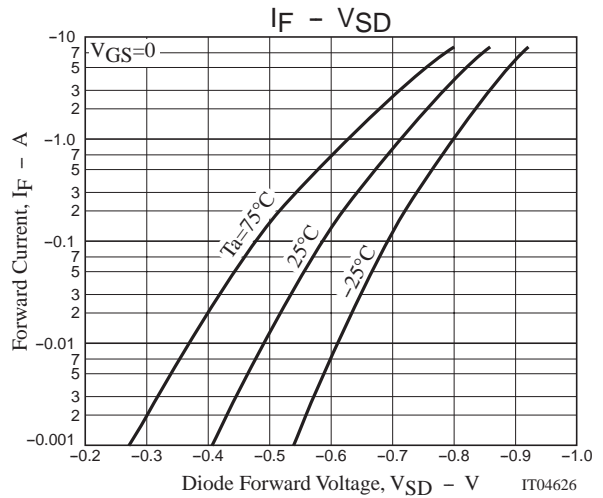
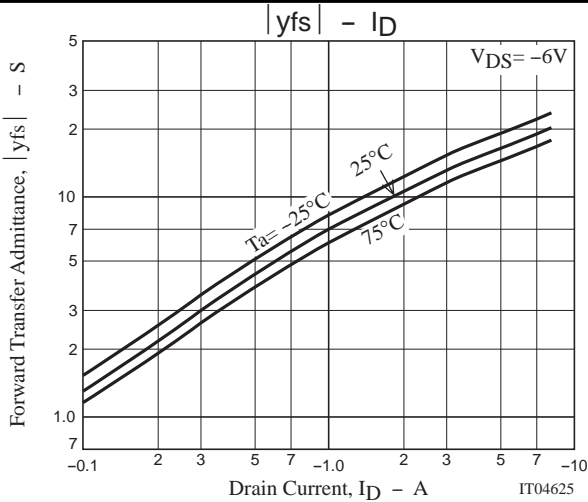
Switching Time Test Circuit



Electrical Connection



FTD7003



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