



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET

FTS2057 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)1}=96\text{m}\Omega(\text{typ.})$
- Input capacitance $C_{iss}=1030\text{pF}(\text{typ.})$
- 4V drive
- Protection diode in
- Halogen free compliance

Specifications

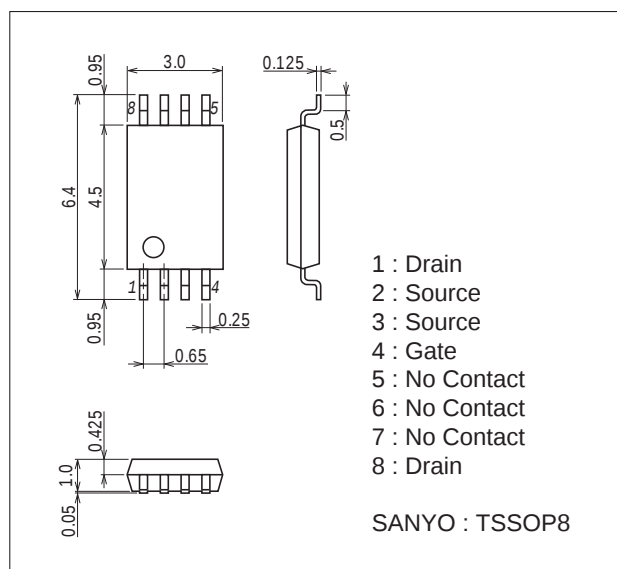
Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		100	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		3	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	12	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate ($2000\text{mm}^2 \times 0.8\text{mm}$)	1.3	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Package Dimensions

unit : mm (typ)

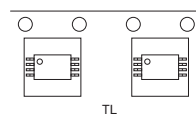
7006A-009



Product & Package Information

- Package : TSSOP8
- JEITA, JEDEC : -
- Minimum Packing Quantity : 3,000 pcs./reel

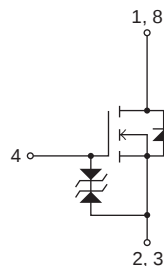
Packing Type : TL



Marking



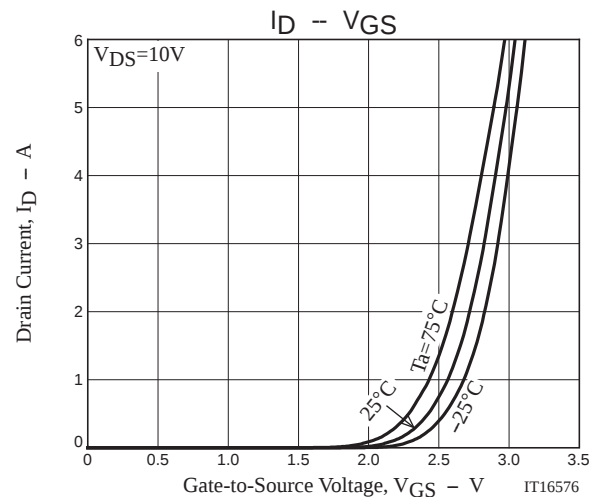
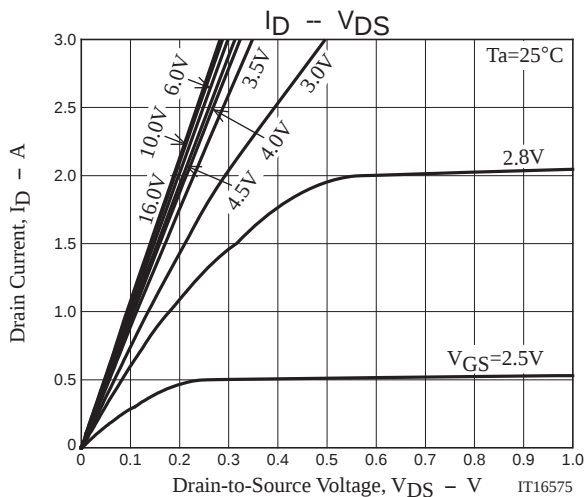
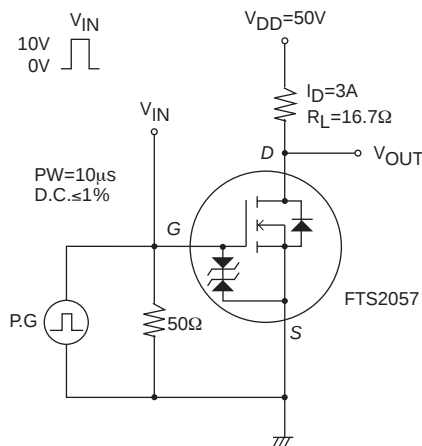
Electrical Connection

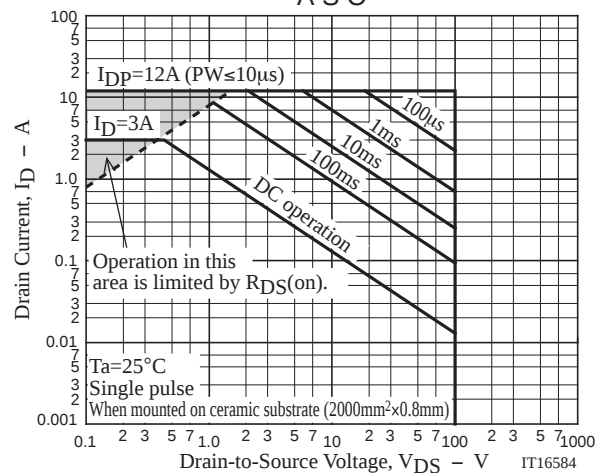
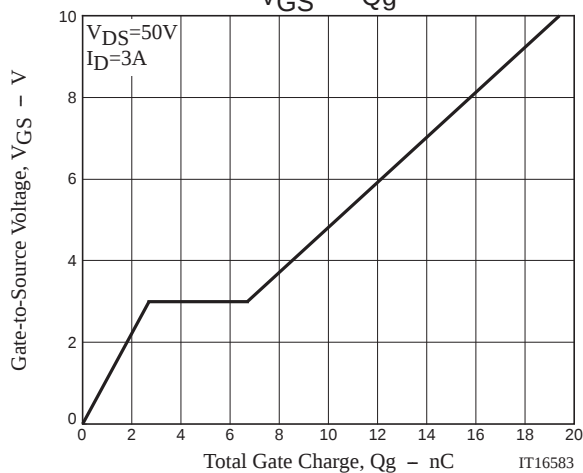
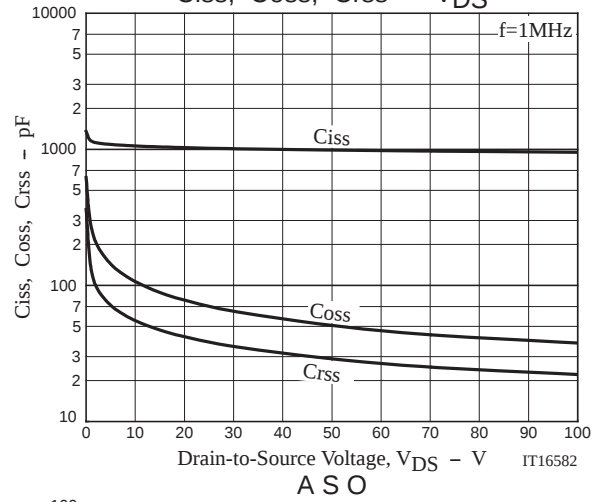
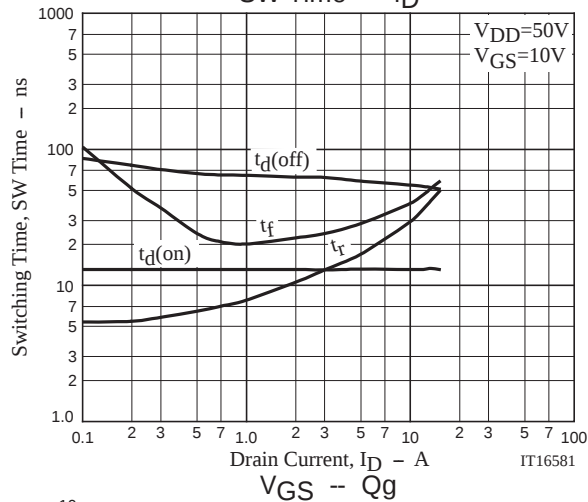
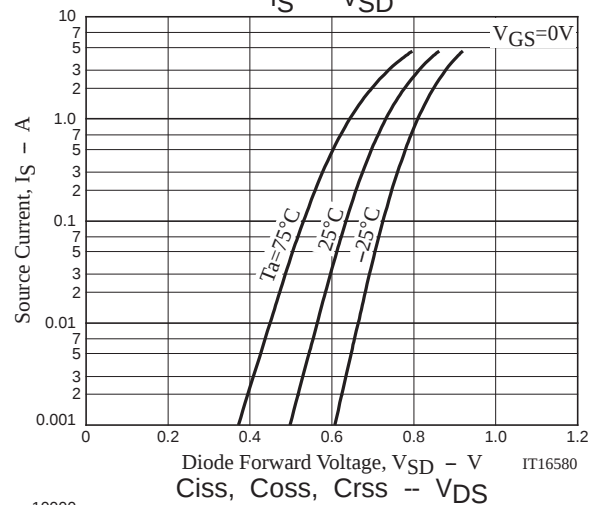
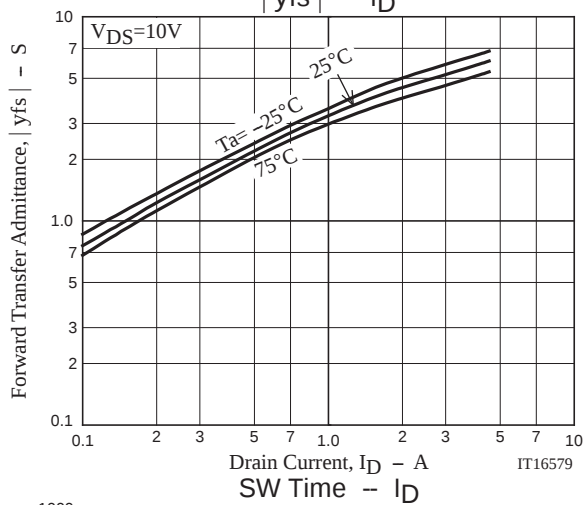
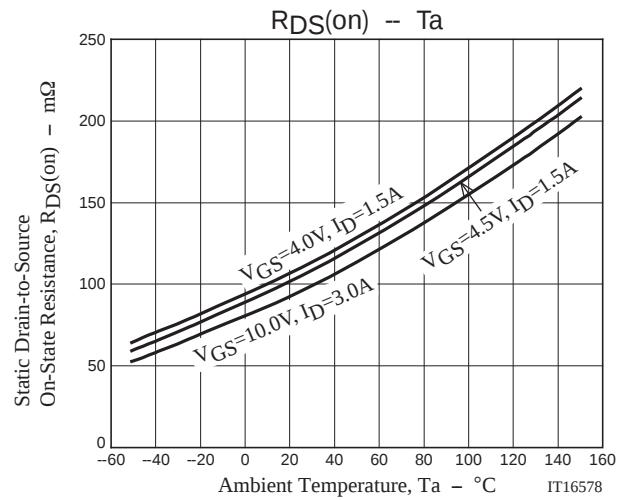
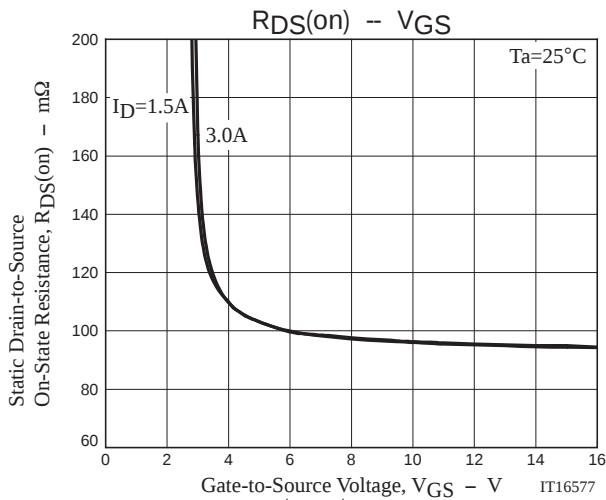


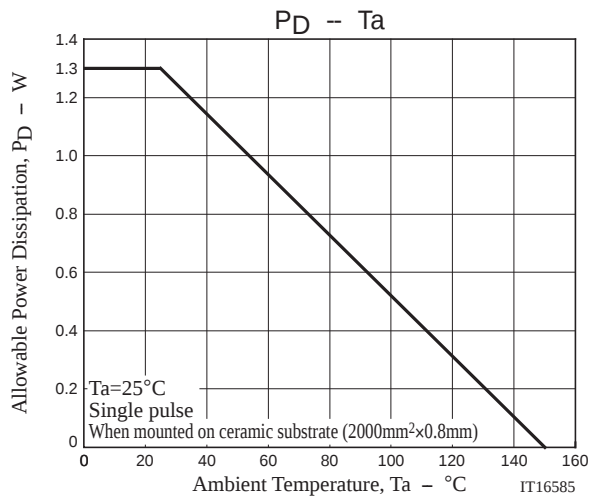
Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	1.2		2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=3A$		5.2		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=3A, V_{GS}=10V$		96	125	$m\Omega$
	$R_{DS(on)2}$	$I_D=1.5A, V_{GS}=4.5V$		105	150	$m\Omega$
	$R_{DS(on)3}$	$I_D=1.5A, V_{GS}=4V$		110	155	$m\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20V, f=1MHz$		1030		pF
Output Capacitance	C_{oss}			80		pF
Reverse Transfer Capacitance	C_{rss}			42		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		13		ns
Rise Time	t_r			13		ns
Turn-OFF Delay Time	$t_d(off)$			62		ns
Fall Time	t_f			24		ns
Total Gate Charge	Q_g	$V_{DS}=50V, V_{GS}=10V, I_D=3A$		19.4		nC
Gate-to-Source Charge	Q_{gs}			2.7		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			4.0		nC
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0V$		0.81	1.2	V

Switching Time Test Circuit







Note on usage : Since the FTS2057 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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