



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET  
**FTS2057** — General-Purpose Switching Device  
 Applications

Features

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

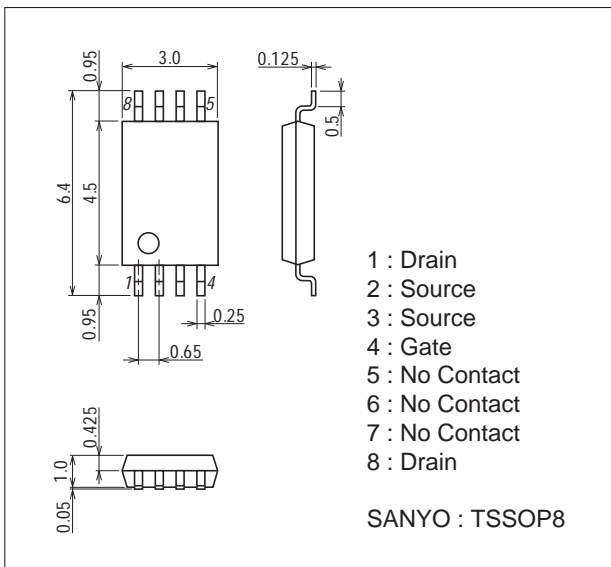
Specifications

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

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

Package Dimensions

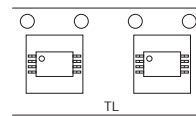
unit : mm (typ)  
 7006A-009



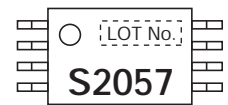
Product & Package Information

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

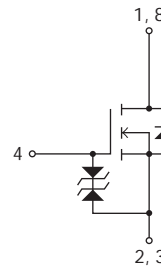
Packing Type : TL



Marking



Electrical Connection

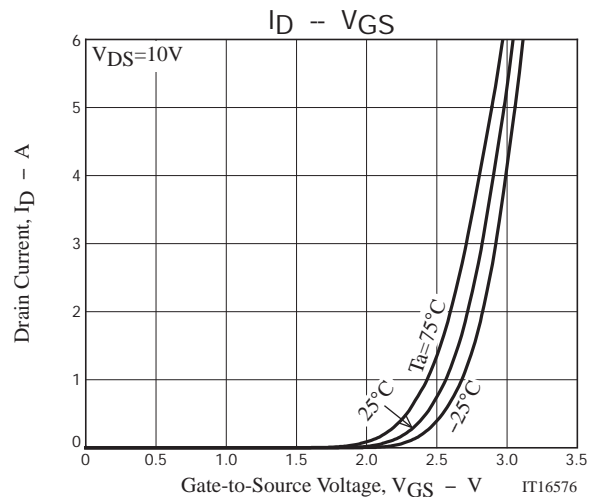
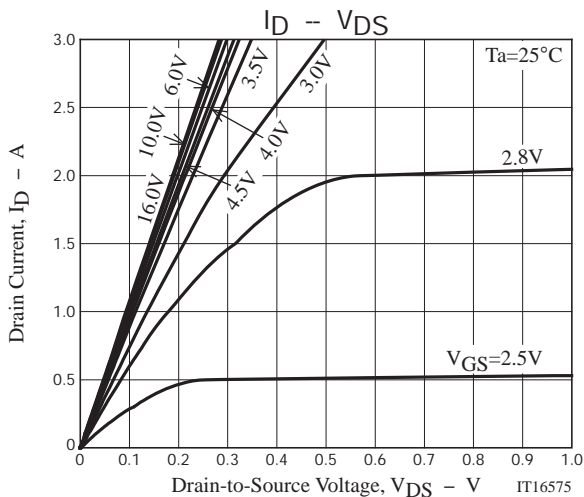
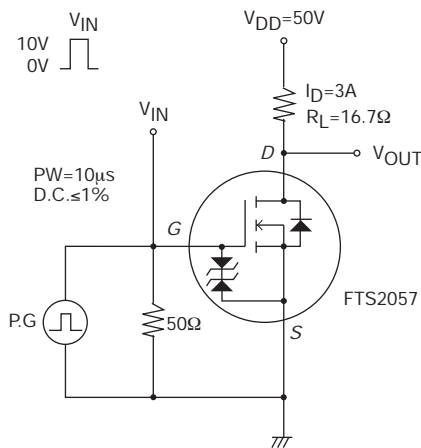


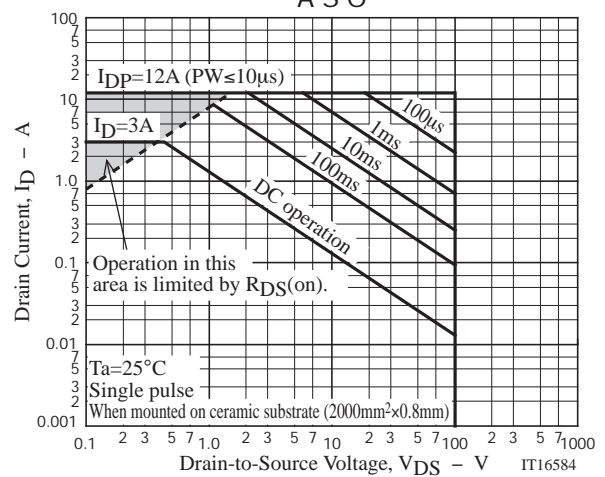
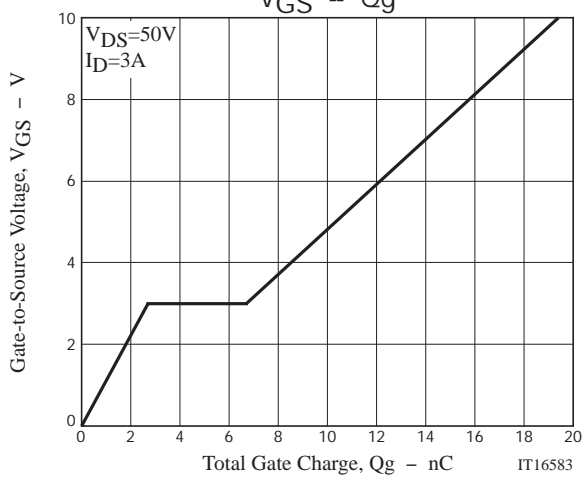
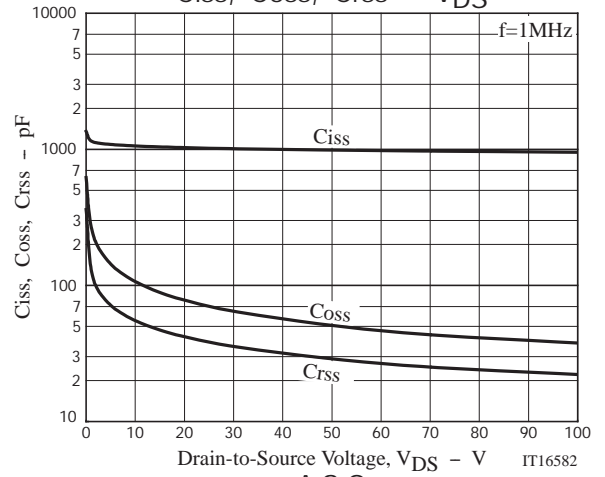
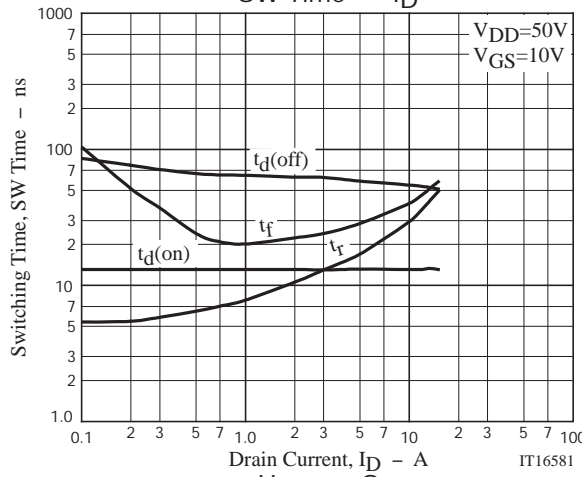
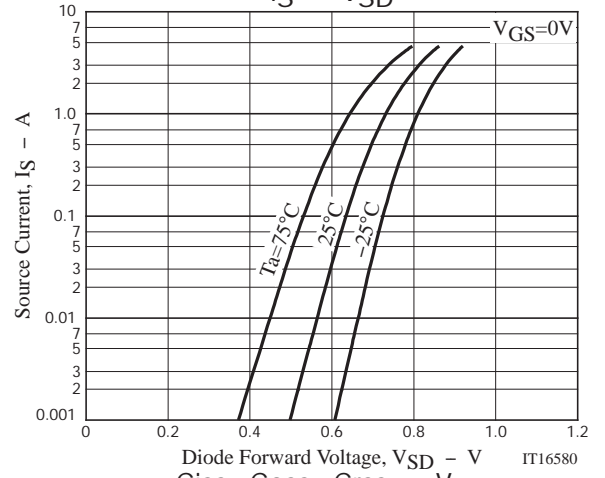
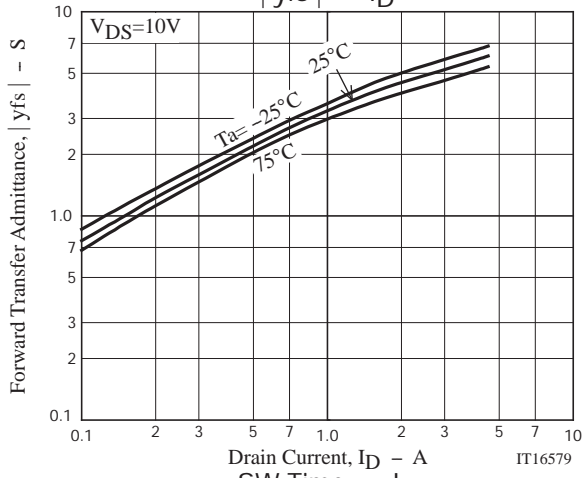
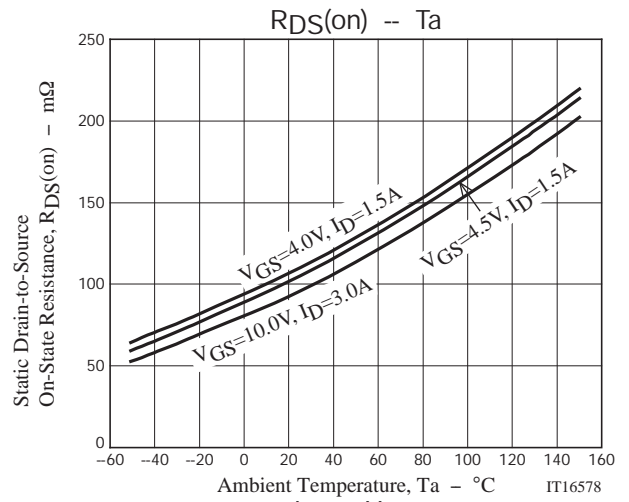
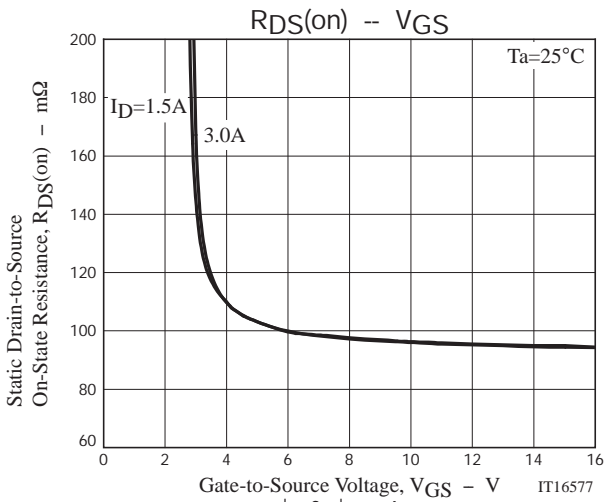
# FTS2057

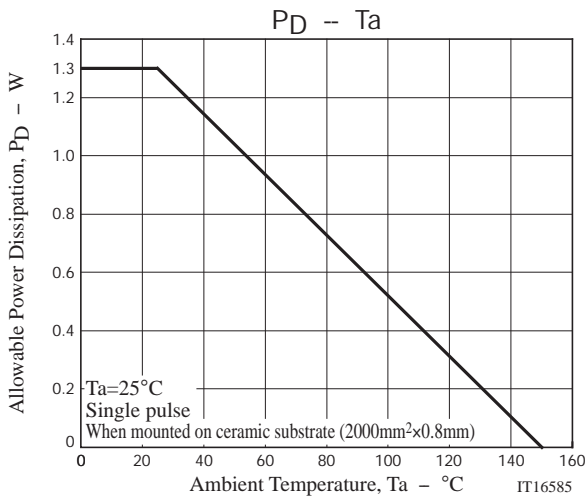
## Electrical Characteristics at Ta=25°C

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	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16V, V_{DS}=0V$			$\pm 10$	$\mu A$
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	$t_d(on)$			13		ns
Rise Time	$t_r$	See specified Test Circuit.		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

## 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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