



SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

FW707 — General-Purpose Switching Device Applications

Features

- Composite type with a P-channel MOSFET driving from a 4V supply voltage contained in a single package
- High-density mounting

Specifications

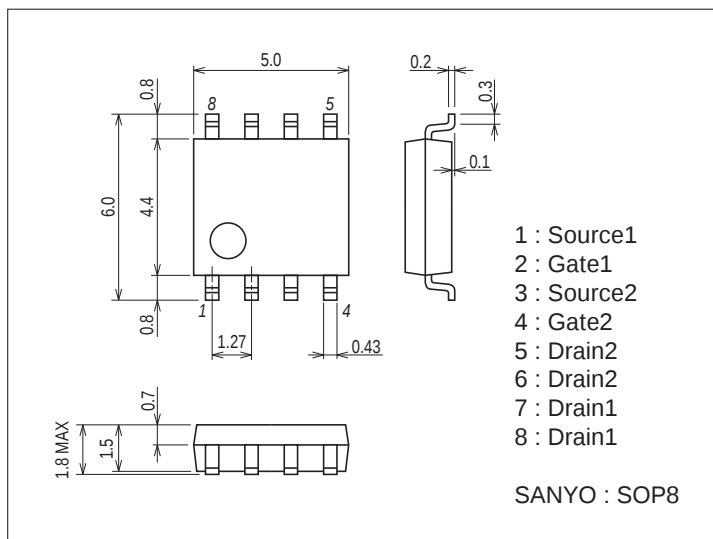
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		-30	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		-8	A
Drain Current (PW $\leq$ 10s)	I_D	Duty cycle $\leq$ 1%	-9	A
Drain Current (PW $\leq$ 100ms)	I_D	Duty cycle $\leq$ 1%	-19	A
Drain Current (PW $\leq$ 10 μ s)	I_{DP}	Duty cycle $\leq$ 1%	-52	A
Allowable Power Dissipation	P_D	When mounted on ceramic substrate (2000mm ² ×0.8mm) 1unit, PW $\leq$ 10s	2.3	W
Total Dissipation	P_T	When mounted on ceramic substrate (2000mm ² ×0.8mm), PW $\leq$ 10s	2.5	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

unit : mm (typ)

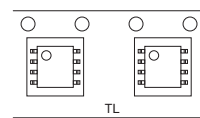
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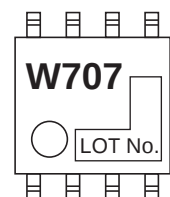
Product & Package Information

- Package : SOP8
- JEITA, JEDEC : SC-87, SOT96
- Minimum Packing Quantity : 1,000 pcs./reel

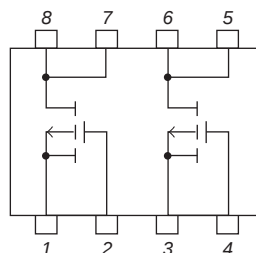
Packing Type : TL



Marking



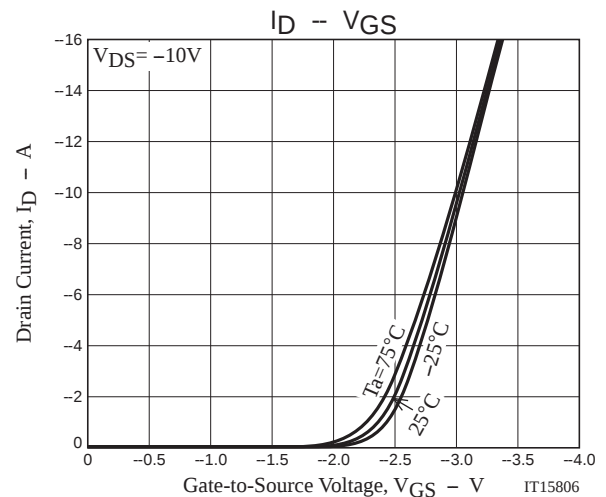
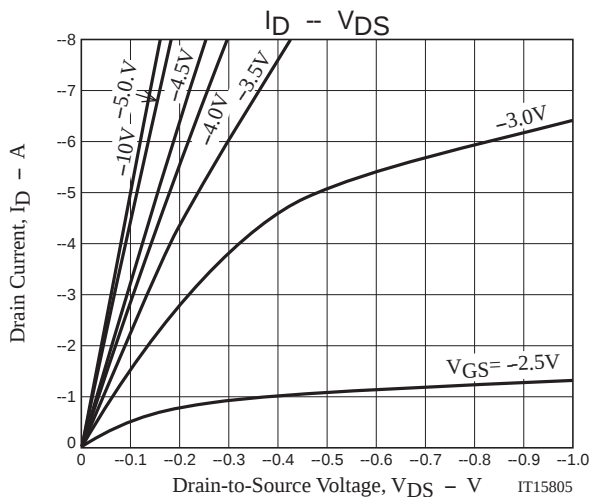
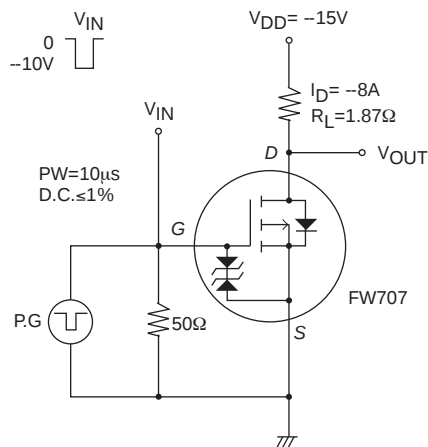
Electrical Connection

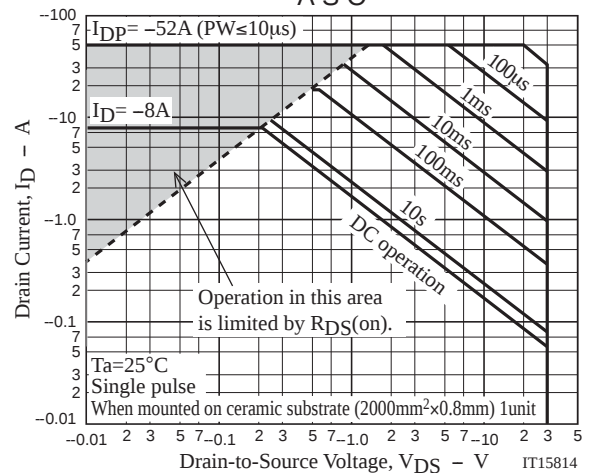
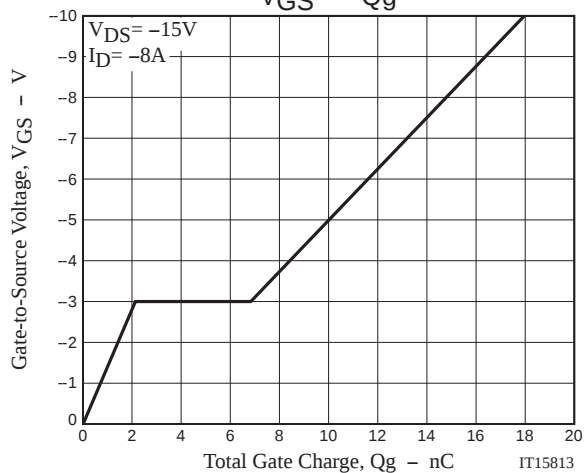
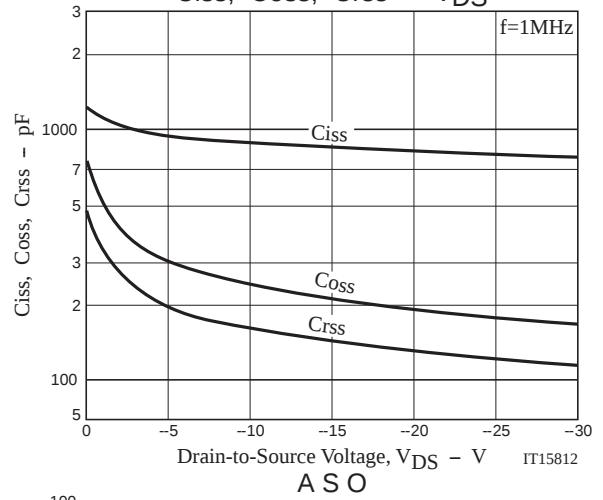
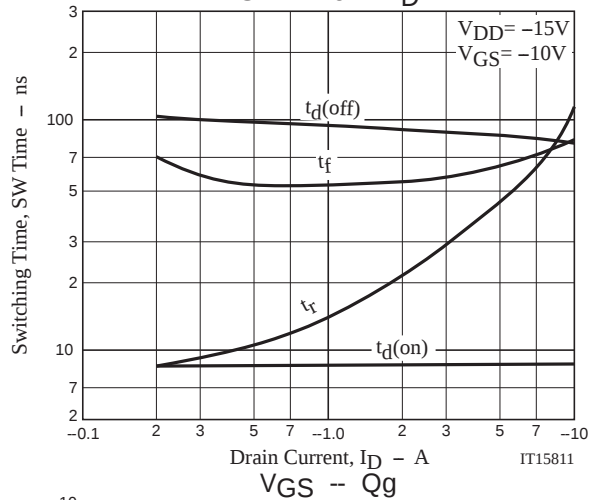
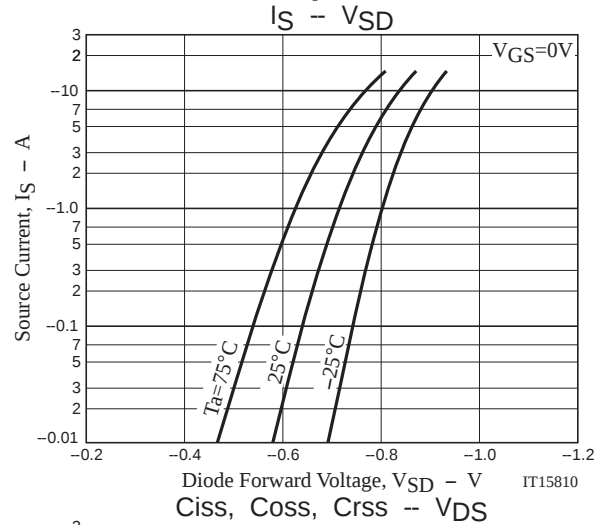
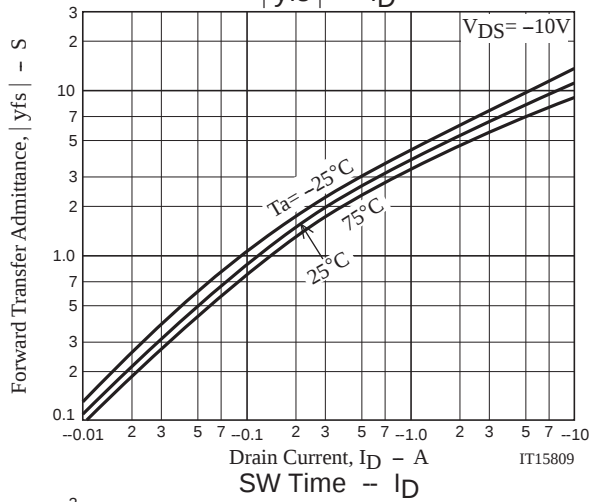
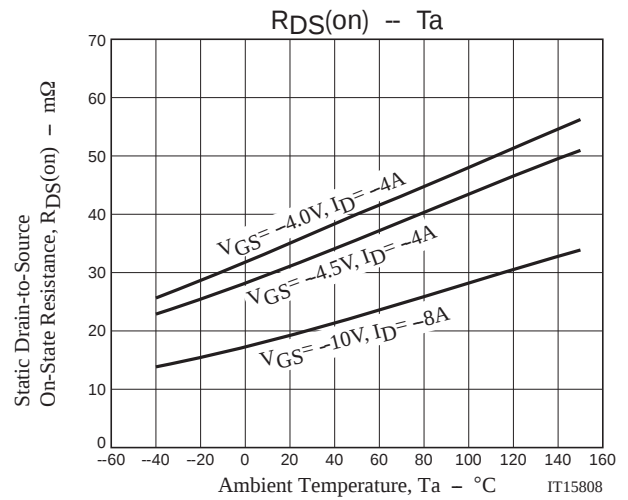
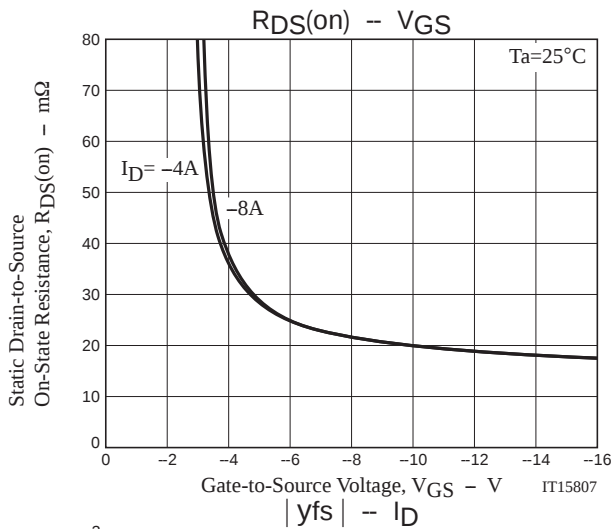


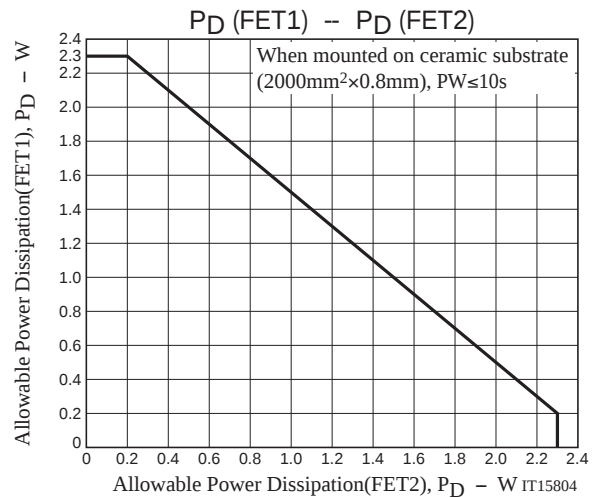
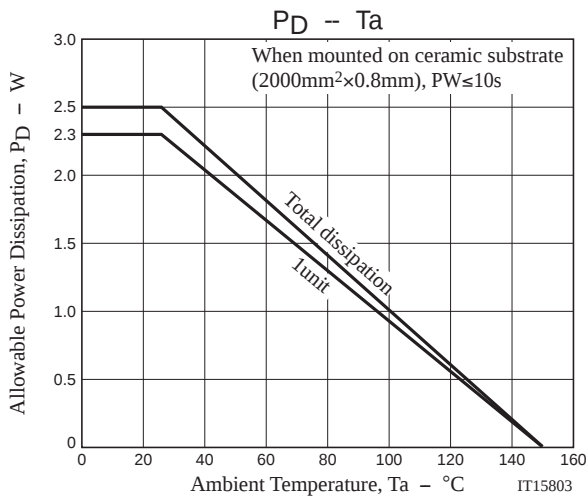
Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}$, $V_{GS}=0\text{V}$	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-30\text{V}$, $V_{GS}=0\text{V}$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10\text{V}$, $I_D=-1\text{mA}$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10\text{V}$, $I_D=-8\text{A}$		10		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-8\text{A}$, $V_{GS}=-10\text{V}$		20	26	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-4\text{A}$, $V_{GS}=-4.5\text{V}$		32	45	$\text{m}\Omega$
	$R_{DS(on)3}$	$I_D=-4\text{A}$, $V_{GS}=-4\text{V}$		36	51	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$		900		pF
Output Capacitance	C_{oss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$		240		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-10\text{V}$, $f=1\text{MHz}$		160		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		8.7		ns
Rise Time	t_r	See specified Test Circuit.		73		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		84		ns
Fall Time	t_f	See specified Test Circuit.		74		ns
Total Gate Charge	Q_g	$V_{DS}=-15\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-8\text{A}$		18		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS}=-15\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-8\text{A}$		2.1		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS}=-15\text{V}$, $V_{GS}=-10\text{V}$, $I_D=-8\text{A}$		4.7		nC
Diode Forward Voltage	V_{SD}	$I_S=-8\text{A}$, $V_{GS}=0\text{V}$		-0.82	-1.2	V

Switching Time Test Circuit







Note on usage : Since the FW707 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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