



# THE DATASHEET OF FW707-TL-E





# FW707 — P-Channel Silicon MOSFET

## 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

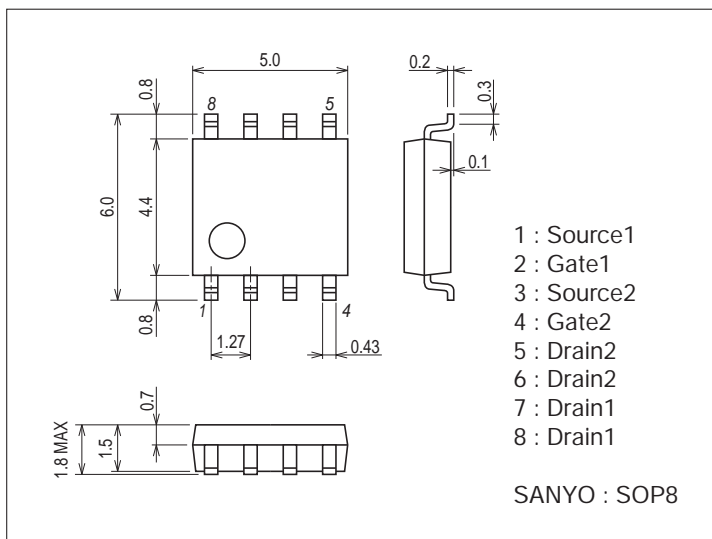
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-30	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-8	A
Drain Current (PW≤10s)	I <sub>D</sub>	Duty cycle≤1%	-9	A
Drain Current (PW≤100ms)	I <sub>D</sub>	Duty cycle≤1%	-19	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	Duty cycle≤1%	-52	A
Allowable Power Dissipation	P <sub>D</sub>	When mounted on ceramic substrate (2000mm <sup>2</sup> ×0.8mm) 1unit, PW≤10s	2.3	W
Total Dissipation	P <sub>T</sub>	When mounted on ceramic substrate (2000mm <sup>2</sup> ×0.8mm), PW≤10s	2.5	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

### Package Dimensions

unit : mm (typ)

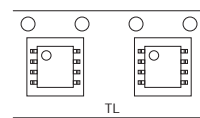
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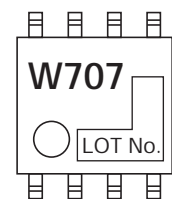
### Product & Package Information

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

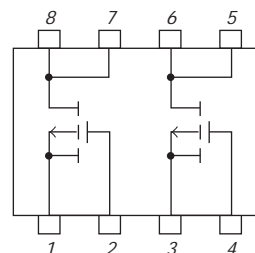
### Packing Type : TL



### Marking



### Electrical Connection

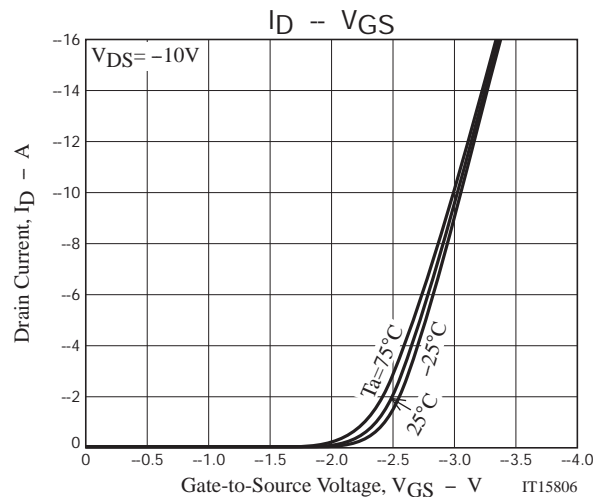
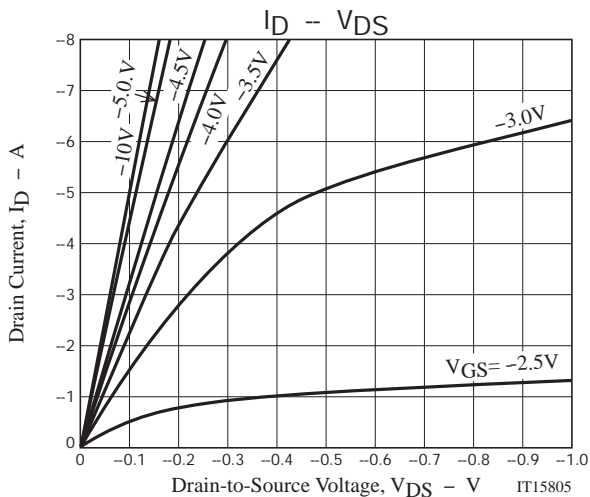
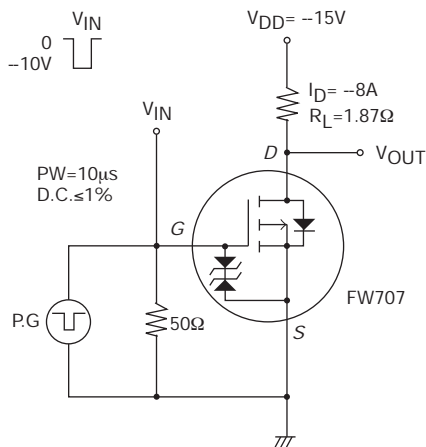


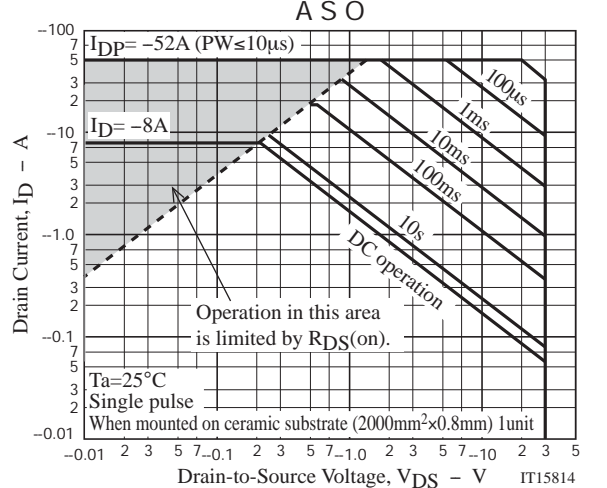
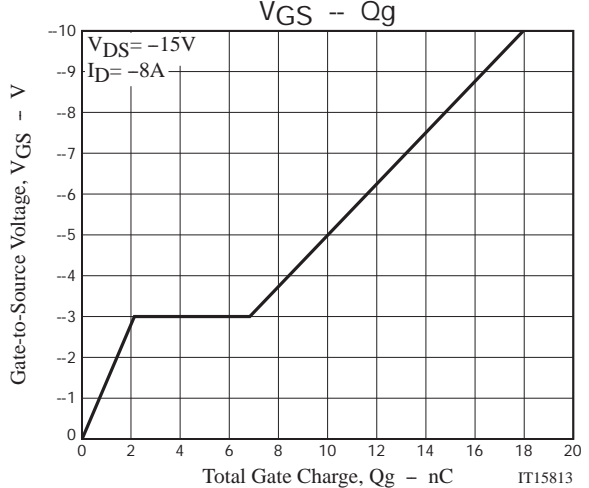
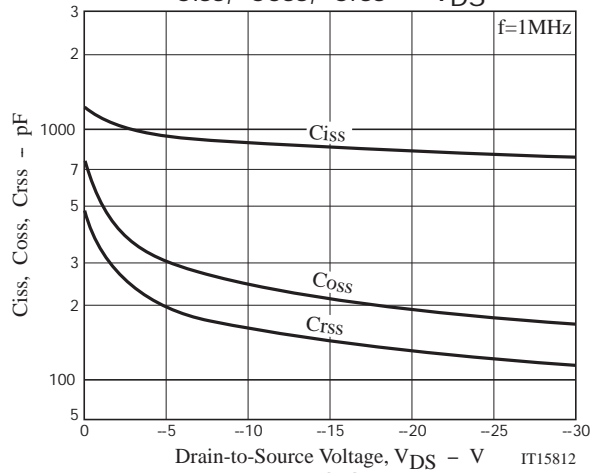
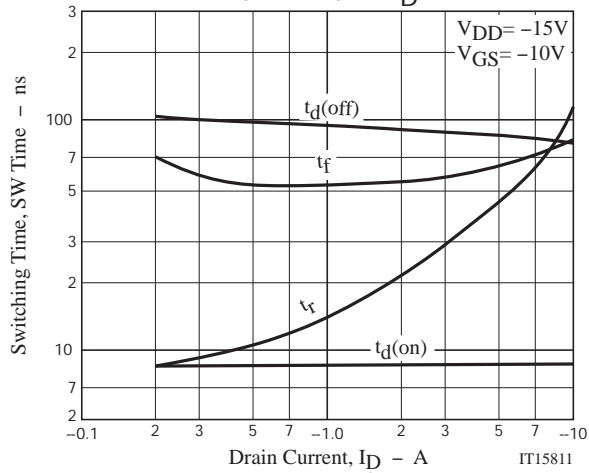
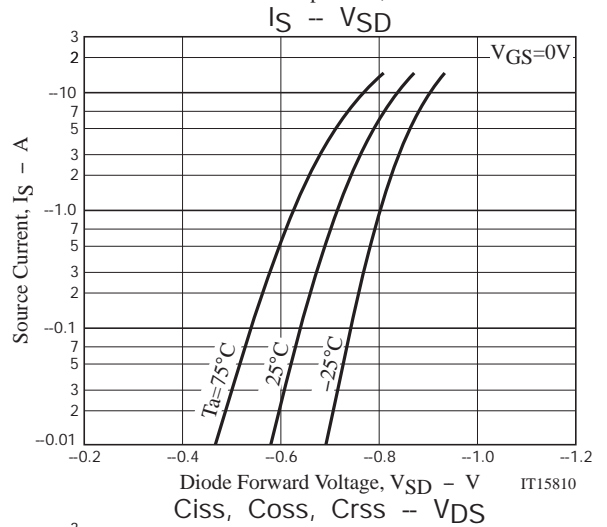
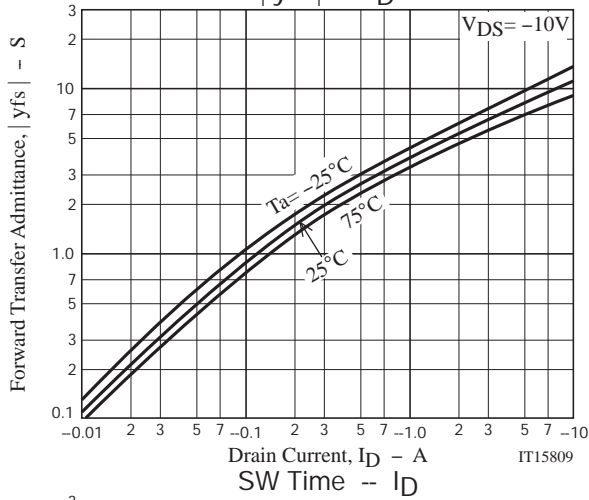
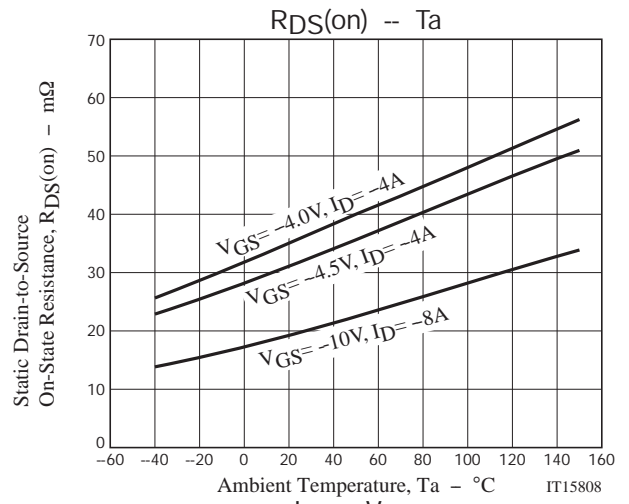
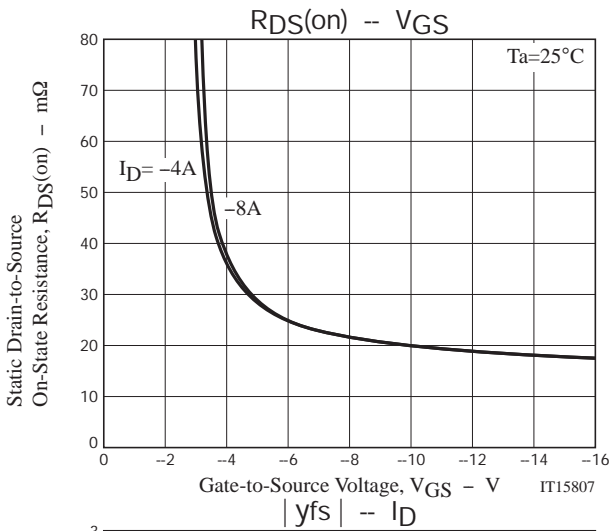
# FW707

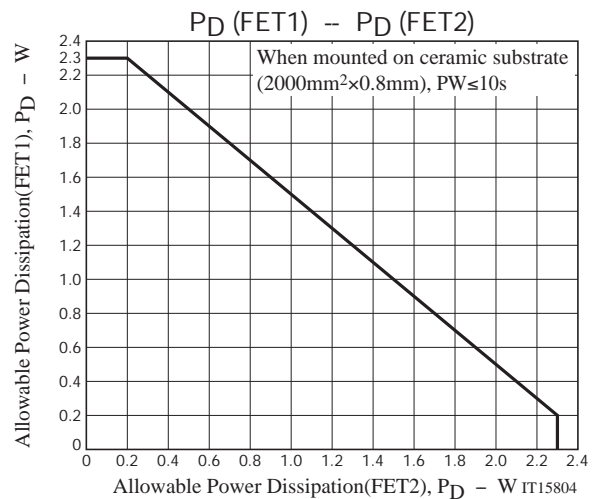
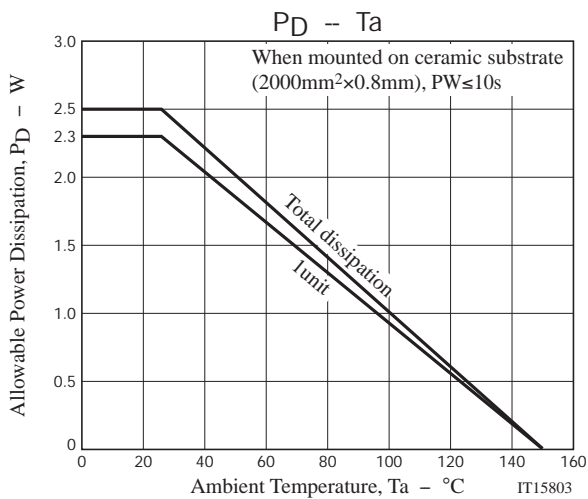
## Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-30V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.2		-2.6	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-8A		10		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-8A, VGS=-10V		20	26	mΩ
	RDS(on)2	ID=-4A, VGS=-4.5V		32	45	mΩ
	RDS(on)3	ID=-4A, VGS=-4V		36	51	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		900		pF
Output Capacitance	Coss	VDS=-10V, f=1MHz		240		pF
Reverse Transfer Capacitance	Crss	VDS=-10V, f=1MHz		160		pF
Turn-ON Delay Time	td(on)	See specified Test Circuit.		8.7		ns
Rise Time	tr	See specified Test Circuit.		73		ns
Turn-OFF Delay Time	td(off)	See specified Test Circuit.		84		ns
Fall Time	tf	See specified Test Circuit.		74		ns
Total Gate Charge	Qg	VDS=-15V, VGS=-10V, ID=-8A		18		nC
Gate-to-Source Charge	Qgs	VDS=-15V, VGS=-10V, ID=-8A		2.1		nC
Gate-to-Drain "Miller" Charge	Qgd	VDS=-15V, VGS=-10V, ID=-8A		4.7		nC
Diode Forward Voltage	VSD	IS=-8A, VGS=0V		-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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