Ordering number : ENN6787

P-Channel Silicon MOSFET

FSS140

Load Switching Applications

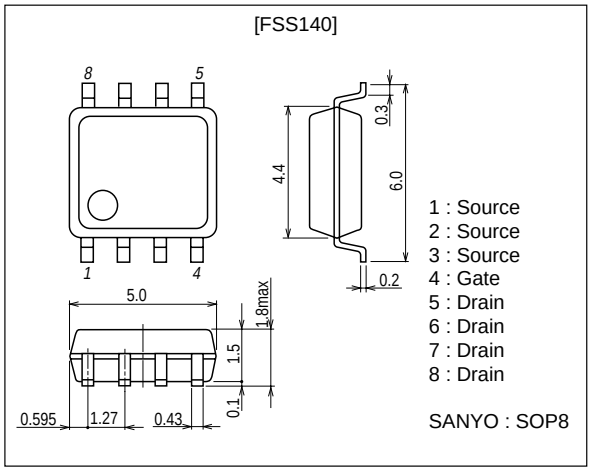
Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4.0V drive.

Package Dimensions

unit : mm

2116



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-30	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		-5	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	-48	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1200mm²×0.8mm)	1.8	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-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	-30			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0			±10	μA
Cutoff Voltage	$V_{GS}(off)$	V_{DS}=-10V, I_D=-1mA	-1.0		-2.4	V
Forward Transfer Admittance	|yfs|	V_{DS}=-10V, I_D=-5A	5.3	7.5		S

Marking : S140

Continued on next page.

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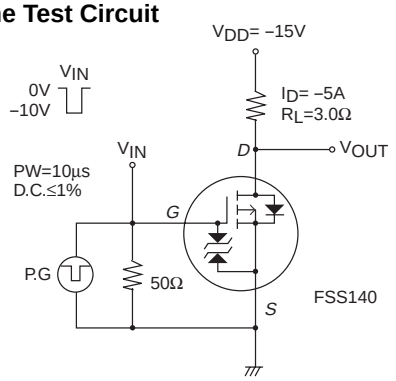
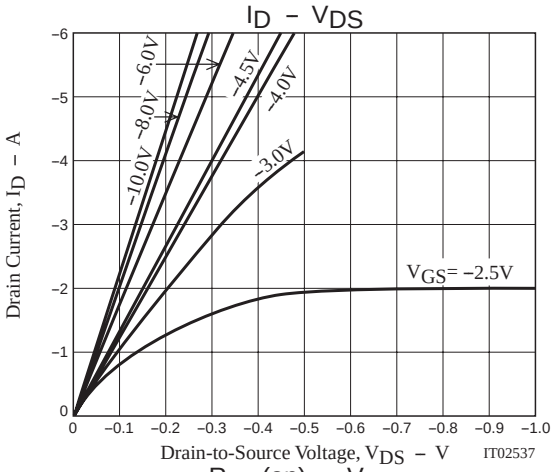
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

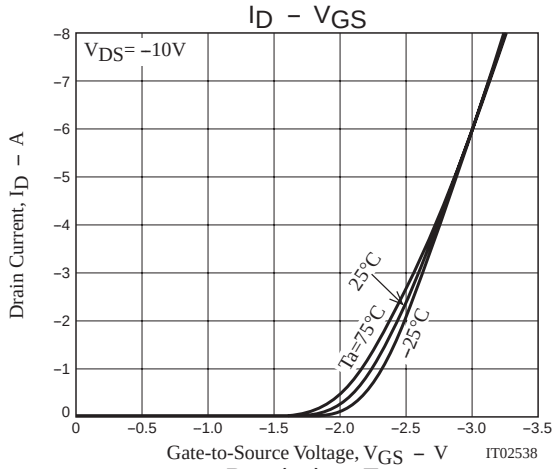
Continued from preceding page.

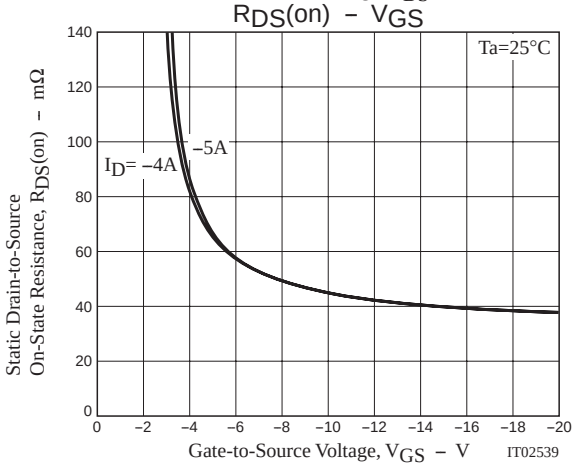
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS}(on)1$	I_D=-5A, V_{GS}=-10V		45	59	mΩ
	$R_{DS}(on)2$	I_D=-4A, V_{GS}=-4.5V		75	105	mΩ
	$R_{DS}(on)3$	I_D=-4A, V_{GS}=-4V		80	112	mΩ
Input Capacitance	Ciss	V_{DS}=-10V, f=1MHz		1000		pF
Output Capacitance	Coss	V_{DS}=-10V, f=1MHz		250		pF
Reverse Transfer Capacitance	Crss	V_{DS}=-10V, f=1MHz		160		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit		10		ns
Rise Time	t_r	See specified Test Circuit		80		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit		52		ns
Fall Time	t_f	See specified Test Circuit		41		ns
Total Gate Charge	Qg	V_{DS}=-10V, V_{GS}=-10V, I_D=-5A		19		nC
Gate-to-Source Charge	Qgs	V_{DS}=-10V, V_{GS}=-10V, I_D=-5A		2		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=-10V, V_{GS}=-10V, I_D=-5A		4		nC
Diode Forward Voltage	V_{SD}	I_S=-5A, V_{GS}=0		-0.83	-1.5	V

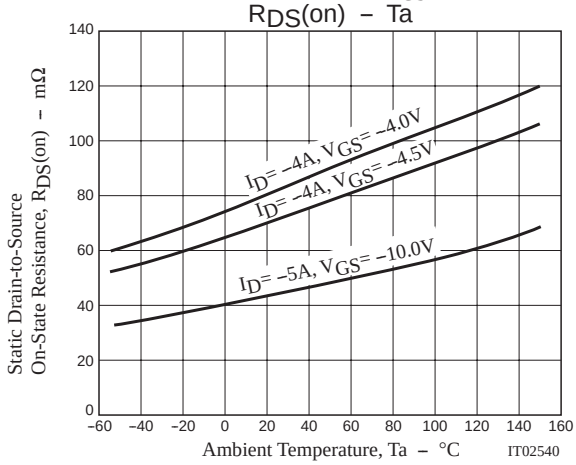
Switching Time Test Circuit

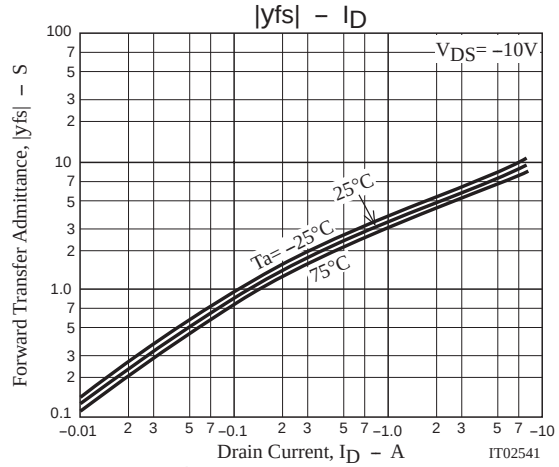


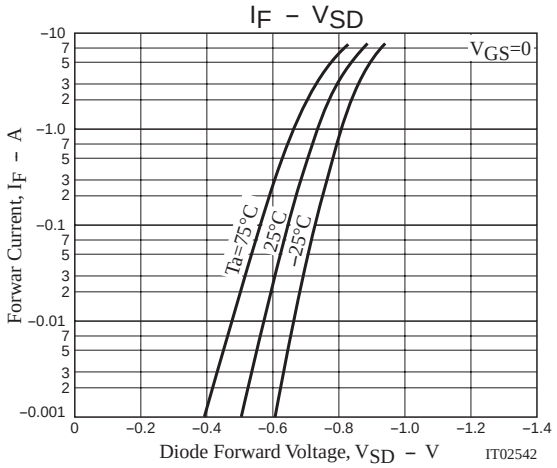


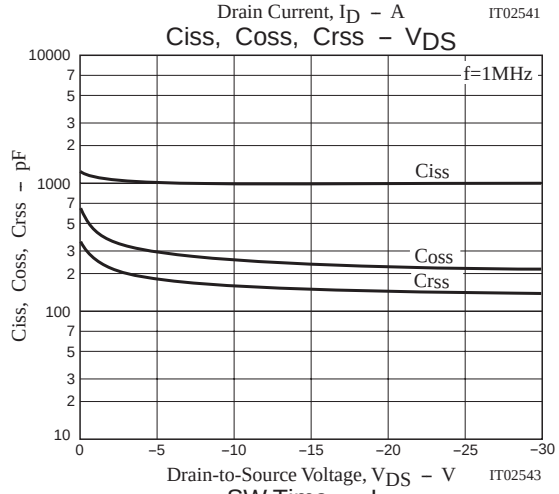


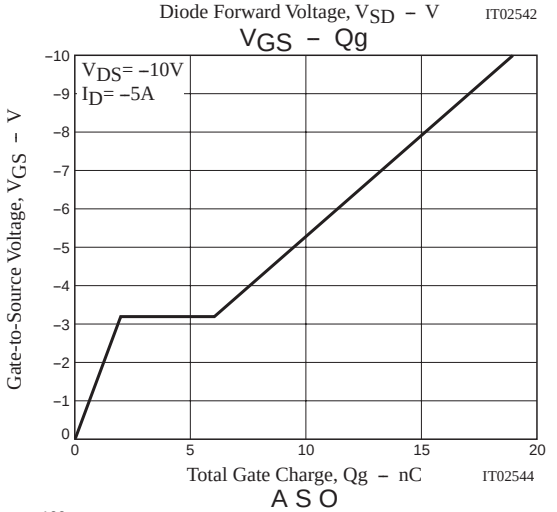


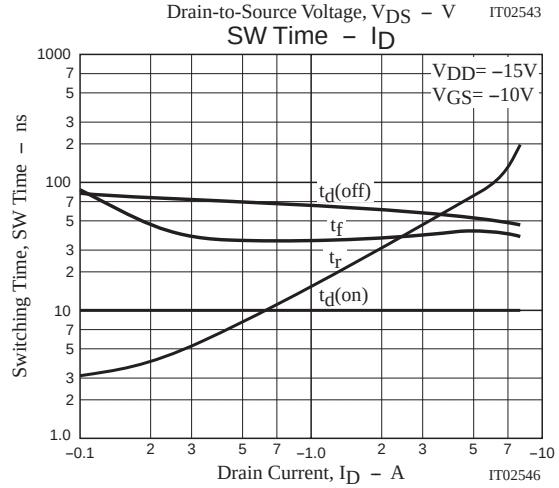


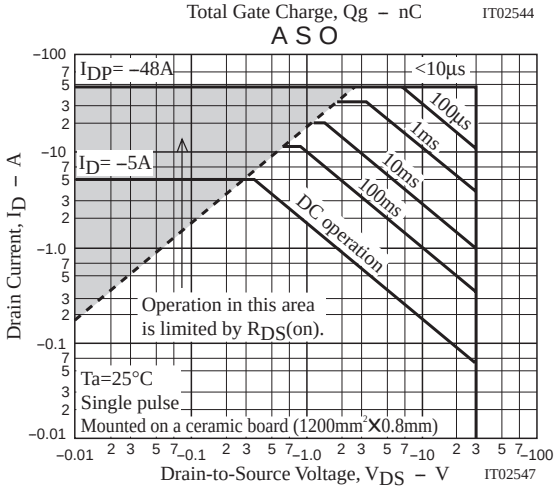


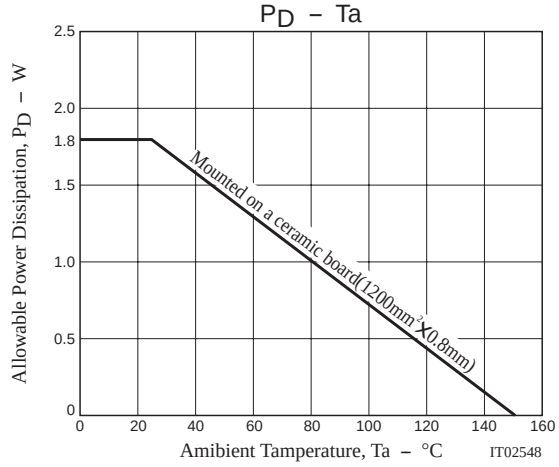












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