

Ordering number : ENN7019

P-Channel Silicon MOSFET



FSS139

Load Switching Applications

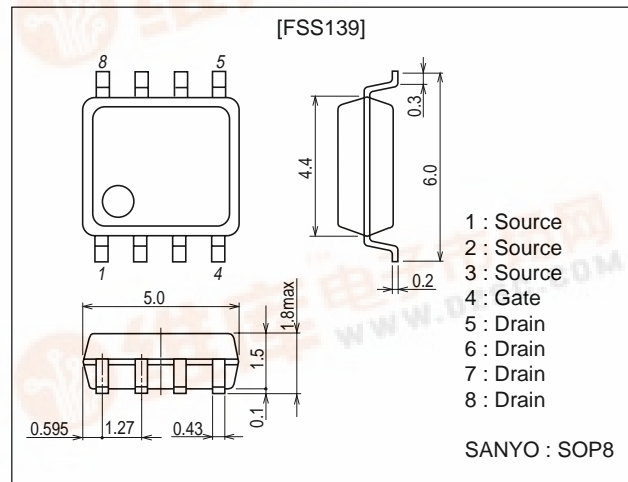
Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 2.5V 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}		-20	V
Gate-to-Source Voltage	V _{GS}		±10	V
Drain Current (DC)	I _D		-4	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-48	A
Allowable Power Dissipation	P _D	Mounted on a ceramic board (1200mm²X0.8mm)	1.8	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-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	-20			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-20V, V _{GS} =0			-1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±8V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-0.4		-1.4	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-4A	6.3	9		S

Marking : S139

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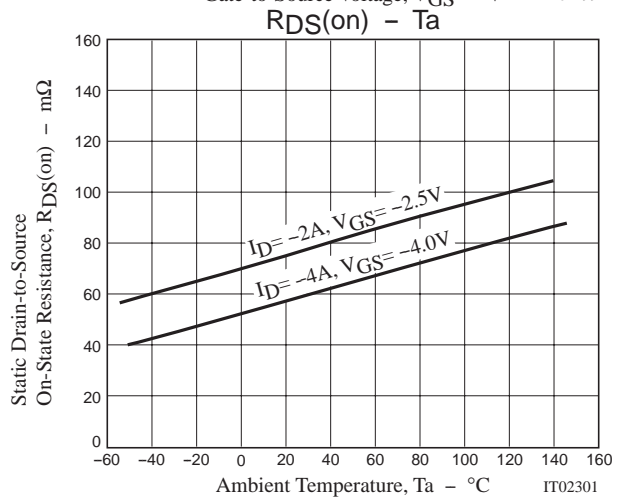
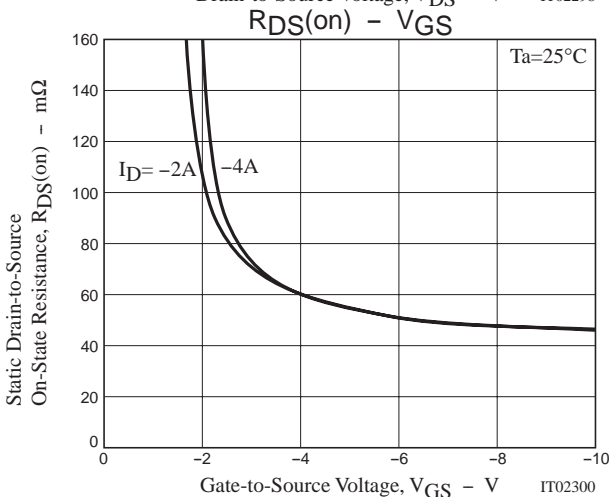
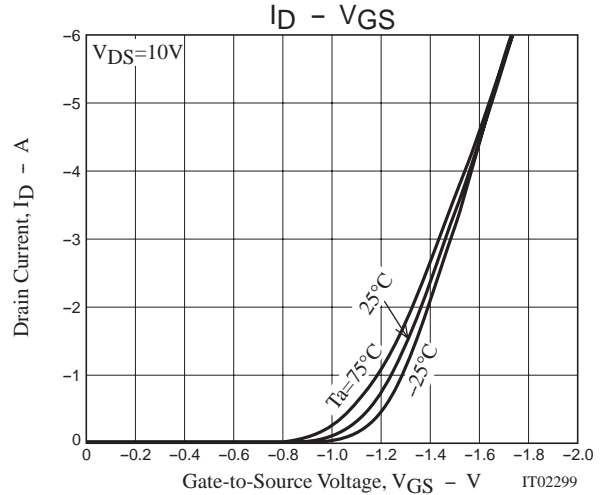
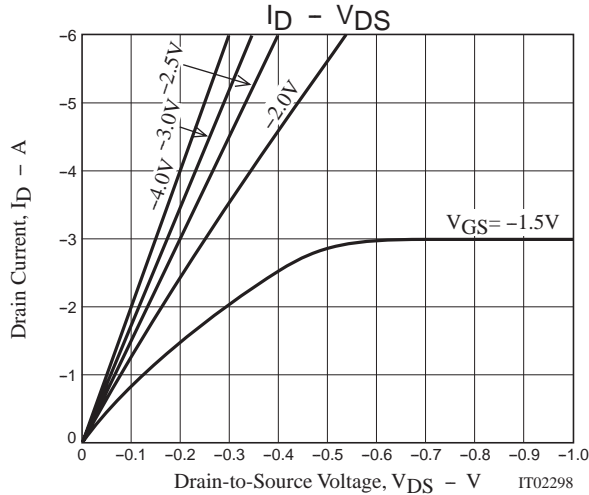
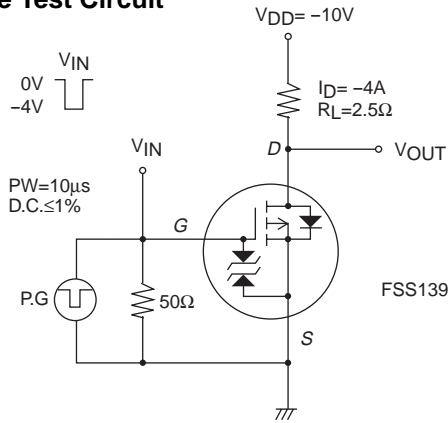


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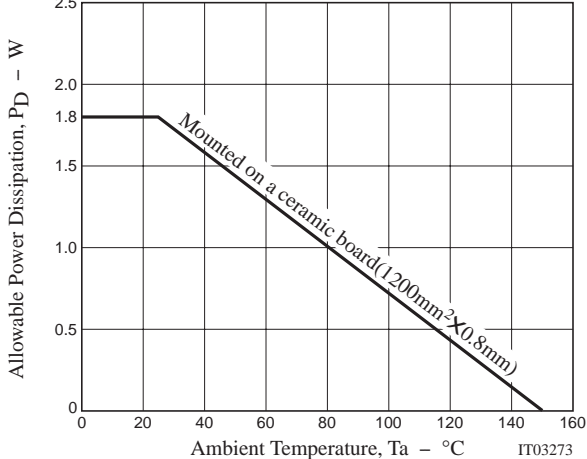
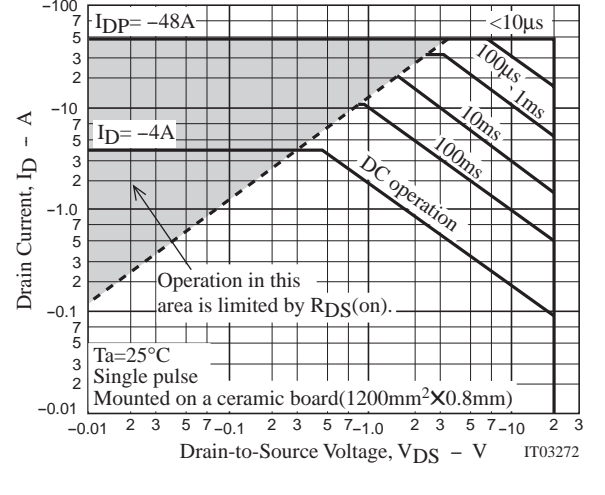
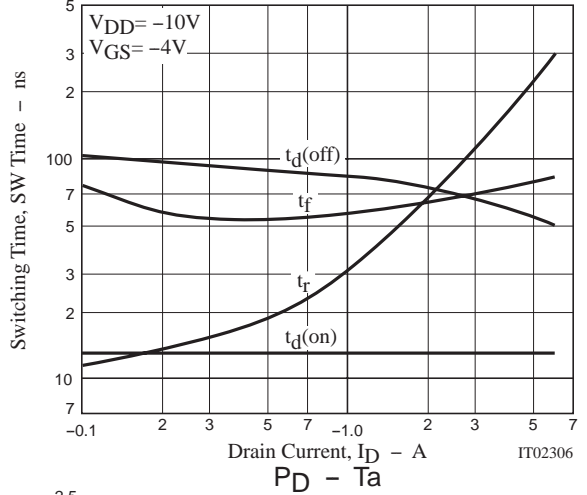
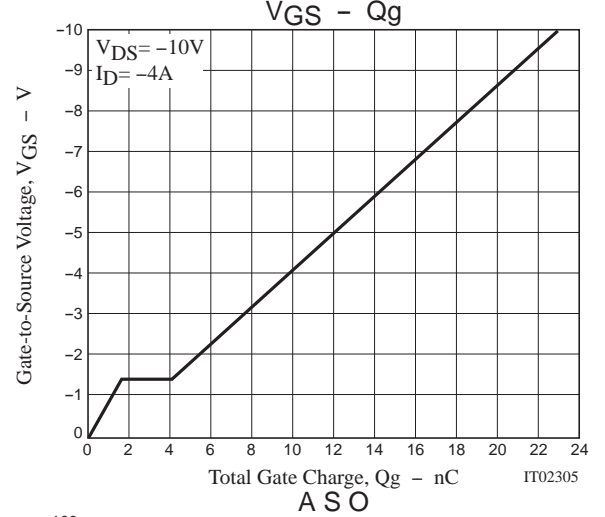
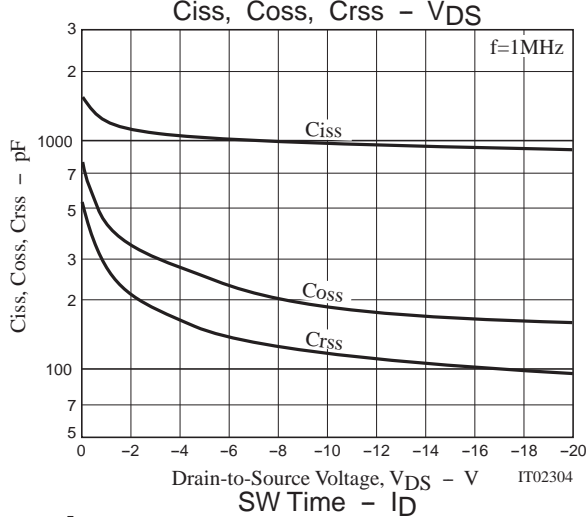
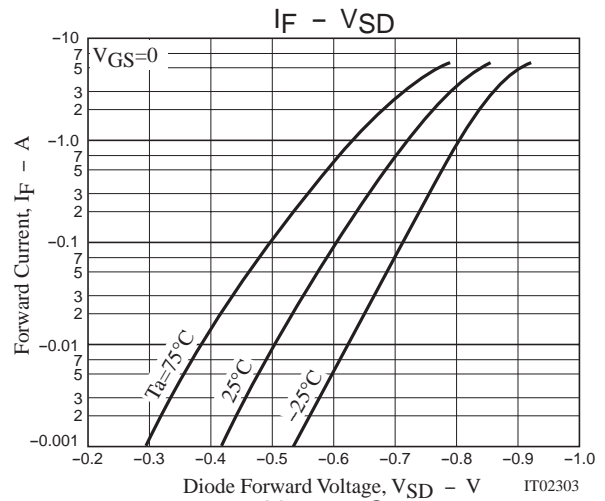
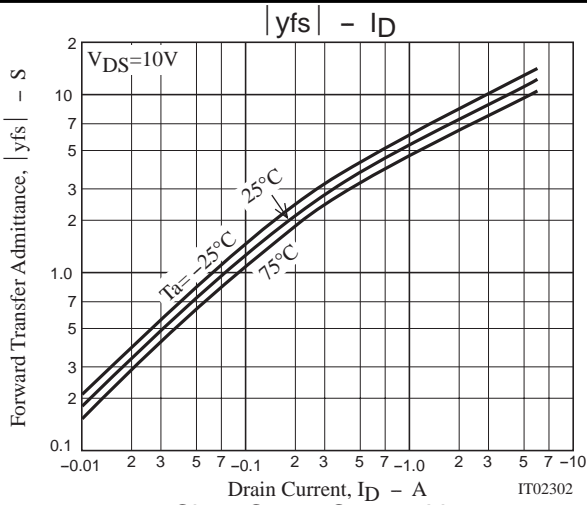
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	R _{DS(on) 1}	I _D =-4A, V _{GS} =-4V		60	78	mΩ
	R _{DS(on) 2}	I _D =-2A, V _{GS} =-2.5V		78	110	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		1000		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		190		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		120		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit		13		ns
Rise Time	t _r	See specified Test Circuit		200		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit		52		ns
Fall Time	t _f	See specified Test Circuit		78		ns
Total Gate Charge	Q _g	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		23		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		1.6		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-10V, V _{GS} =-10V, I _D =-4A		2.3		nC
Diode Forward Voltage	V _{SD}	I _S =-4A, V _{GS} =0		-0.89	-1.5	V

Switching Time Test Circuit



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