



P-Channel Silicon MOSFET

FSS131

Load Switching Applications

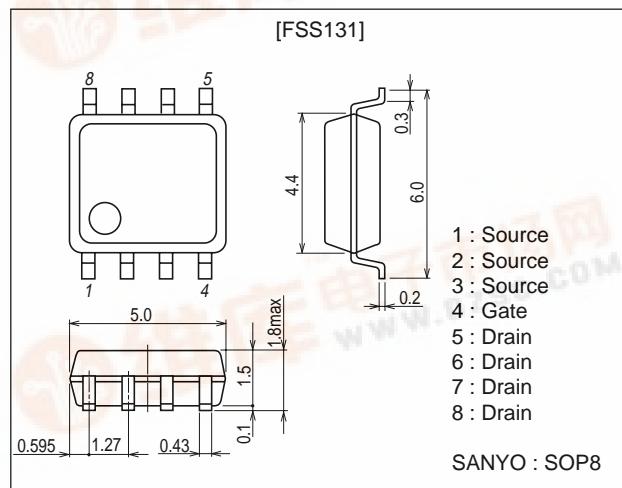
Features

- 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_{GSS}			± 10	V
Drain Current (DC)	I_D			-6	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$		-48	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1200mm ² × 0.8mm)		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}	$V_{GS} = \pm 8V$, $V_{DS} = 0$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS} = -10V$, $I_D = -1mA$	-0.4		-1.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS} = -10V$, $I_D = -6A$	10.5	15		S

Marking : S131

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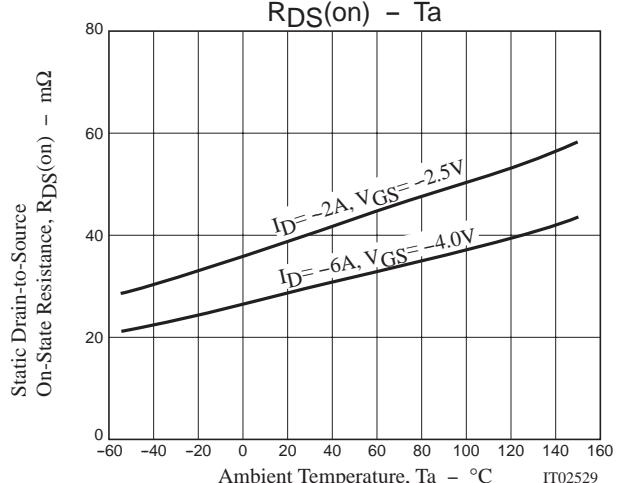
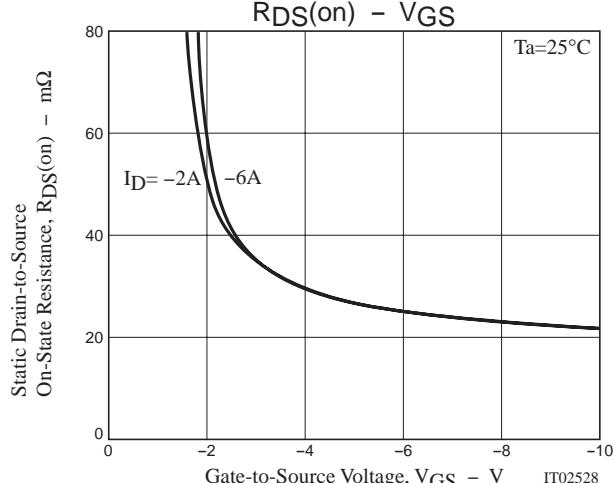
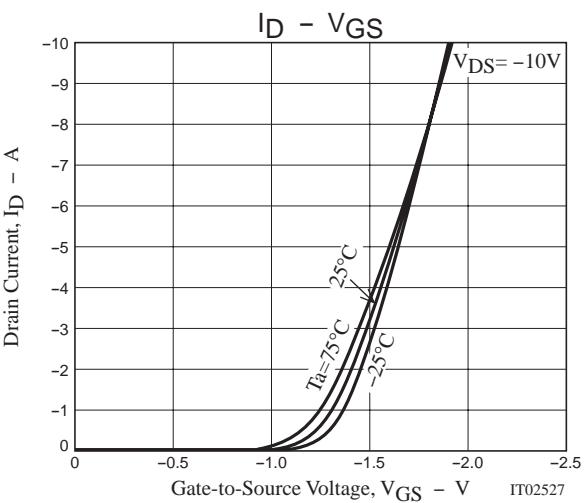
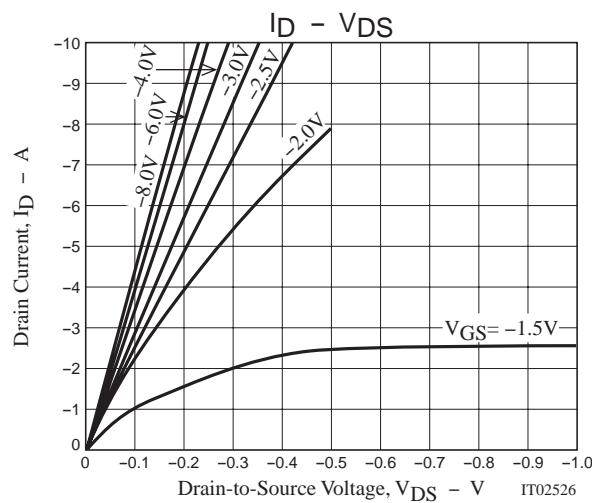
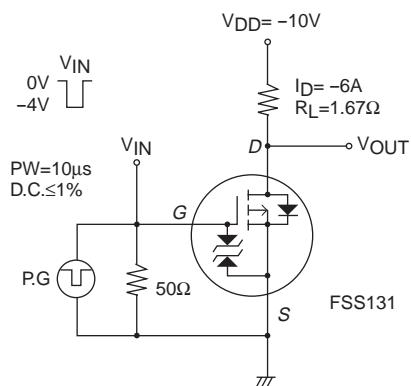
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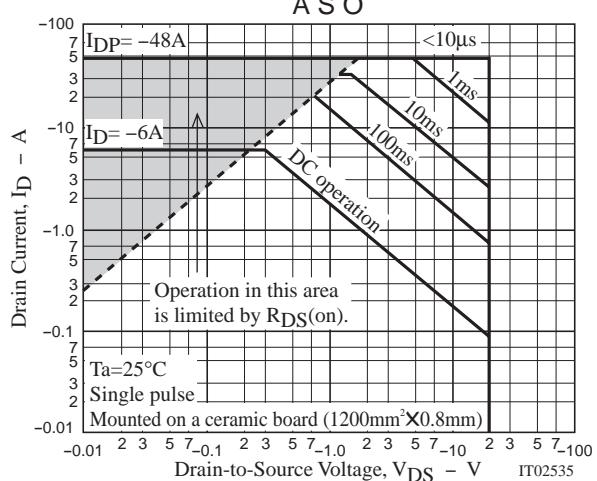
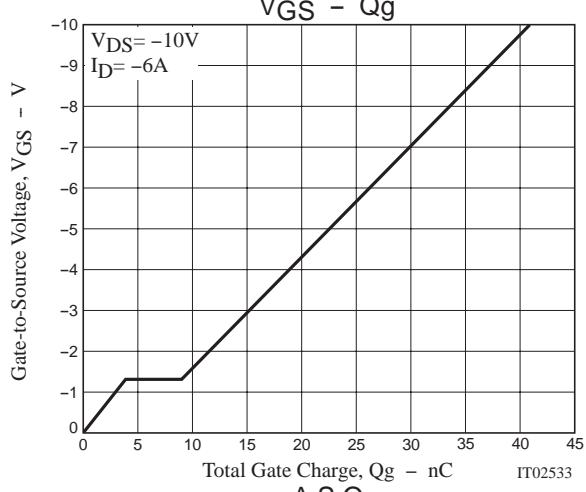
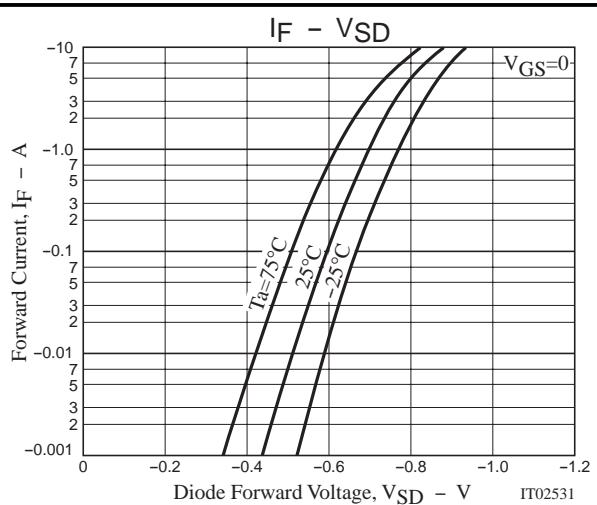
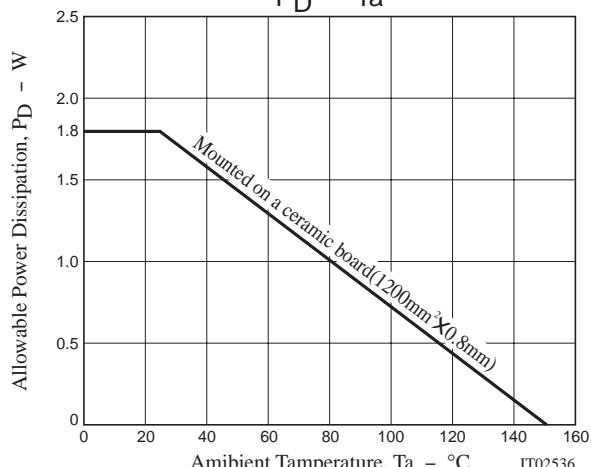
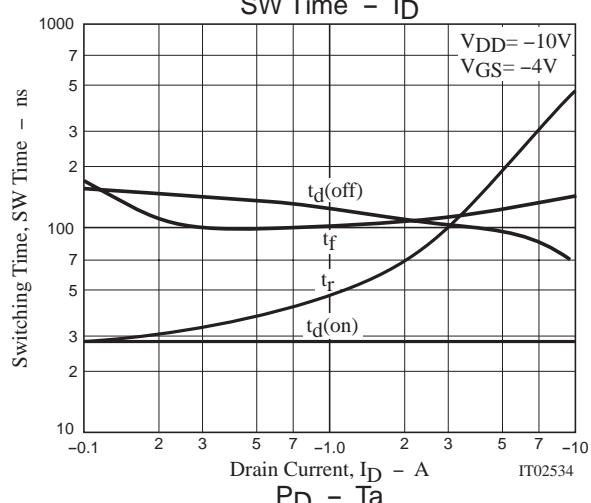
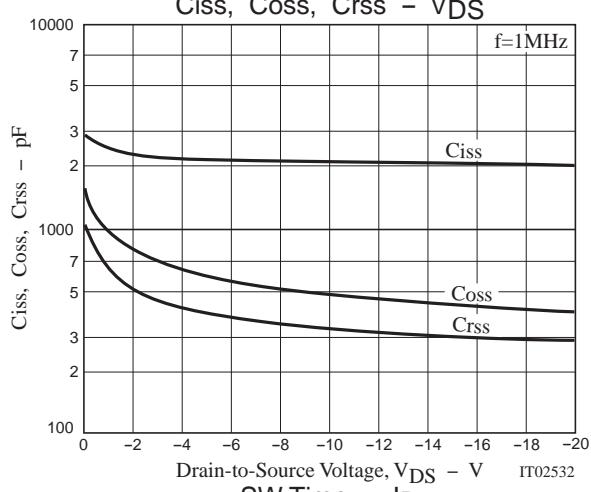
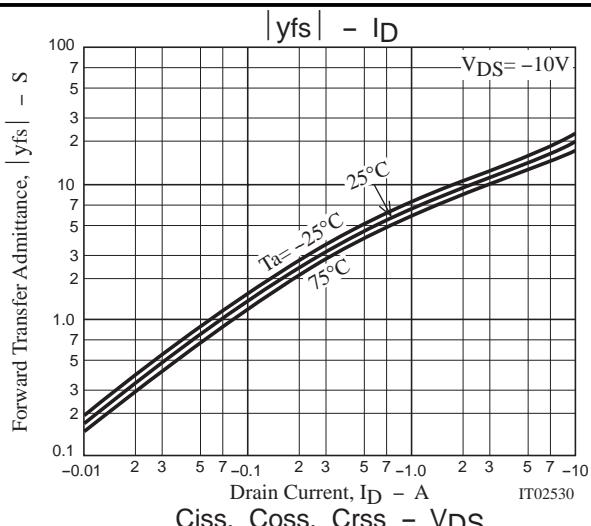
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D = -6A, V_{GS} = -4V$			29	38 $m\Omega$
	$R_{DS(on)2}$	$I_D = -2A, V_{GS} = -2.5V$			41	58 $m\Omega$
Input Capacitance	C_{iss}	$V_{DS} = -10V, f = 1MHz$		2100		pF
Output Capacitance	C_{oss}	$V_{DS} = -10V, f = 1MHz$		480		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS} = -10V, f = 1MHz$		320		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit		28		ns
Rise Time	t_r	See specified Test Circuit		240		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit		93		ns
Fall Time	t_f	See specified Test Circuit		130		ns
Total Gate Charge	Q_g	$V_{DS} = -10V, V_{GS} = -10V, I_D = -6A$		41		nC
Gate-to-Source Charge	Q_{gs}	$V_{DS} = -10V, V_{GS} = -10V, I_D = -6A$		4		nC
Gate-to-Drain "Miller" Charge	Q_{gd}	$V_{DS} = -10V, V_{GS} = -10V, I_D = -6A$		5		nC
Diode Forward Voltage	V_{SD}	$I_S = -6A, V_{GS} = 0$			-0.82	-1.5 V

Switching Time Test Circuit



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