



# FSS163

P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Load switching applications.
- Low ON-resistance.
- 4V drive.

### 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>		-10	A
Drain Current (PW≤10s)	I <sub>D</sub>	duty cycle≤1%	-12.5	A
Drain Current (PW≤10μs)	I <sub>DP</sub>	duty cycle≤1%	-52	A
Allowable Power Dissipation	P <sub>D</sub>	Mounted on a ceramic board (1200mm <sup>2</sup> ×0.8mm), PW≤10s	2.9	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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 <sub>D</sub> =-1mA, V <sub>GS</sub> =0	-30			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-30V, V <sub>GS</sub> =0			-1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±16V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-1.0		-2.4	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-10A	10.8	18		S
Static Drain-to-Source On-State Resistance	R <sub>DS(on)1</sub>	I <sub>D</sub> =-10A, V <sub>GS</sub> =-10V		13	17.5	mΩ
	R <sub>DS(on)2</sub>	I <sub>D</sub> =-5A, V <sub>GS</sub> =-4.5V		20	28	mΩ
	R <sub>DS(on)3</sub>	I <sub>D</sub> =-5A, V <sub>GS</sub> =-4V		22	31	mΩ
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =-10V, f=1MHz		3300		pF
Output Capacitance	C <sub>oss</sub>	V <sub>DS</sub> =-10V, f=1MHz		590		pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =-10V, f=1MHz		470		pF

Marking : S163

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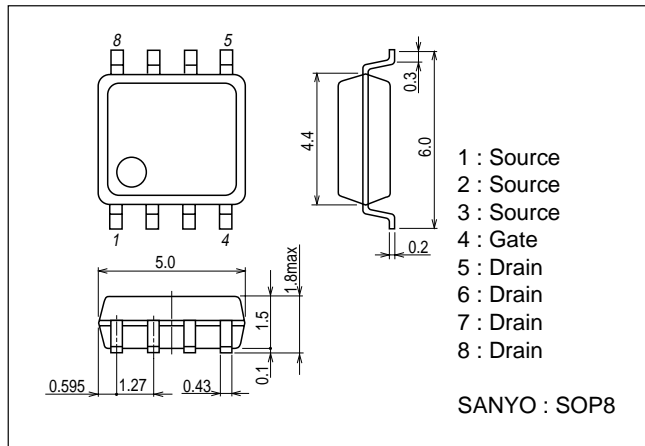
# FSS163

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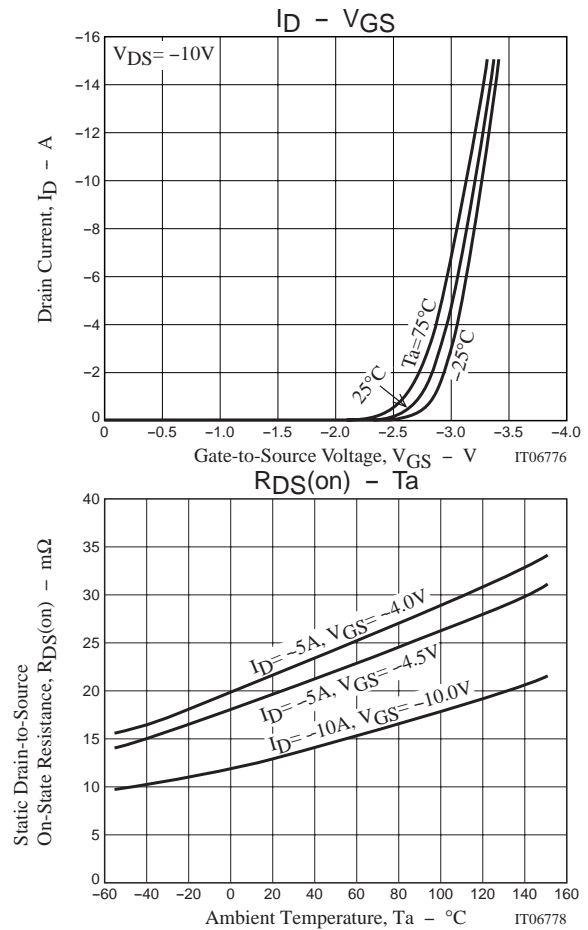
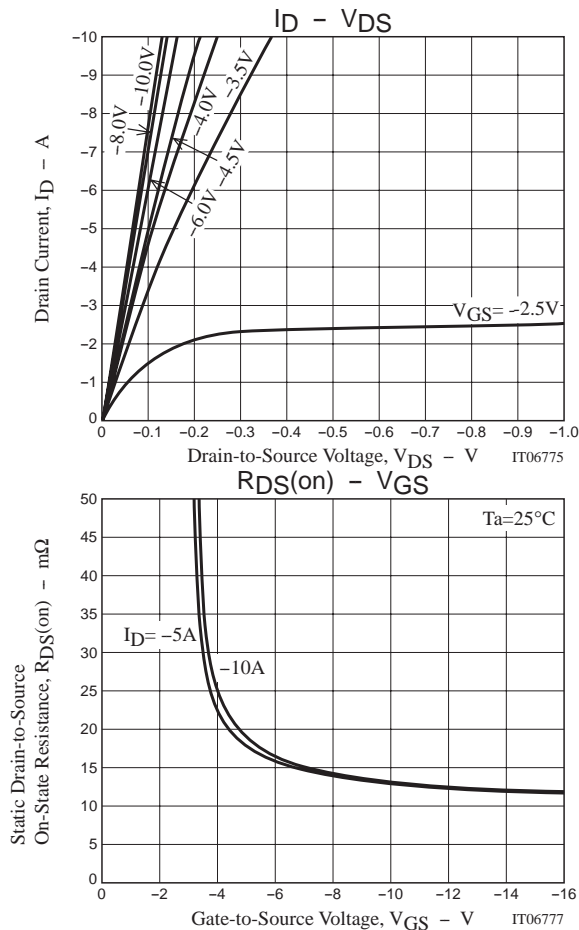
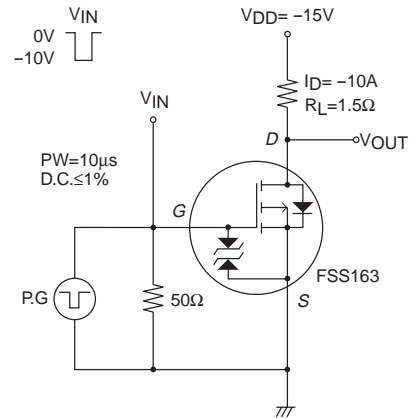
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		30		ns
Rise Time	$t_r$	See specified Test Circuit.		230		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		180		ns
Fall Time	$t_f$	See specified Test Circuit.		130		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-10A$		50		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-10A$		8.5		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-10A$		10		nC
Diode Forward Voltage	VSD	$I_S=-10A, V_{GS}=0$		-0.82	-1.5	V

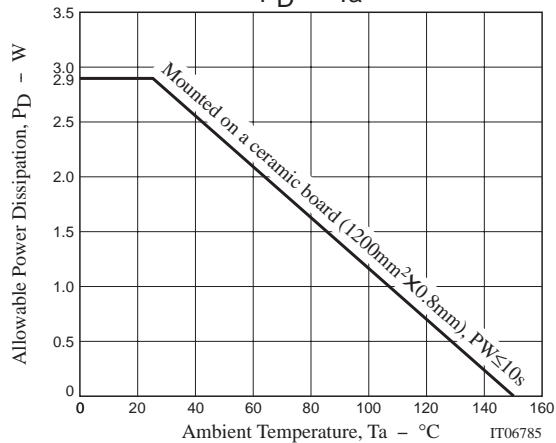
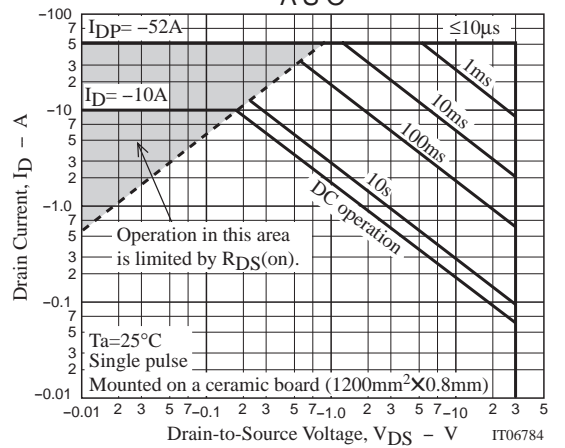
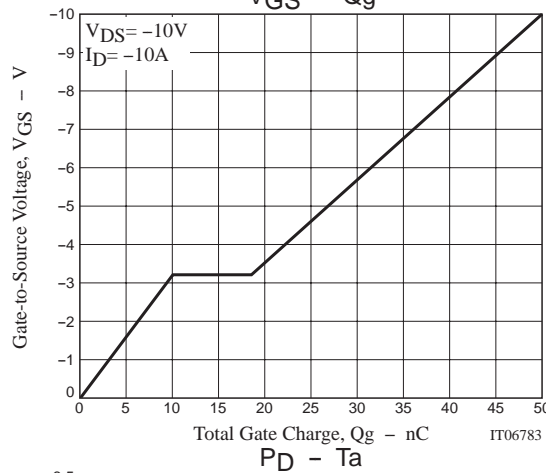
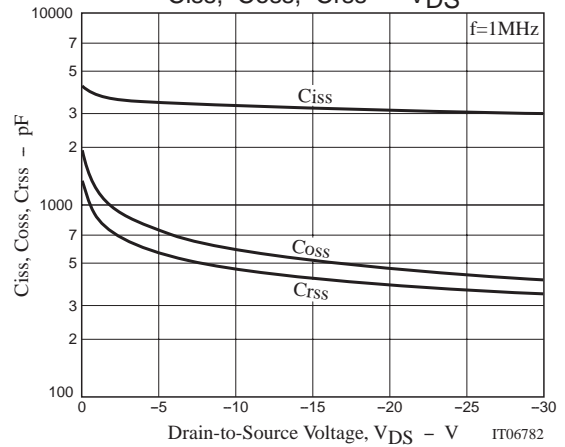
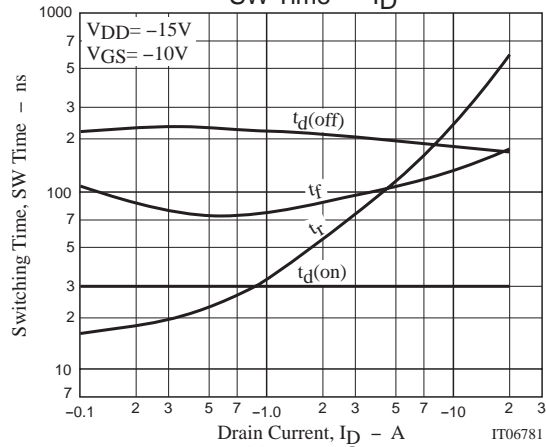
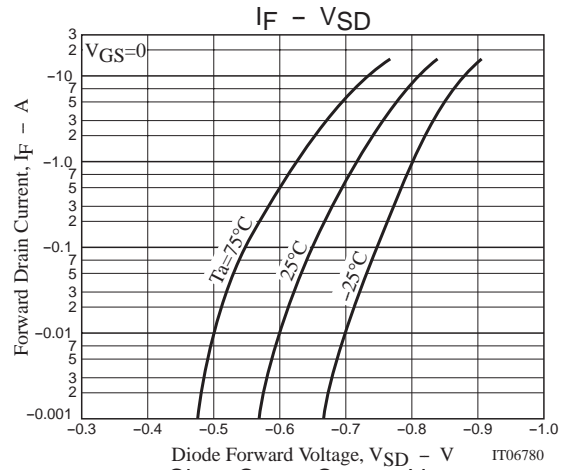
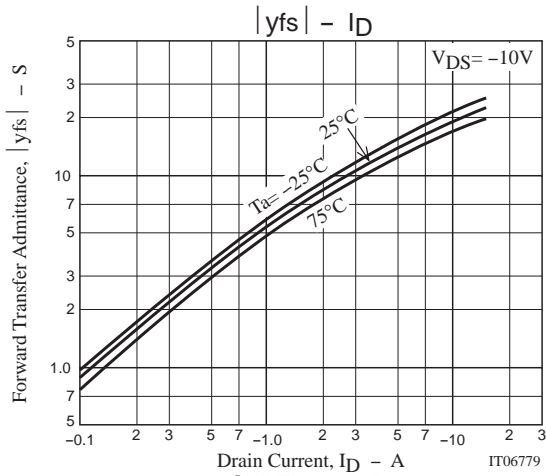
## Package Dimensions

unit : mm  
2116



## Switching Time Test Circuit





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