

FC591301

Silicon N-channel MOS FET

For switching circuits

■ Overview

FC591301 is N-channel dual type small signal MOS FET employed small size surface mounting package.

■ Features

- Low drain-source ON resistance: $R_{DS(on)}$ typ. = $2\ \Omega$ ($V_{GS} = 4.0\ V$)
- High-speed switching
- Small size surface mounting package: SSMini5-F4-B
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Packaging

FC5913010R Embossed type (Thermo-compression sealing): 8000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

	Parameter	Symbol	Rating	Unit
FET1 FET2	Drain-source surrender voltage	V_{DSS}	30	V
	Gate-source surrender voltage	V_{GSS}	± 12	V
	Drain current	I_D	100	mA
	Peak drain current	I_{DP}	200	mA
Overall	Total power dissipation	P_T	125	mW
	Channel temperature	T_{ch}	150	$^\circ\text{C}$
	Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

■ Package

• Code

SSMini5-F4-B

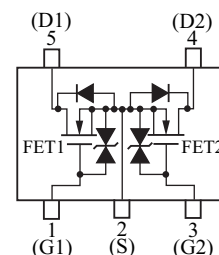
Package dimension clicks here.→

• Pin Name

- | | |
|--------------------|-----------------|
| 1: Gate (FET1) | 4: Drain (FET2) |
| 2: Source (FET1/2) | 5: Drain (FET1) |
| 3: Gate (FET2) | |

■ Marking Symbol: V3

■ Internal Connection

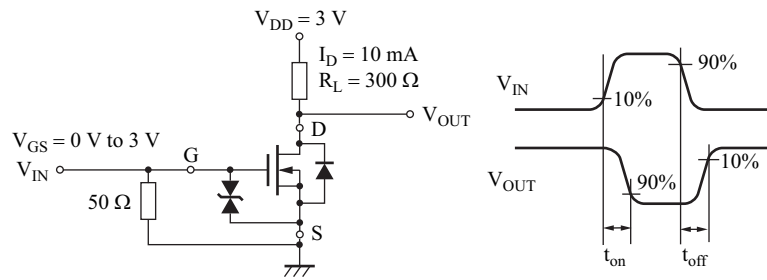


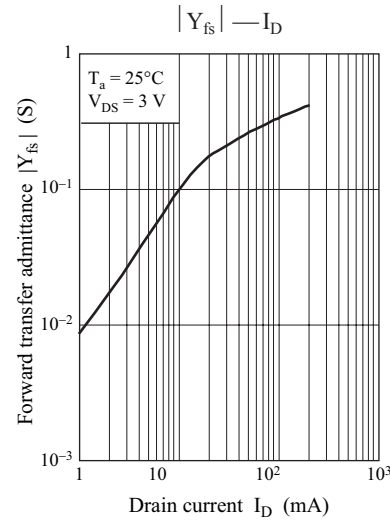
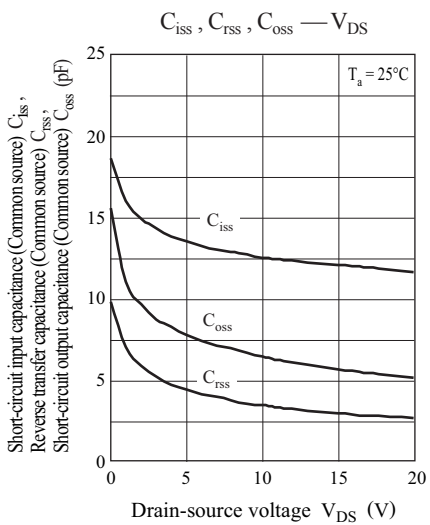
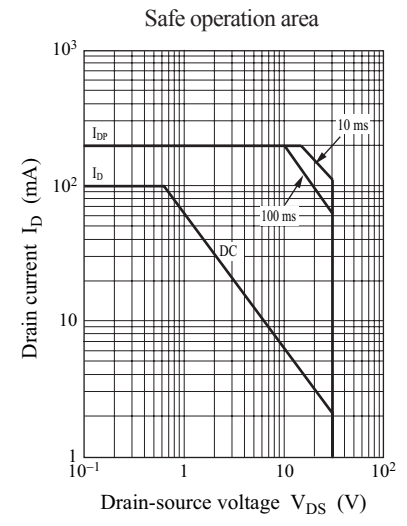
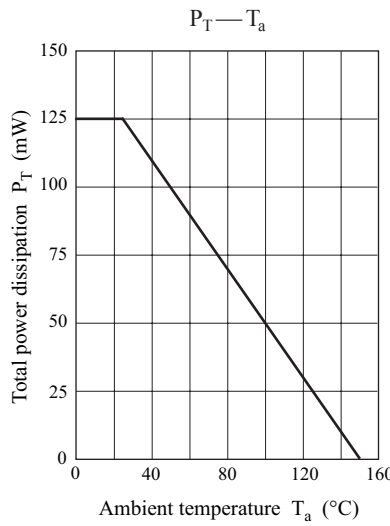
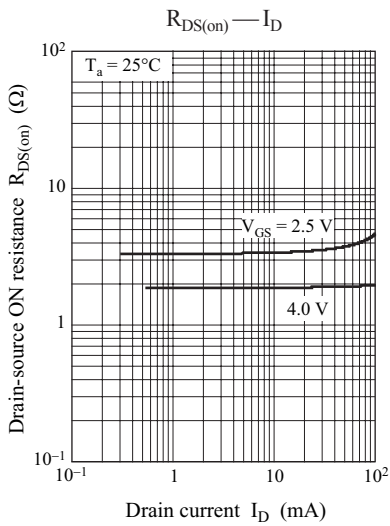
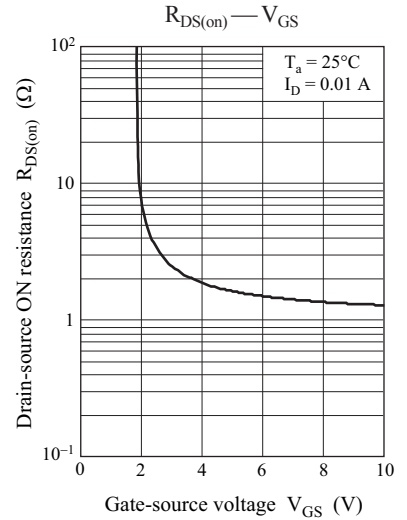
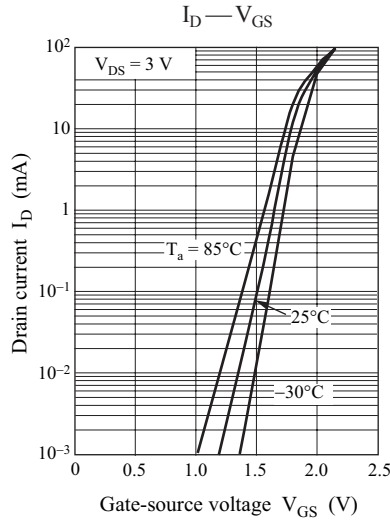
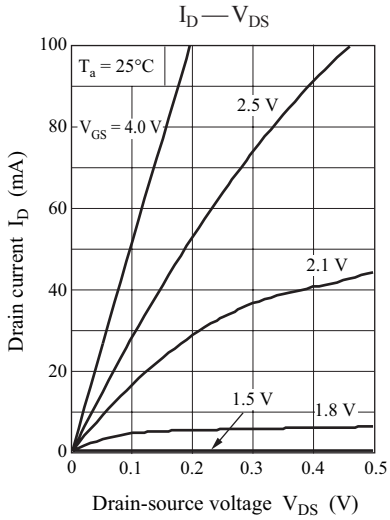
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	$I_D = 1 \text{ mA}, V_{GS} = 0$	30			V
Drain-source cutoff current	I_{DSS}	$V_{DS} = 30 \text{ V}, V_{GS} = 0$			1.0	μA
Gate-source cutoff current	I_{GSS}	$V_{GS} = \pm 10 \text{ V}, V_{DS} = 0$			± 10	μA
Gate threshold voltage	V_{TH}	$I_D = 1.0 \text{ }\mu\text{A}, V_{DS} = 3.0 \text{ V}$	0.5	1.0	1.5	V
Drain-source ON resistance	$R_{DS(on)}$	$I_D = 10 \text{ mA}, V_{GS} = 2.5 \text{ V}$		3	6	Ω
		$I_D = 10 \text{ mA}, V_{GS} = 4.0 \text{ V}$		2	3	
Forward transfer admittance	$ Y_{fs} $	$I_D = 10 \text{ mA}, V_{DS} = 3.0 \text{ V}$	20	55		mS
Short-circuit input capacitance (Common source)	C_{iss}	$V_{DS} = 3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$		12		pF
Short-circuit output capacitance (Common source)	C_{oss}				7	pF
Reverse transfer capacitance (Common source)	C_{rss}				3	pF
Turn-on time *	t_{on}	$V_{DD} = 3 \text{ V}, V_{GS} = 0 \text{ V to } 3 \text{ V},$ $I_D = 10 \text{ mA}$		100		ns
Turn-off time *	t_{off}	$V_{DD} = 3 \text{ V}, V_{GS} = 3 \text{ V to } 0 \text{ V},$ $I_D = 10 \text{ mA}$		100		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Test circuit





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