



# FK3503010L

## Silicon N-channel MOSFET

For switching  
 FK330301 in SMini3 type package

■ Features

- Low drive voltage : 2.5 V drive
- Halogen-free / RoHS compliant  
 (EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

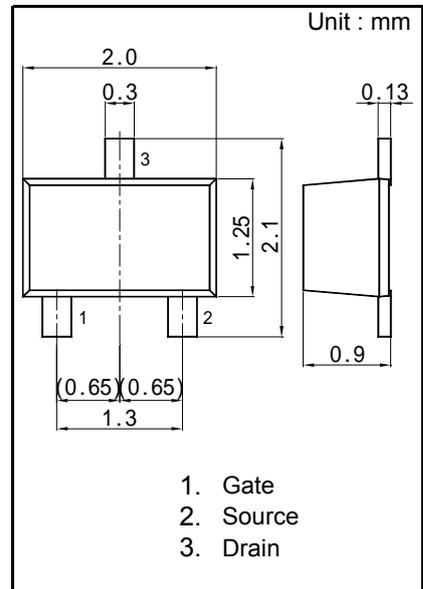
■ Marking Symbol : X1

■ Packaging

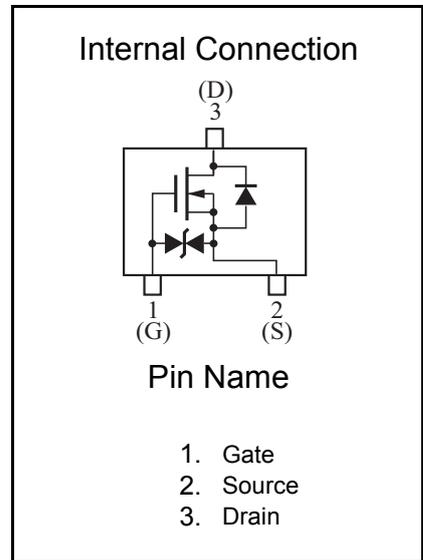
Embossed type (Thermo-compression sealing) 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

Parameter	Symbol	Rating	Unit
Drain-source voltage	VDS	30	V
Gate-source voltage	VGS	±12	V
Drain current	ID	100	mA
Pulse drain current	IDp	200	mA
Total power dissipation	PD	150	mW
Channel temperature	Tch	150	°C
Operating ambient temperature	Topr	-40 to + 85	°C
Storage temperature	Tstg	-55 to +150	°C



Panasonic	SMini3-F2-B
JEITA	SC-85
Code	—



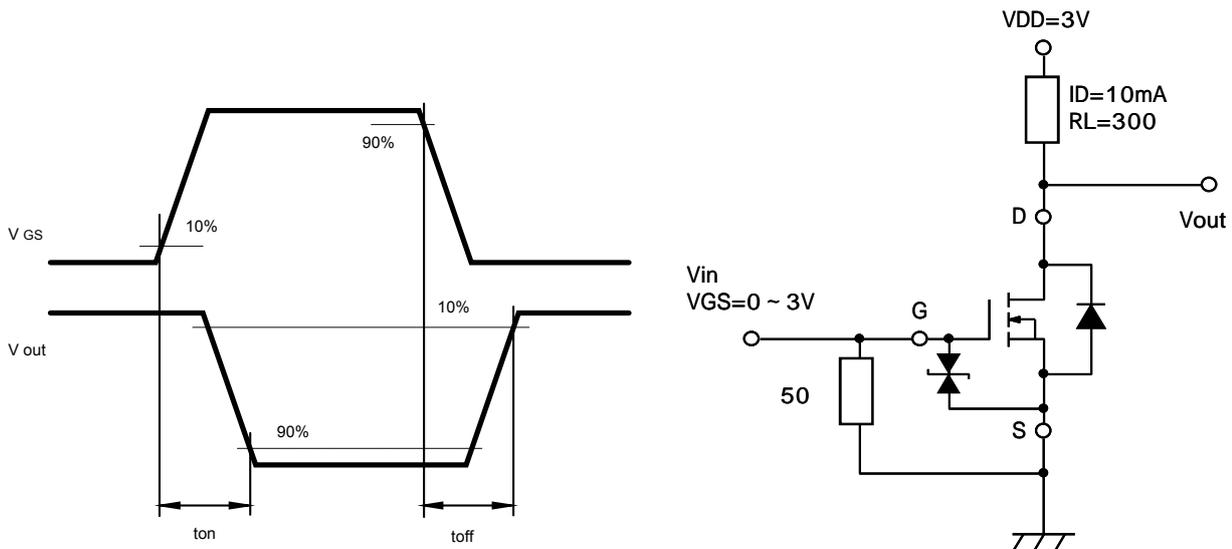


■ Electrical Characteristics Ta = 25 °C ± 3 °C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	VDSS	ID = 1 mA, VGS = 0	30			V
Drain-source cutoff current	IDSS	VDS = 30 V, VGS = 0			1.0	μA
Gate-source cutoff current	IGSS	VGS = ±10 V, VDS = 0			±10	μA
Gate threshold voltage	VTH	ID = 1.0 μA, VDS = 3.0 V	0.5	1.0	1.5	V
Drain-source ON resistance	RDS(on)	ID = 10 mA, VGS = 2.5 V		3	6	Ω
		ID = 10 mA, VGS = 4.0 V		2	3	Ω
Forward transfer admittance	Yfs	ID = 10 mA, VDS = 3.0 V	20	55		mS
Input capacitance	Ciss	VDS = 3 V, VGS = 0, f = 1 MHz		12		pF
Output capacitance	Coss			7		pF
Reverse transfer capacitance	Crss			3		pF
Turn-on time *1	ton	VDD = 3 V, VGS = 0 to 3 V ID = 10 mA		100		ns
Turn-off time *1	toff	VDD = 3 V, VGS = 3 to 0 V ID = 10 mA		100		ns

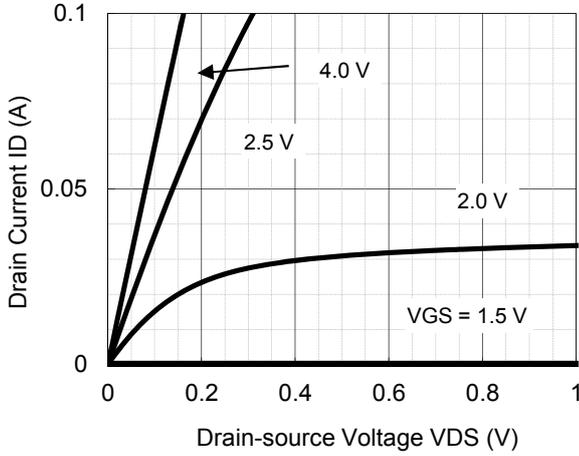
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

2. \*1 Turn-on and Turn-off test circuit

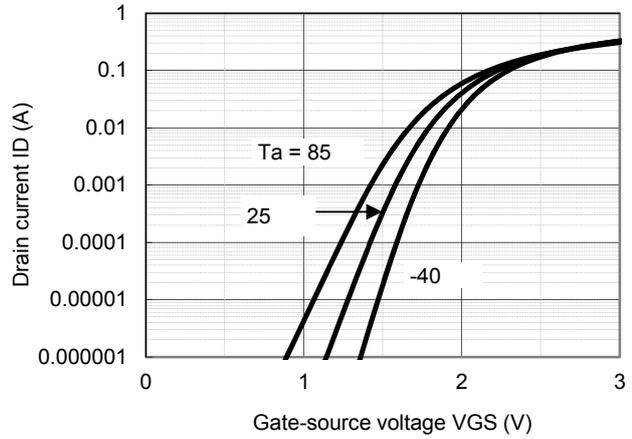




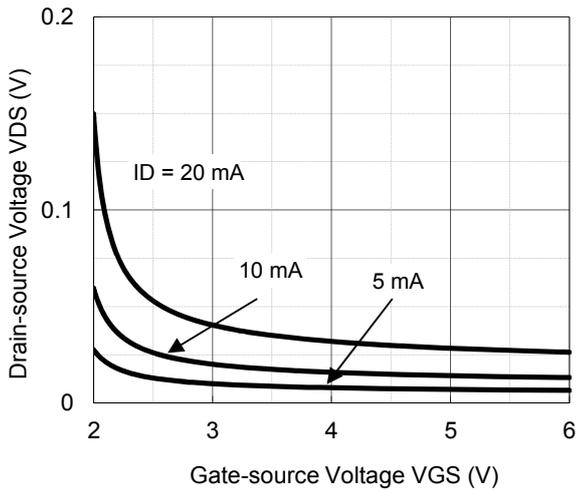
ID - VDS



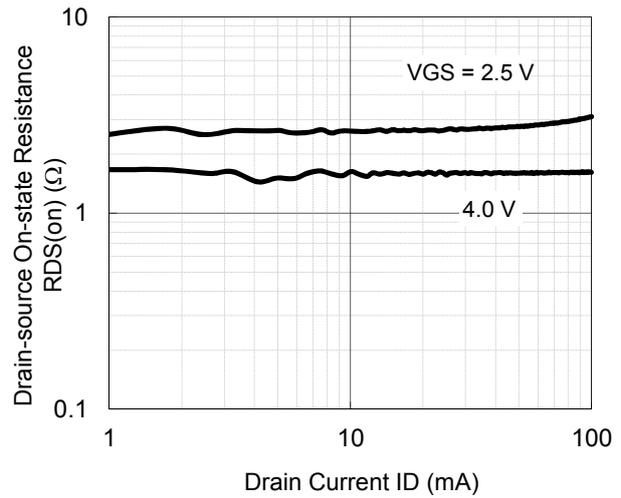
ID - VGS



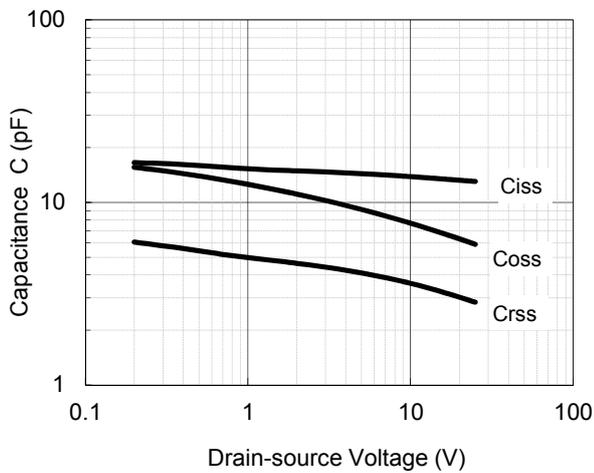
VDS - VGS



RDS(on) - ID

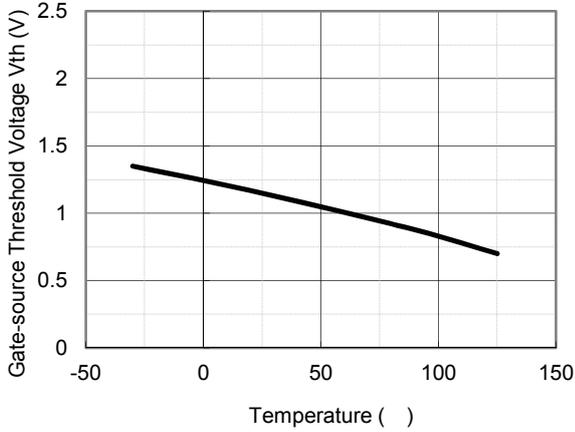


Capacitance - VDS

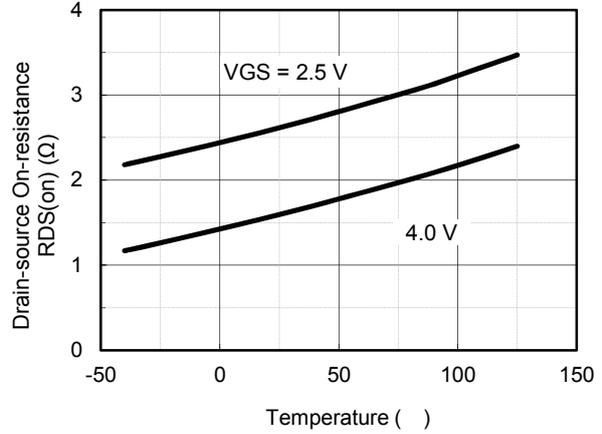




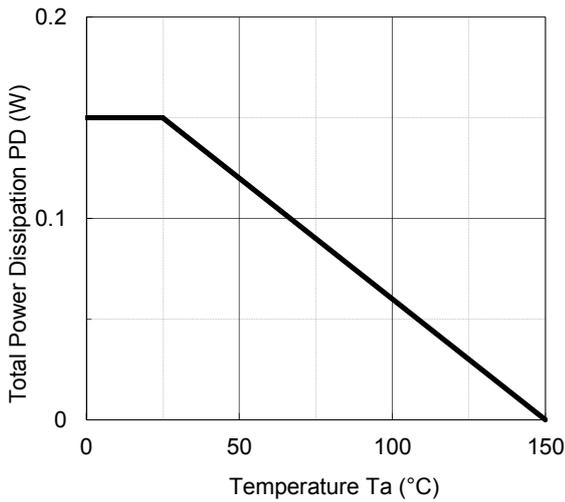
V<sub>th</sub> - T<sub>a</sub>



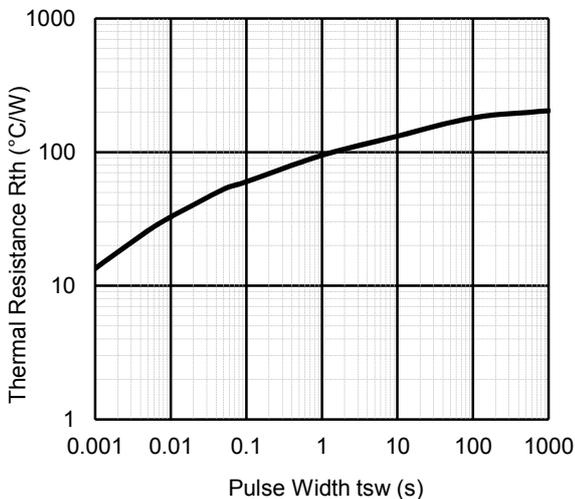
R<sub>DS(on)</sub> - T<sub>a</sub>



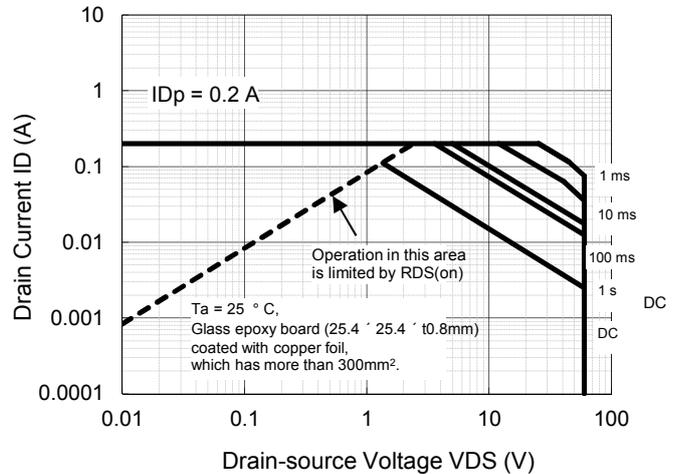
PD - T<sub>a</sub>



R<sub>th</sub> - t<sub>sw</sub>



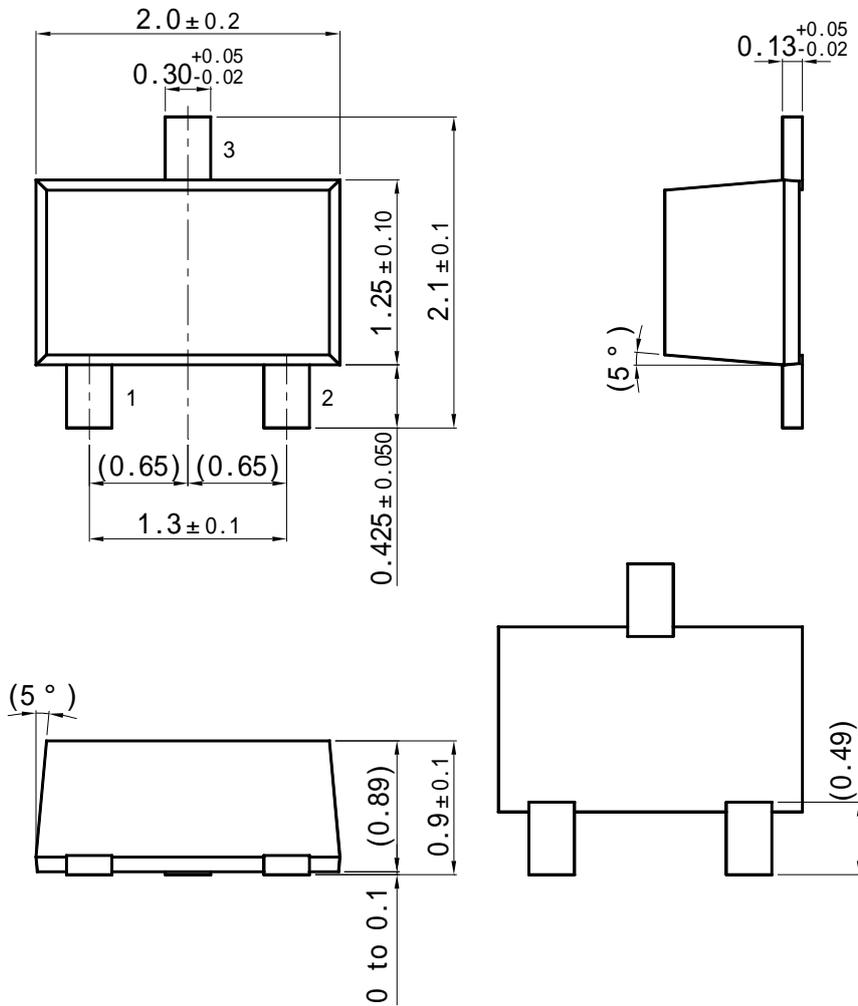
Safe Operating Area



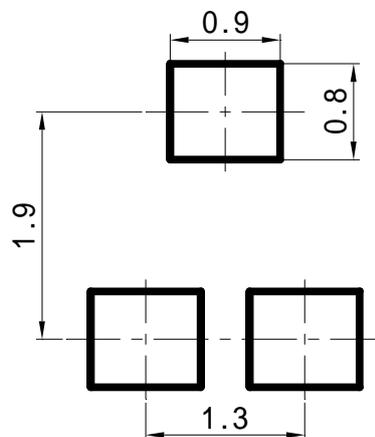


### SMini3-F2-B

Unit : mm



#### ■ Land Pattern (Reference) (Unit : mm)



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