



MOS FET

FG6943010R

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Silicon N-channel MOSFET(FET1)
Silicon P-channel MOSFET(FET2)

For switching

■ Features

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

■ Marking Symbol V7

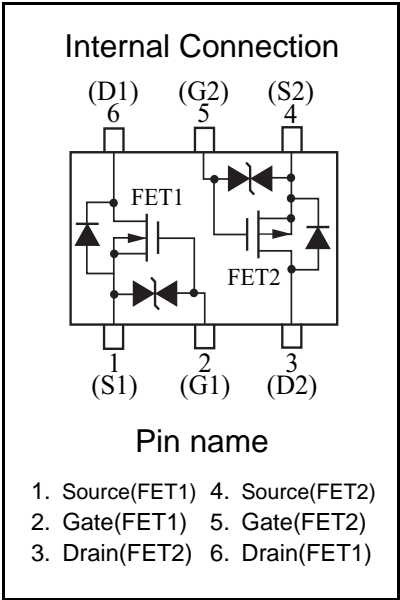
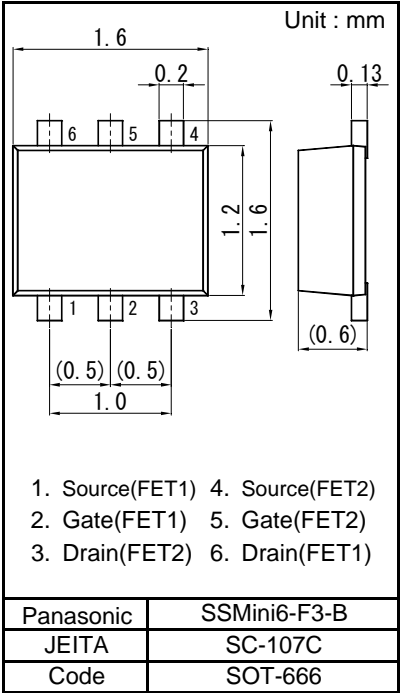
■ Basic Part Number FJ330301 + FK330301 (Individual)

■ Packaging

Embossed type (Thermo-compression sealing) 8 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

Parameter		Symbol	Rating	Unit
FET1	Drain-source voltage	VDS	30	V
	Gate-source voltage	VGS	±12	V
	Drain current	ID	100	mA
	Pulse drain current	IDp	200	mA
FET2	Drain-source voltage	VDS	-30	V
	Gate-source voltage	VGS	±12	V
	Drain current	ID	-100	mA
	Pulse drain current	IDp	-200	mA
Overall	Total power dissipation	PT	125	mW
	Channel temperature	Tch	150	°C
	Operating ambient temperature	Topr	-40 to + 85	°C
	Storage temperature	Tstg	-55 to +150	°C

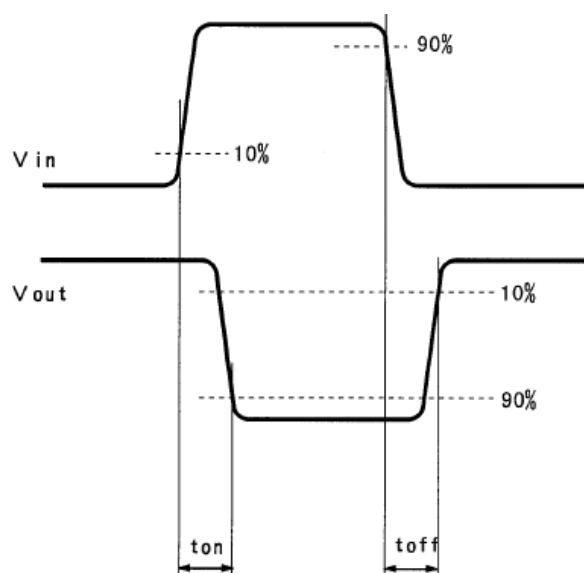
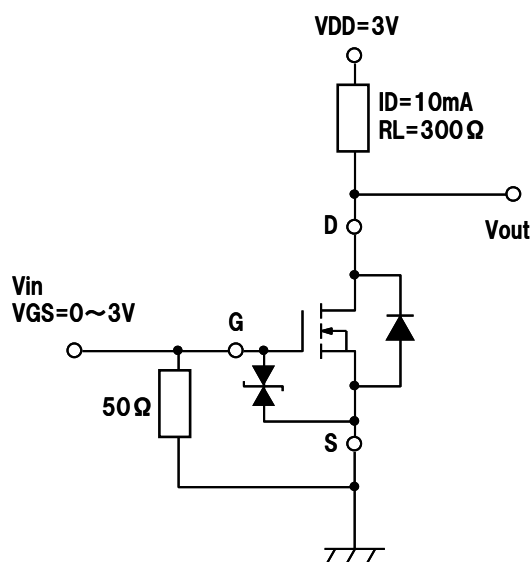


■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$
FET1

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

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

2. ^{*1} FET1 Turn-on and Turn-off test circuit

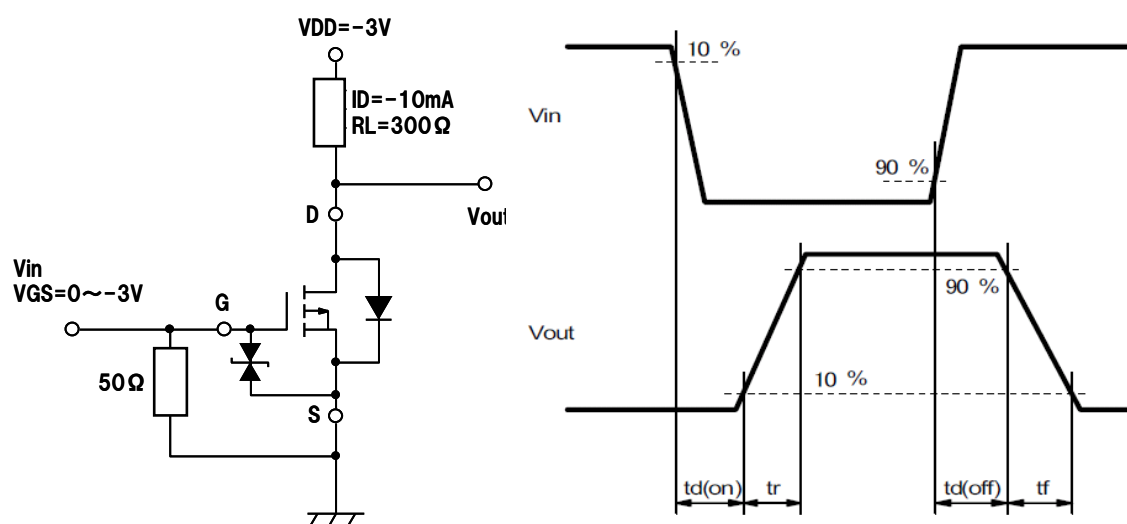


■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$
FET2

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	VDSS	ID = -1mA, 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)1	ID = -10 mA, VGS = -2.5 V		7	17	Ω
	RDS(on)2	ID = -10 mA, VGS = -4.0 V		4	7	Ω
Forward transfer admittance	Yfs	ID = -10 mA, VDS = -3.0 V	20	40		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} FET2 Turn-on and Turn-off test circuit

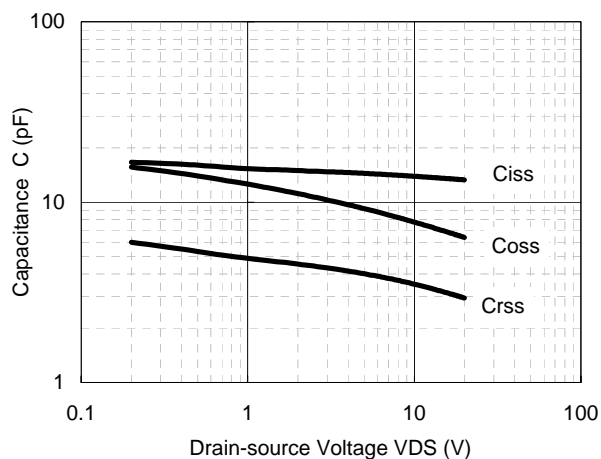
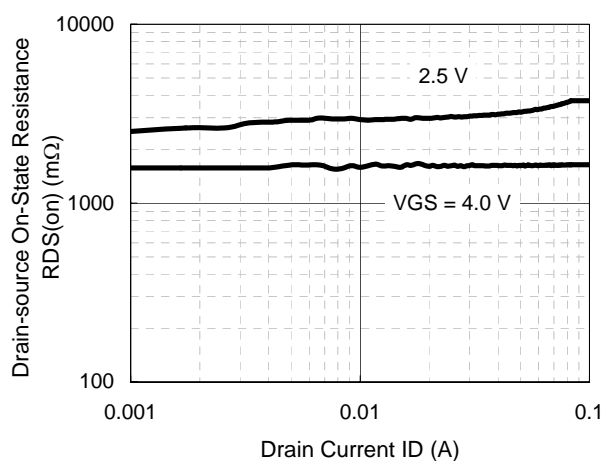
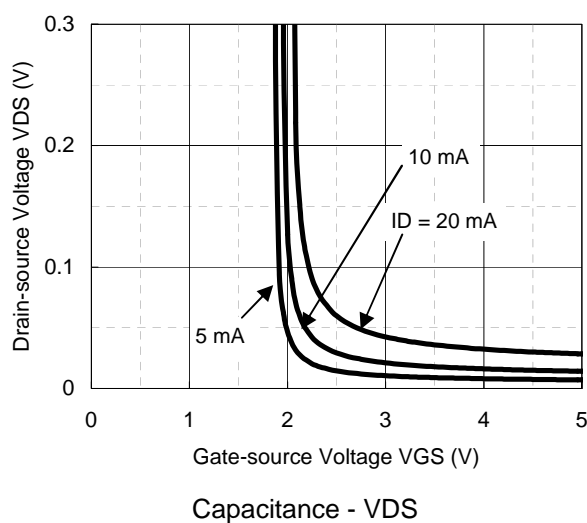
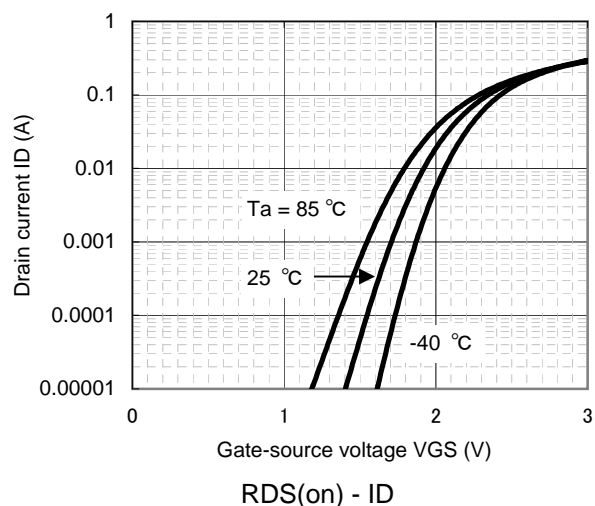
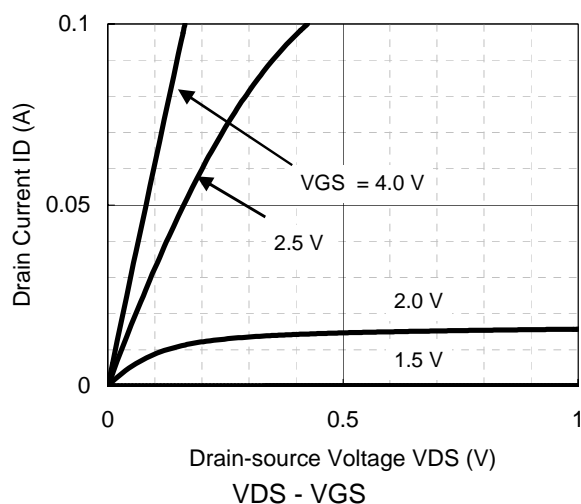


Technical Data (reference)

FET1(N-ch.)

ID - VDS

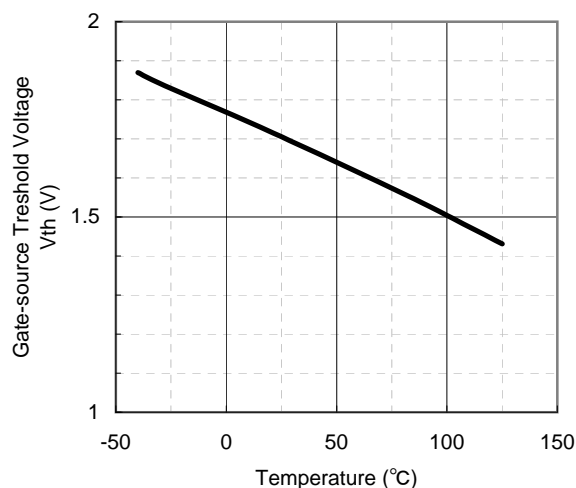
ID - VGS



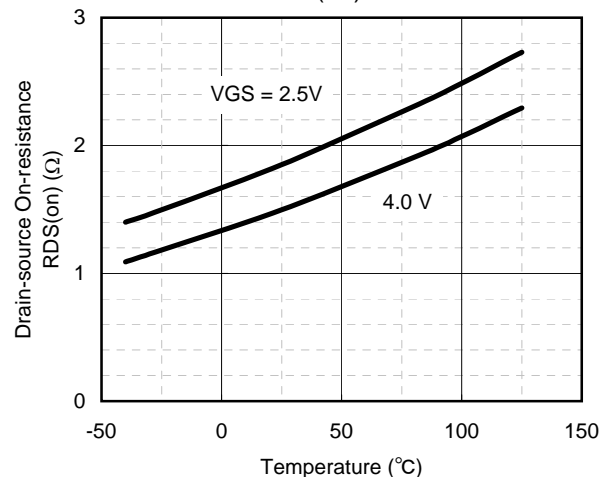
Technical Data (reference)

FET1(N-ch.)

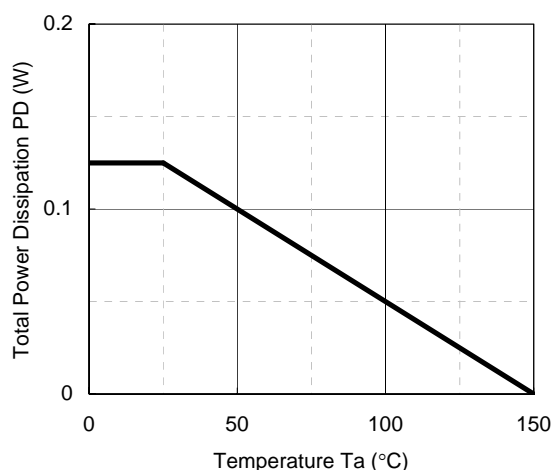
V_{th} - T_a



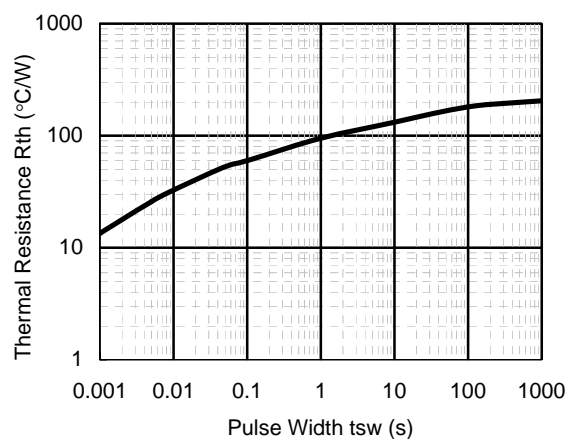
R_{DS(on)} - T_a



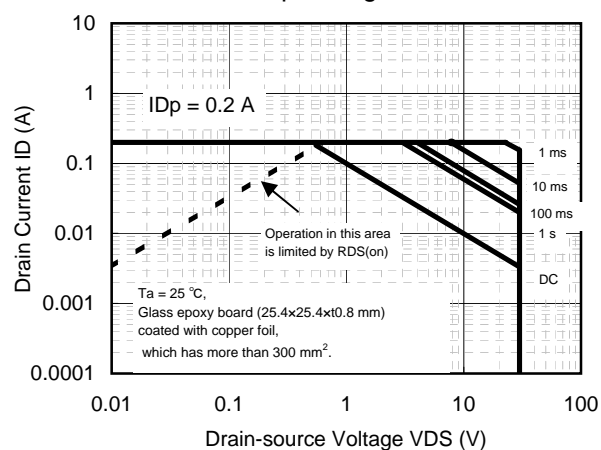
P_D - T_a



R_{th} - t_{sw}



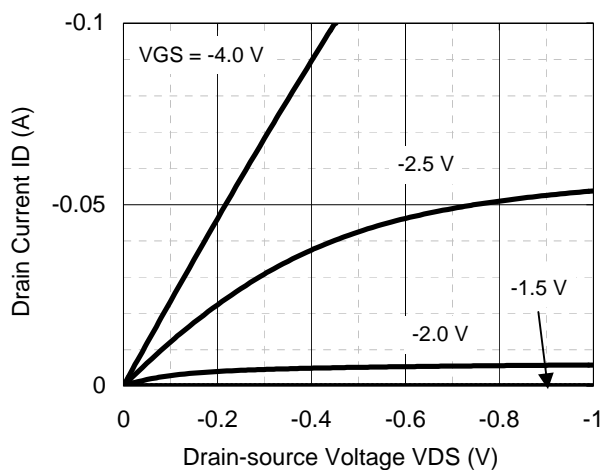
Safe Operating Area



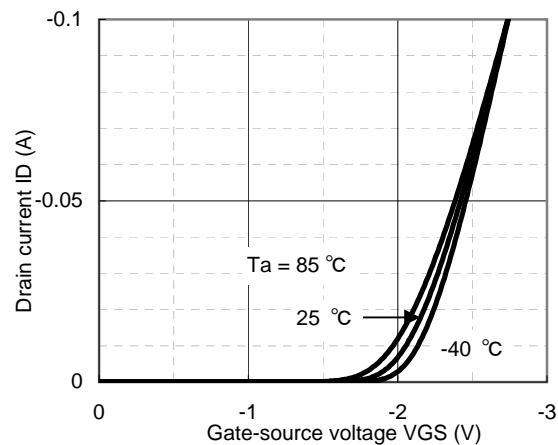
Technical Data (reference)

FET2(P-ch.)

ID - VDS

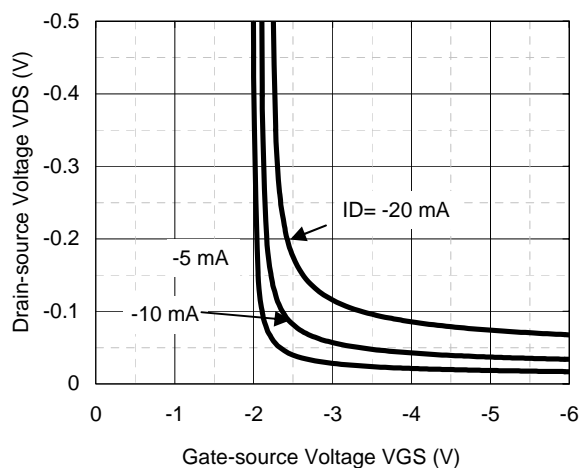


ID - VGS

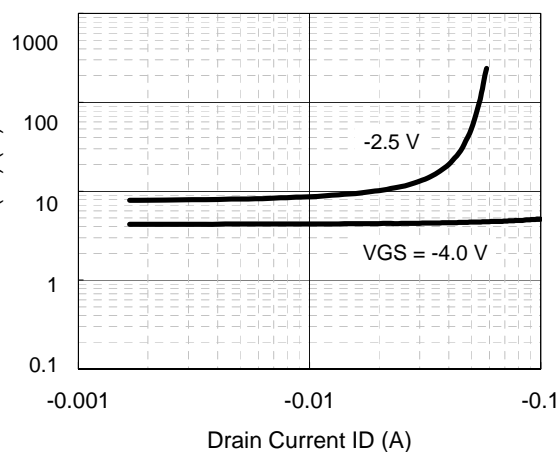


VDS - VGS

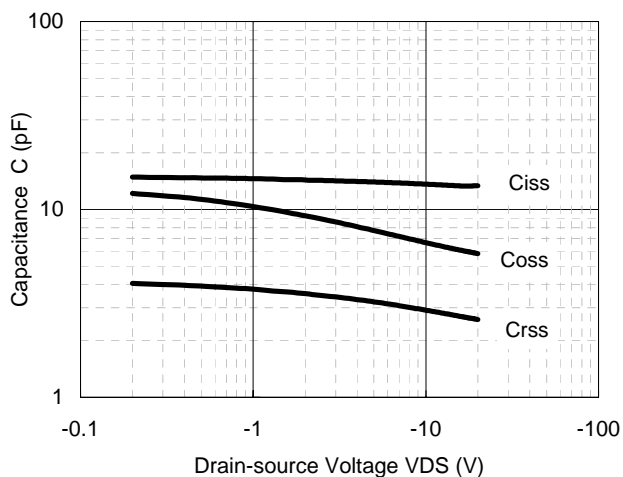
RDS(on) - ID



Drain-source On-state Resistance RDS(on) (Ω)



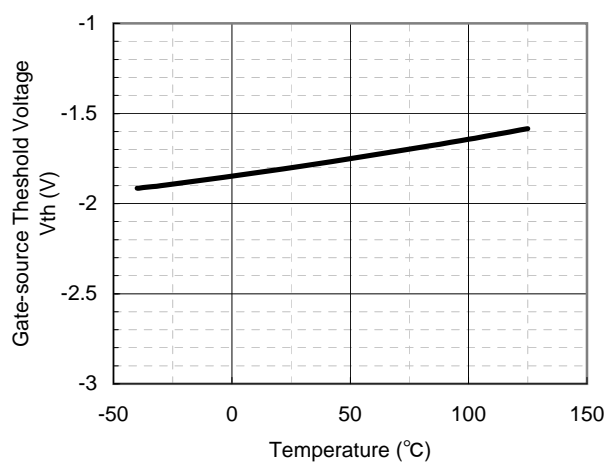
Capacitance - VDS



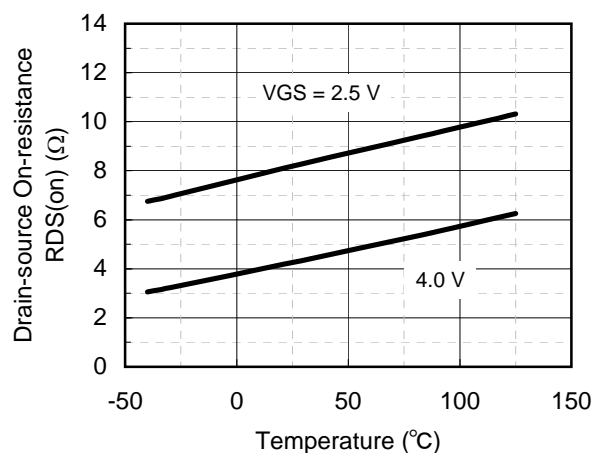
FET2(P-ch.)

Technical Data (reference)

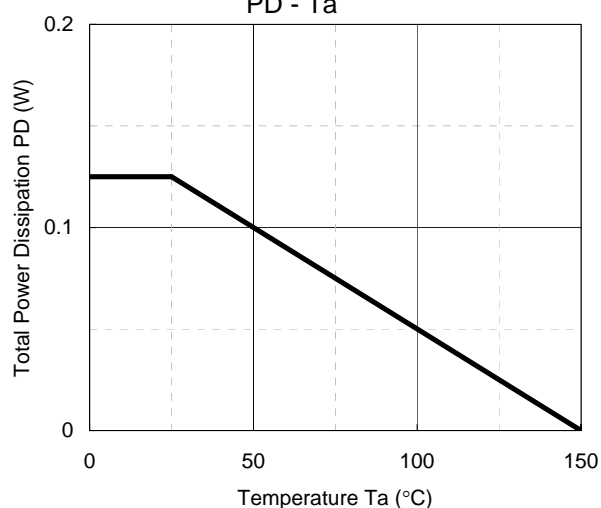
V_{th} - T_a



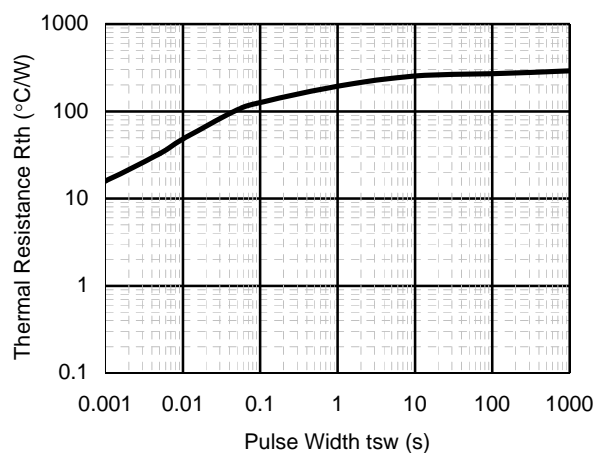
R_{DS(on)} - T_a



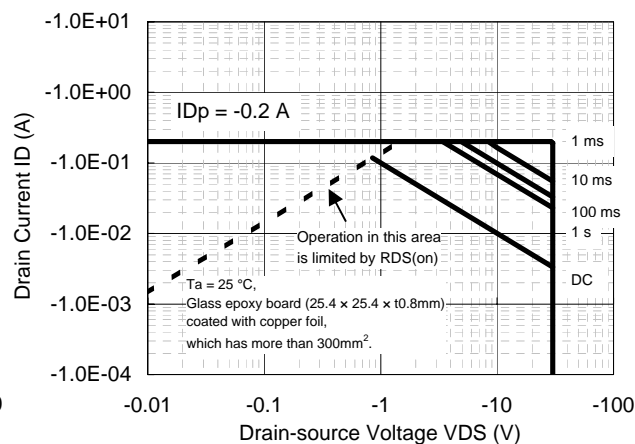
P_D - T_a



R_{th} - t_{sw}

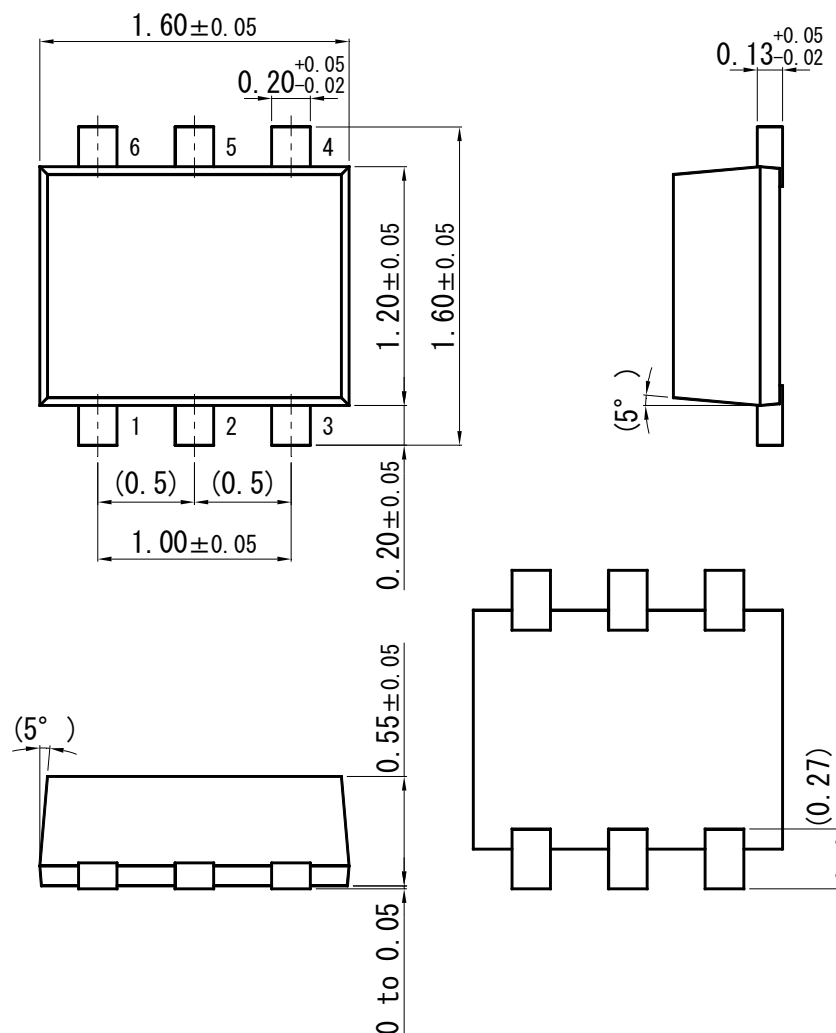


Safe Operating Area

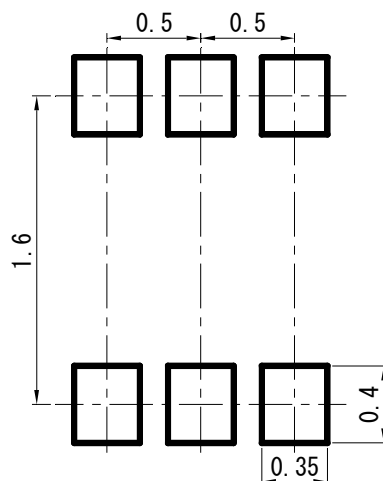


SSMini6-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit : mm)



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