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MOS FET

Panasonic FG6943010R

FG6943010R

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

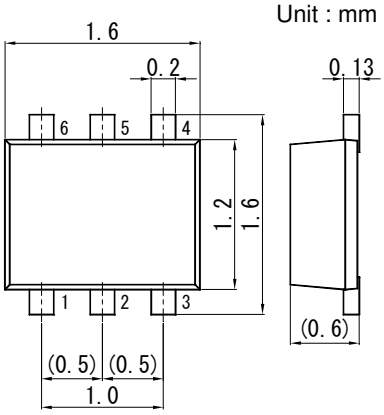
For switching

■ 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)

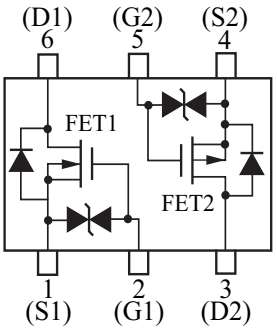
■ Packaging
Embossed type (Thermo-compression sealing) 8 000 pcs / reel (standard)



1. Source(FET1) 4. Source(FET2)
2. Gate(FET1) 5. Gate(FET2)
3. Drain(FET2) 6. Drain(FET1)

Panasonic	SSMini6-F3-B
JEITA	SC-107C
Code	SOT-666

Internal Connection



Pin name

1. Source(FET1) 4. Source(FET2)
2. Gate(FET1) 5. Gate(FET2)
3. Drain(FET2) 6. Drain(FET1)

■ 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

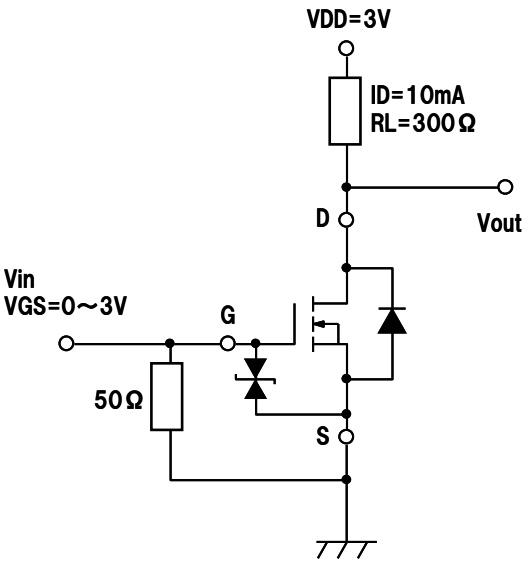
Established : 2010-06-30
Revised : 2013-10-10

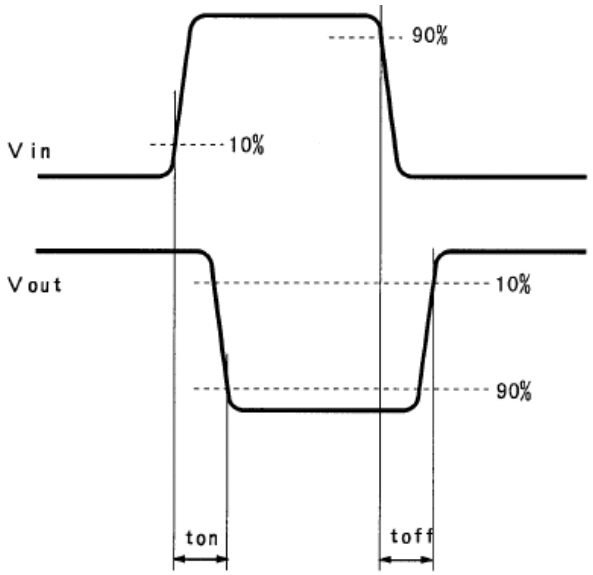
■ Electrical Characteristics Ta = 25 °C ± 3 °C

FET1

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)1	ID = 10 mA, VGS = 2.5 V		3	6	Ω
	RDS(on)2	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 FET1 Turn-on and Turn-off test circuit





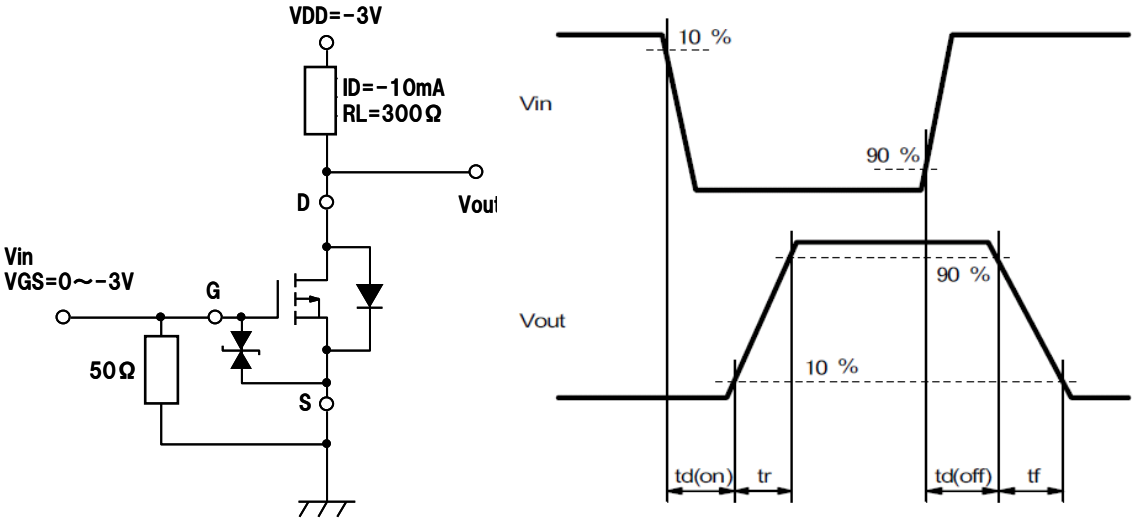
Established : 2010-06-30
Revised : 2013-10-10

■ Electrical Characteristics Ta = 25 °C ± 3 °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

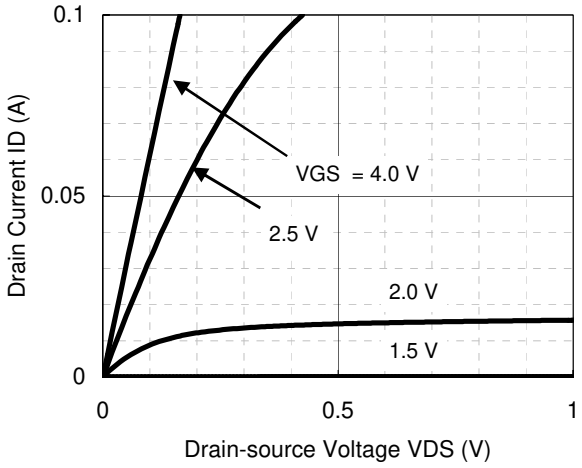


Established : 2010-06-30
Revised : 2013-10-10

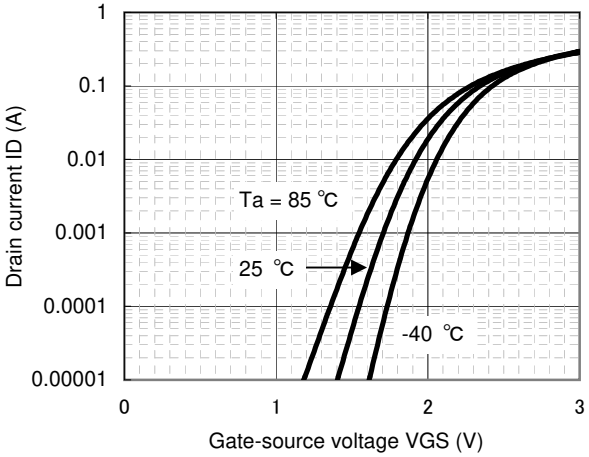
Technical Data (reference)

FET1(N-ch.)

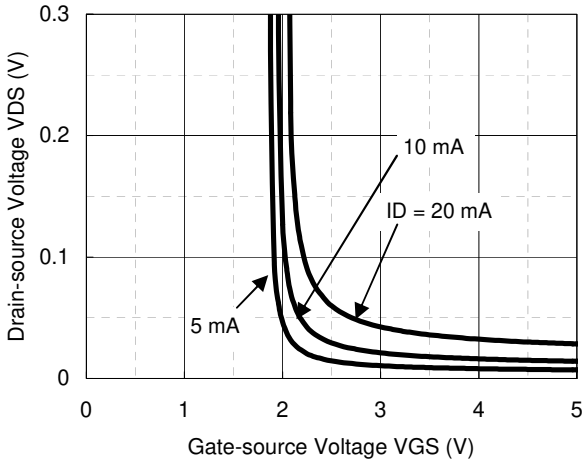
ID - VDS



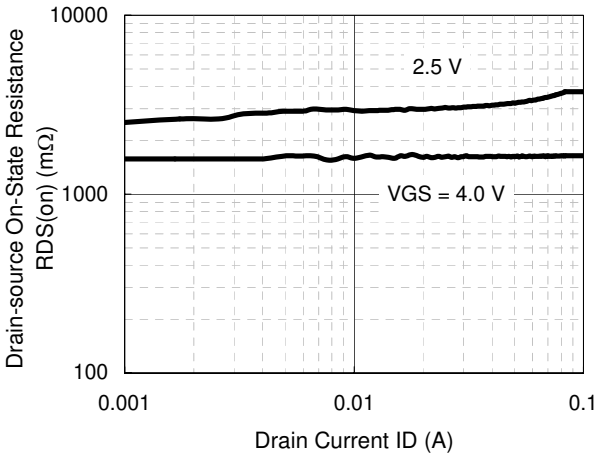
ID - VGS



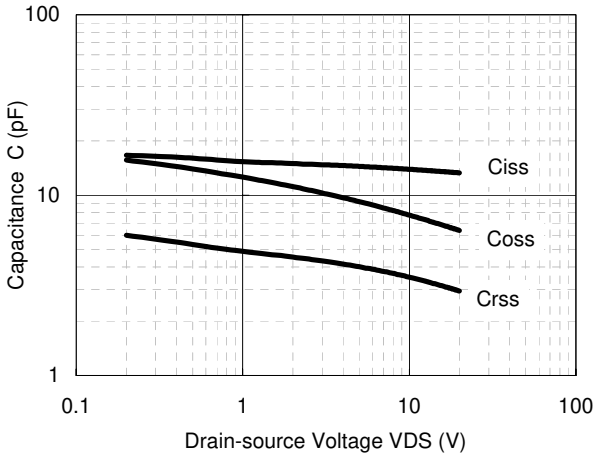
VDS - VGS



RDS(on) - ID



Capacitance - VDS

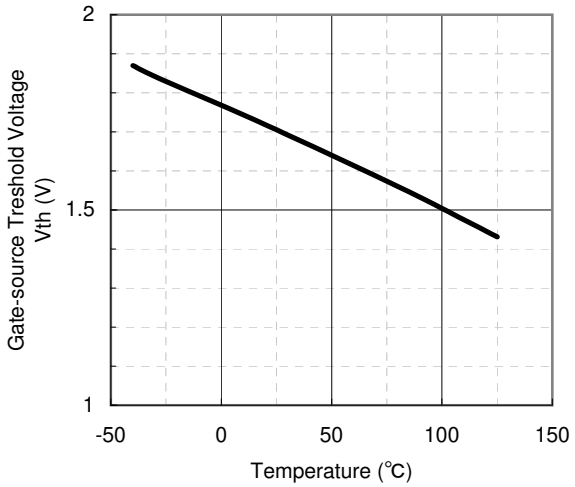


Established : 2010-06-30
Revised : 2013-10-10

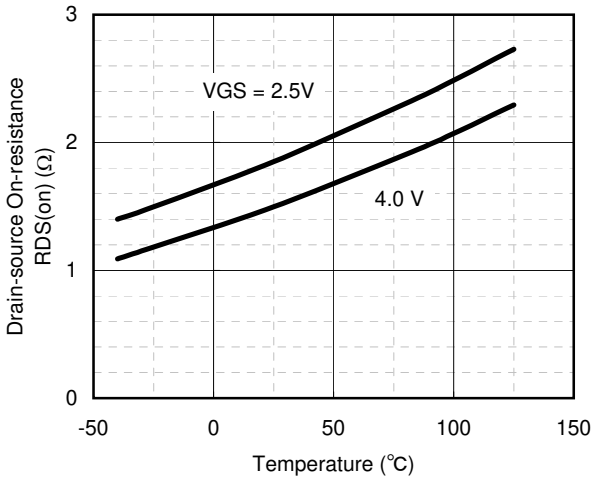
Technical Data (reference)

FET1(N-ch.)

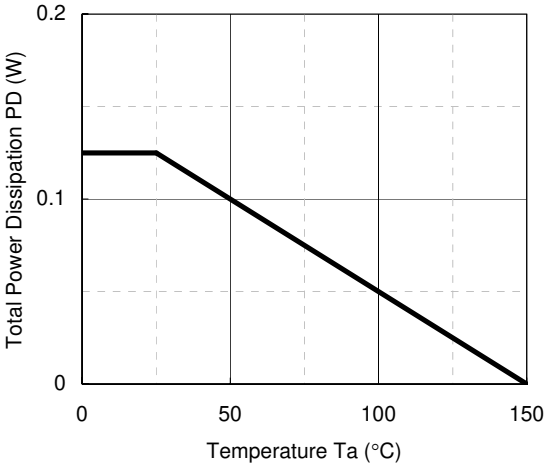
Vth - Ta



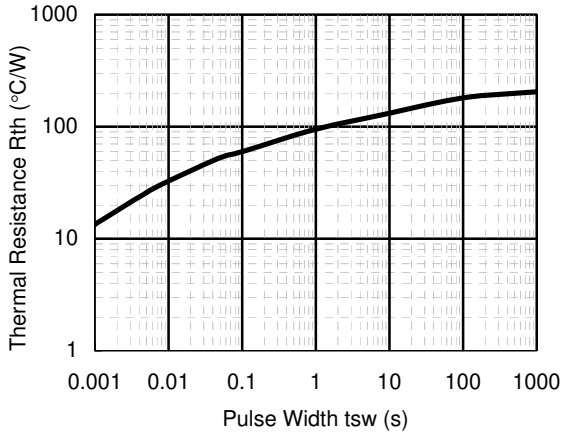
RDS(on) - Ta



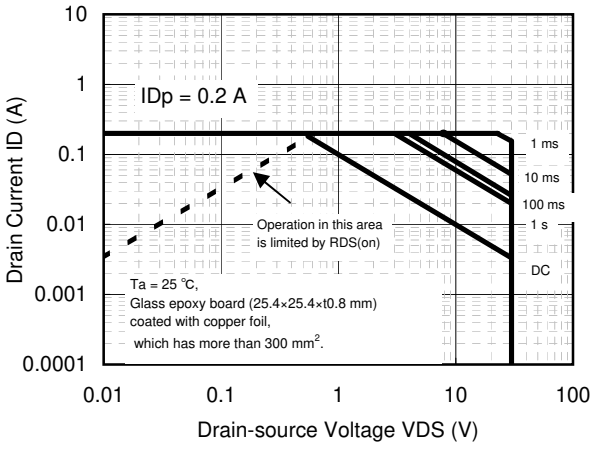
PD - Ta



Rth - tsw



Safe Operating Area



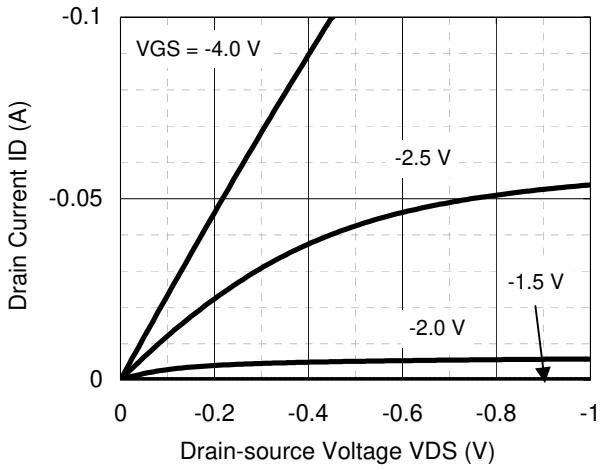
Established : 2010-06-30
Revised : 2013-10-10

Panasonic

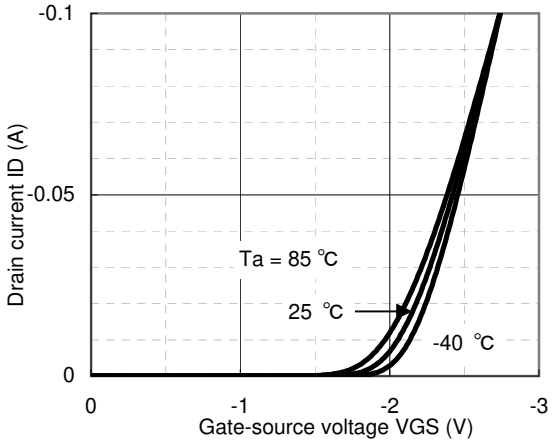
Technical Data (reference)

FET2(P-ch.)

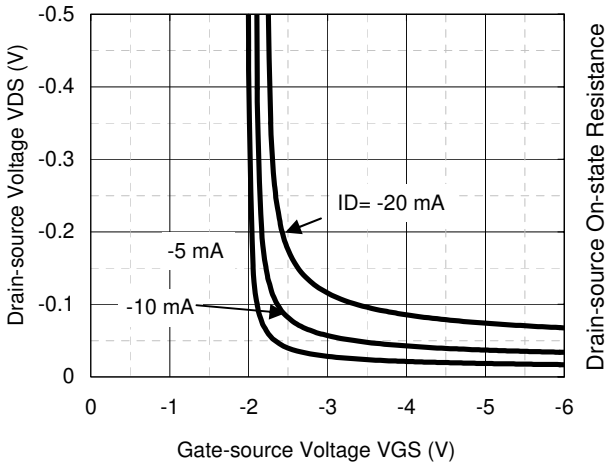
ID - VDS



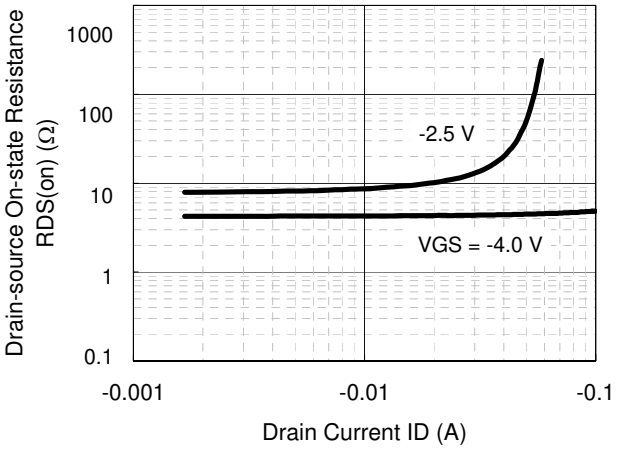
ID - VGS



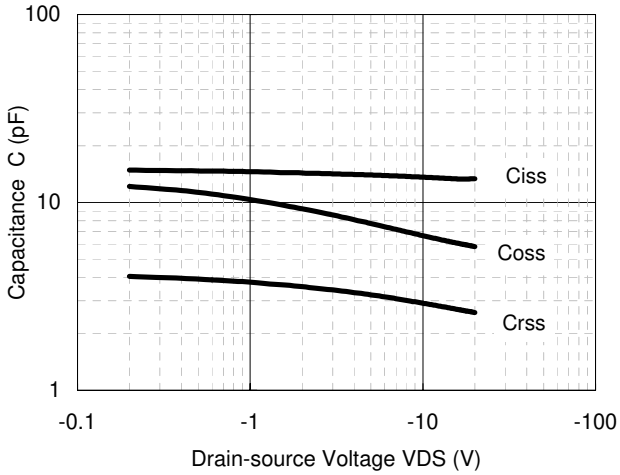
VDS - VGS



RDS(on) - ID



Capacitance - VDS

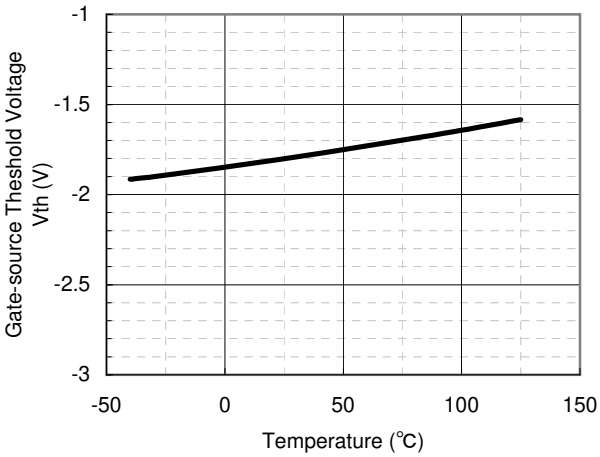


Established : 2010-06-30
Revised : 2013-10-10

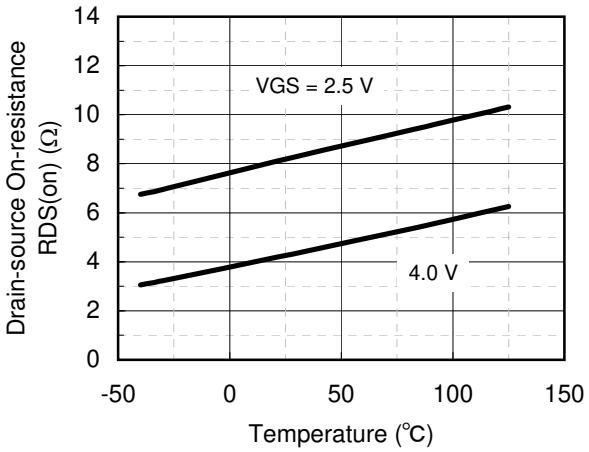
Technical Data (reference)

FET2(P-ch.)

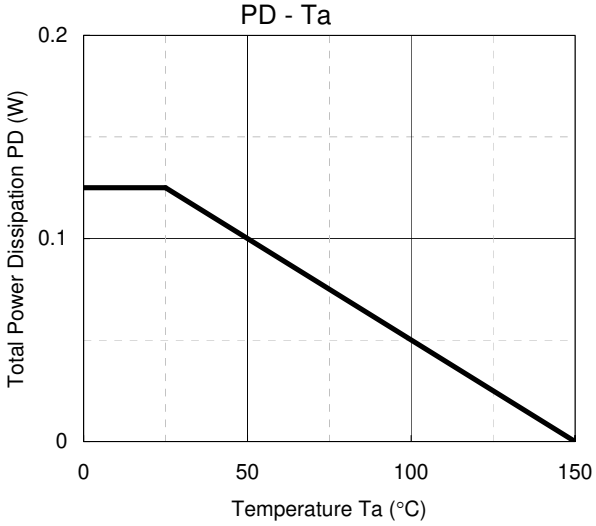
Vth - Ta



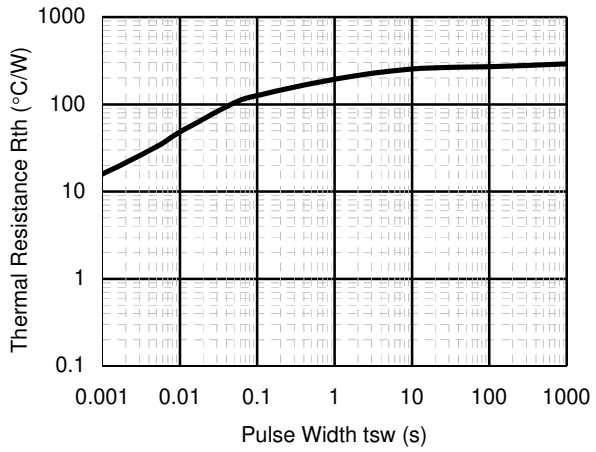
RDS(on) - Ta



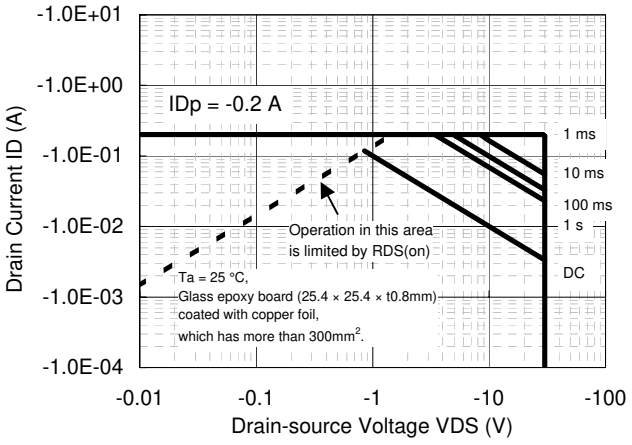
PD - Ta



Rth -tsw



Safe Operating Area



Established : 2010-06-30
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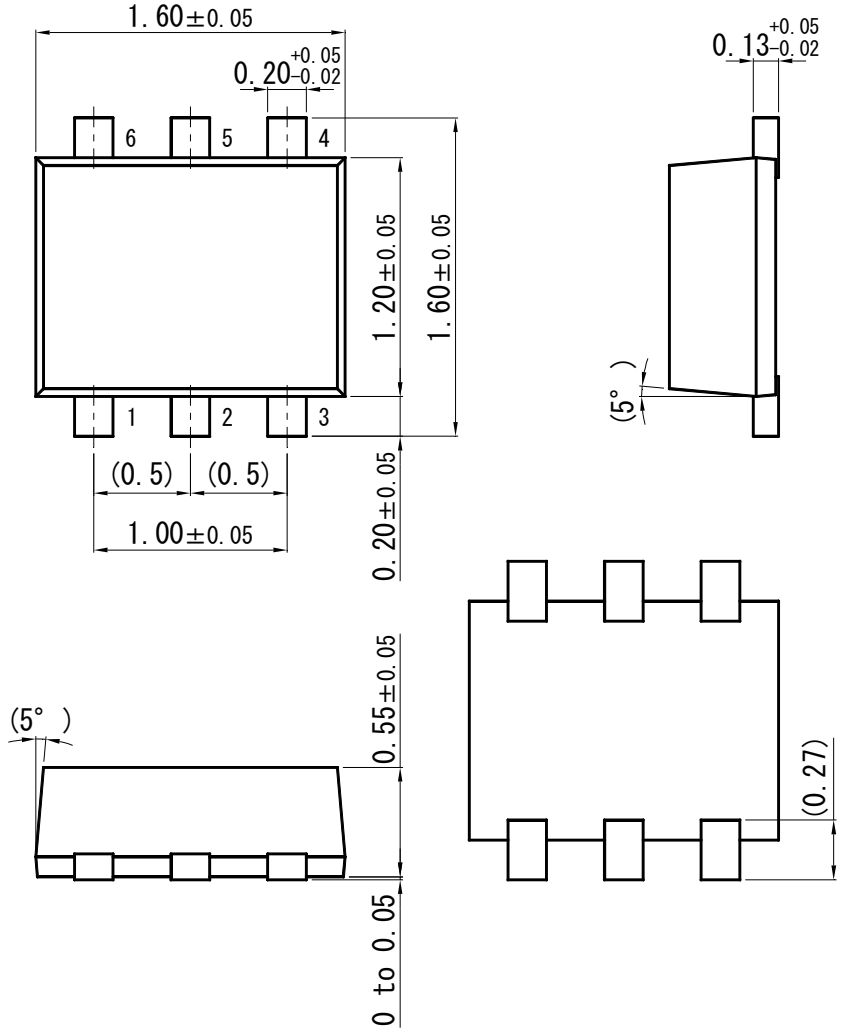
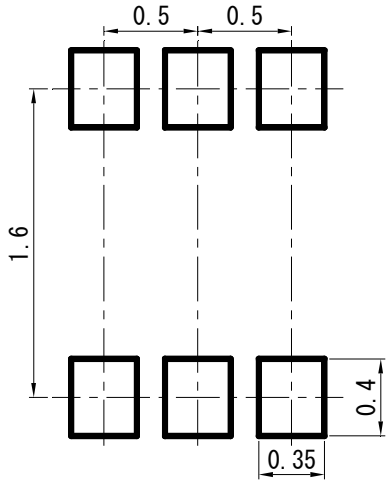
SSMini6-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit : mm



Established : 2010-06-30
Revised : 2013-10-10

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