



FM6K62010L

Silicon N-channel MOSFET(FET)

Silicon epitaxial planar type(SBD)

For switching

For DC-DC Converter

■ Features

- Low drain-source ON resistance : $R_{DS(on)}$ typ. = $80\text{ m}\Omega$ ($V_{GS} = 4.0\text{ V}$)
- Low drive voltage : 2.5 V drive
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

■ Marking Symbol : Y5

■ Packaging

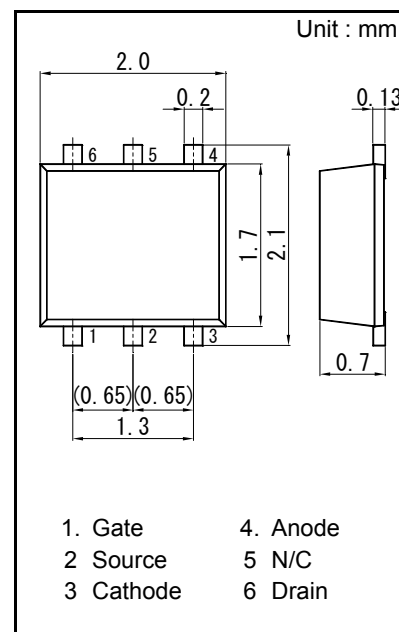
Embossed type (Thermo-compression sealing) 3 000 pcs / reel (standard)

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

項目	Symbol	Rating	Unit
FET	Drain to Source Voltage	V_{DS}	20
	Gate to Source Voltage	V_{GS}	± 10
	Drain current	I_D	2.0
	Drain Current (Pulsed)	I_{Dp}	12
	Channel temperature	T_{ch}	125
SBD	Reverse voltage	V_R	20
	Forward current (Average)	$I_{F(AV)}$	1.0
	Non-repetitive Peak forward surge current *1	I_{FSM}	3.0
	Junction temperature	T_j	125
Overall	Total power dissipation *2	P_D	700
	Operating ambient temperature	T_{opr}	-40 to + 85
	Storage temperature	T_{stg}	-55 to +125

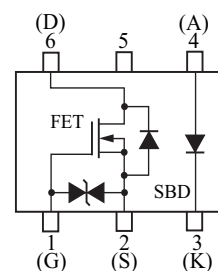
Note: *1 60 Hz sine wave 1 cycle (Non-repetitive peak current)

*2 Measuring on ceramic substrate at $40\text{ mm} \times 38\text{ mm} \times 0.2\text{ mm}$
PD absolute maximum rating without a heat sink: 150 mW



Panasonic	WSMini6-F1-B
JEITA	SC-113DA
Code	—

Internal Connection



Pin Name

1. Gate 4. Anode
2. Source 5. N/C
3. Cathode 6. Drain

■ Electrical Characteristics Ta = 25 °C ± 3 °C
FET (N-ch.)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain to Source Breakdown Voltage	VDSS	ID = 1.0 mA, VGS = 0	20			V
Zero Gate Voltage Drain Current	IDSS	VDS = 20 V, VGS = 0			1.0	μA
Gate-source Leakage Current	IGSS	VGS = ±8 V, VDS = 0			±10	μA
Gate-source Threshold Voltage	Vth	ID = 1.0 mA, VDS = 10 V	0.4	0.85	1.3	V
Drain-source On-State Resistance	RDS(on)1	ID = 1.0 A, VGS = 4.0 V		80	105	mΩ
	RDS(on)2	ID = 0.5 A, VGS = 2.5 V		100	150	
Forward transfer admittance	Yfs	ID = 1.0 A, VDS = 10 V	3.0			S
Input Capacitance	Ciss	VDS = 10 V, VGS = 0, f = 1 MHz		280		pF
Output Capacitance	Coss			18		
Reverse Transfer Capacitance	Crss			17		
Turn-on delay time *1	td(on)	VDD = 10 V, VGS = 0 V to 4 V		5		ns
Rise time *1	tr	ID = 1.0 A		8		
Turn-off delay time *1	td(off)	VDD = 10 V, VGS = 4 V to 0 V		20		ns
Fall time *1	tf	ID = 1.0 A		18		

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

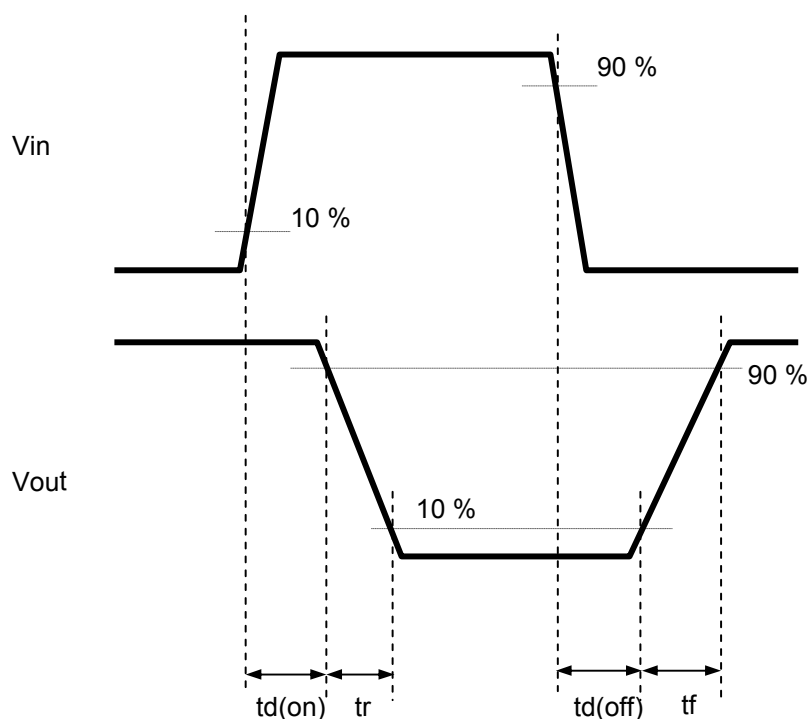
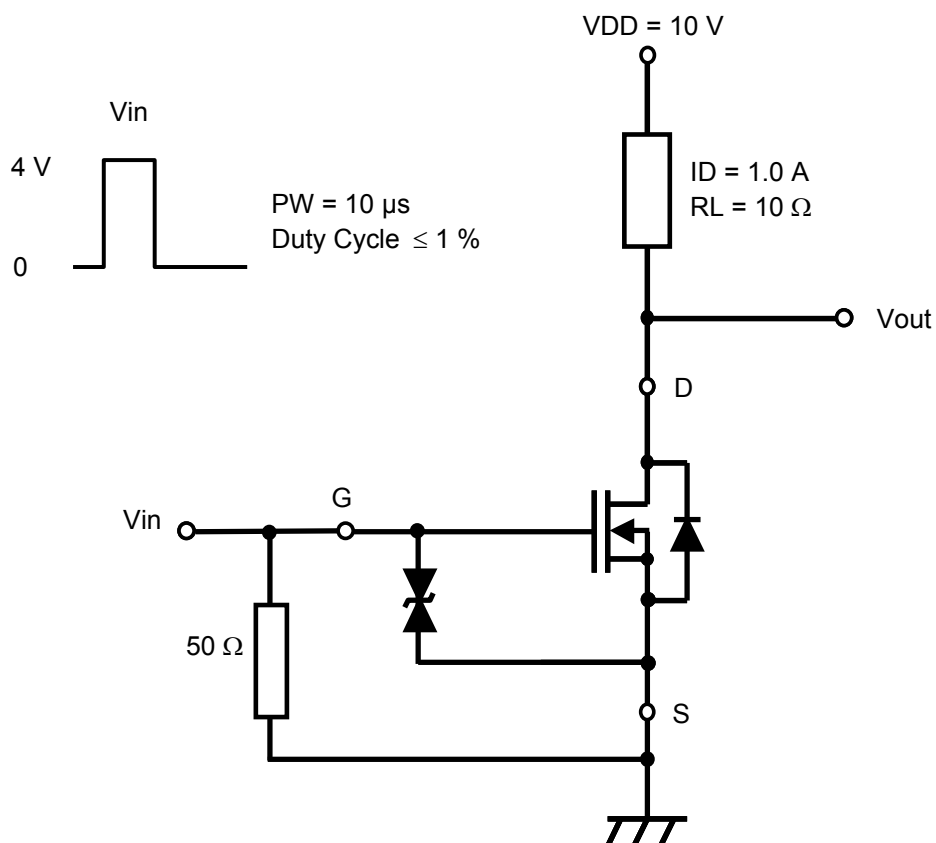
2. *1 Turn-on, Turn-off measurement circuit

SBD

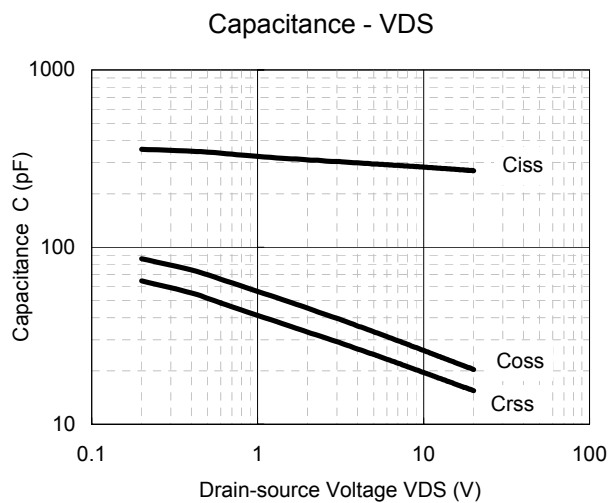
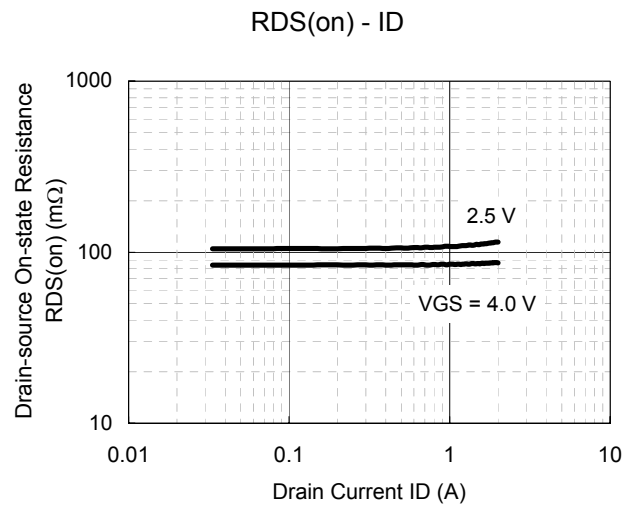
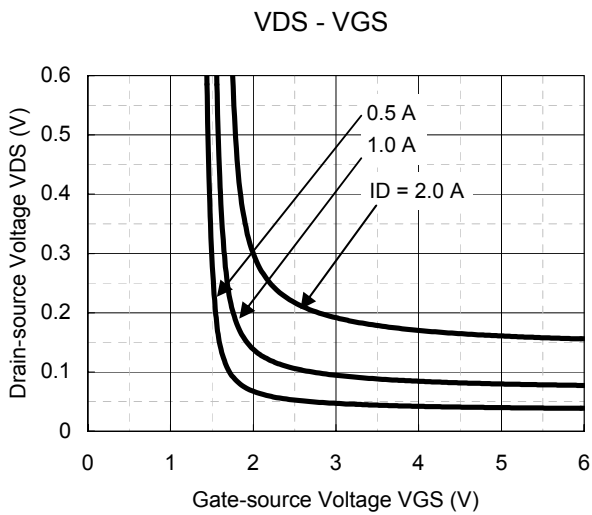
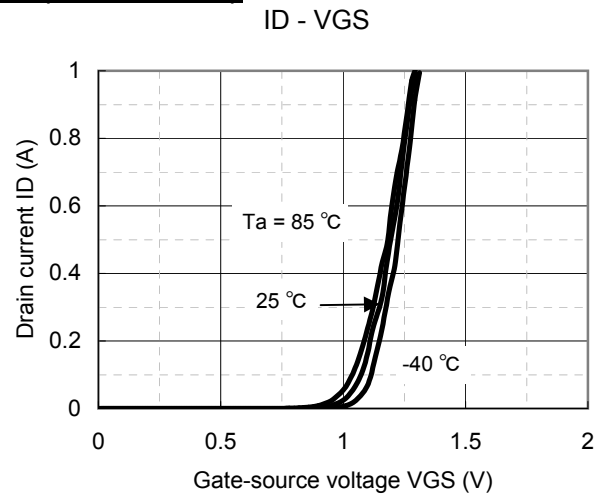
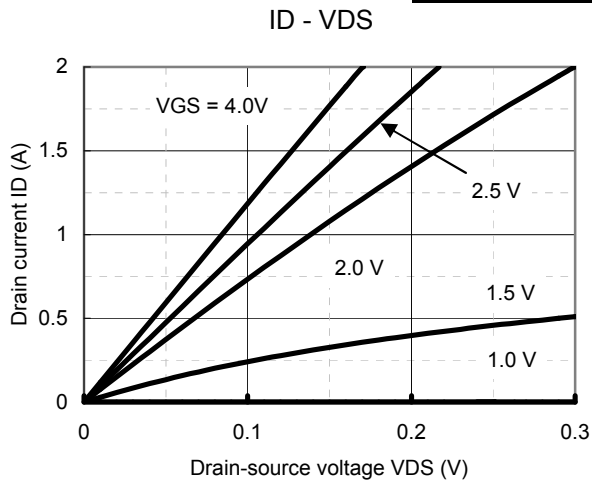
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	VF1	IF = 800 mA			0.47	V
	VF2	IF = 1.0 A			0.52	V
Reverse current	IR	VR = 20 V			80	μA

Note: Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 Measuring methods for diodes.

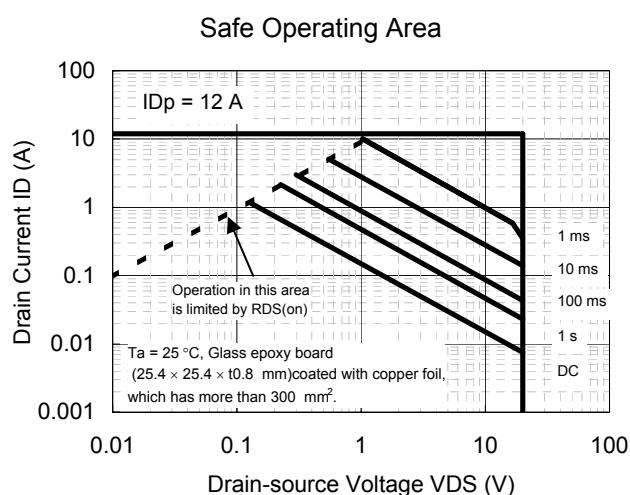
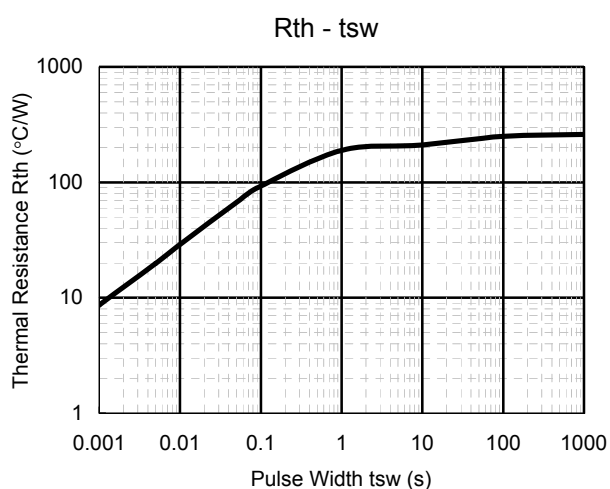
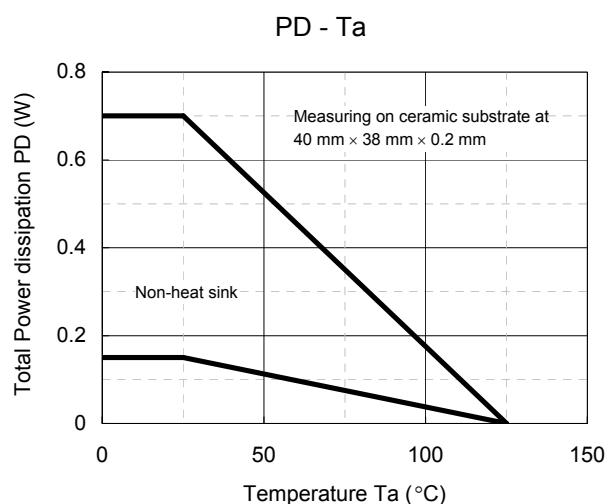
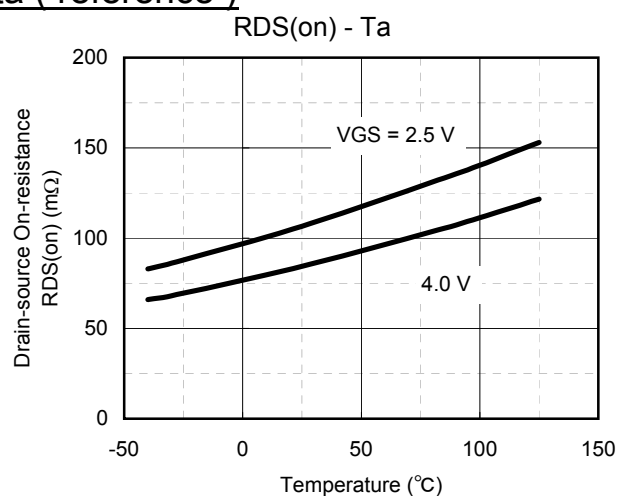
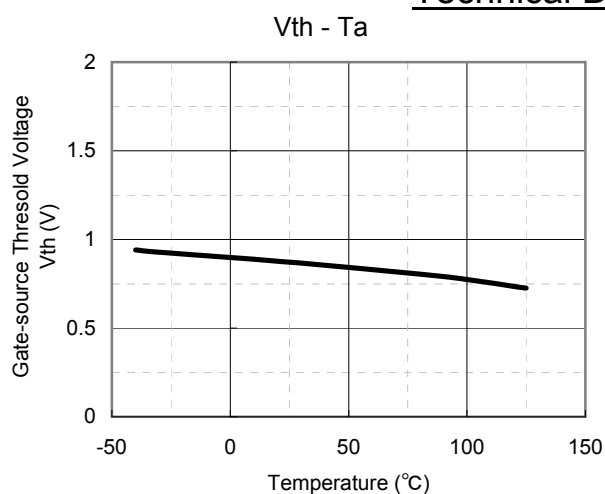
*1 Turn-on, Turn-off measurement circuit



Technical Data (reference)

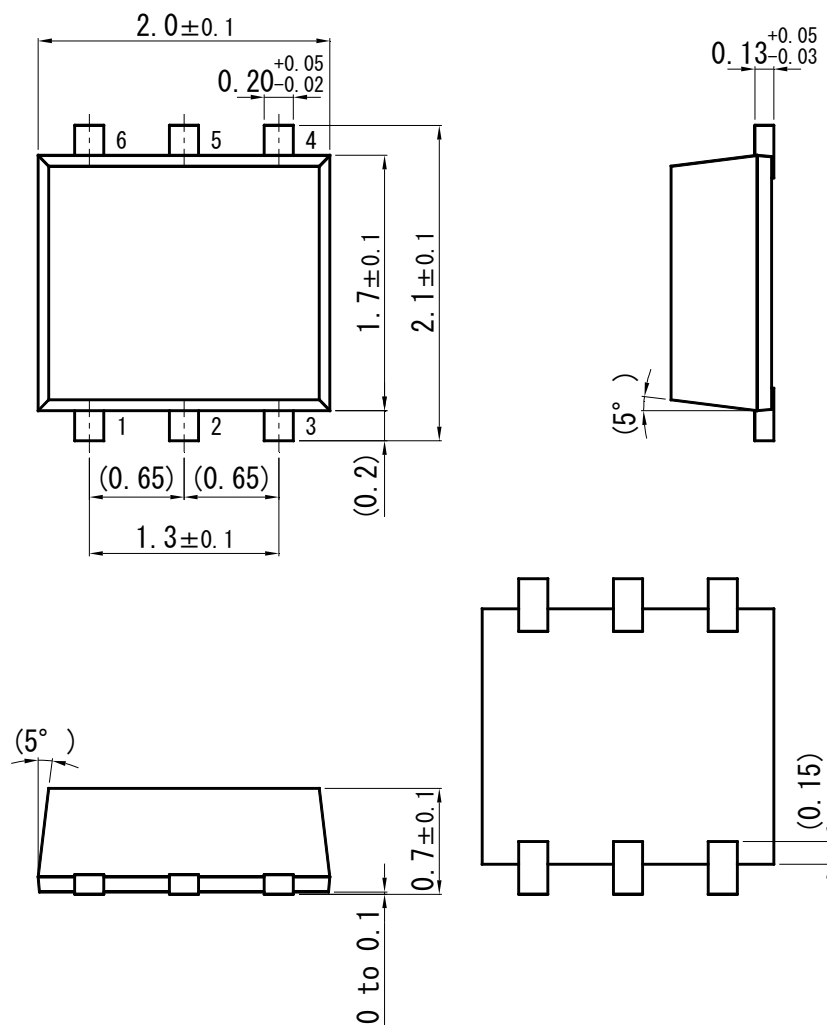


Technical Data (reference)

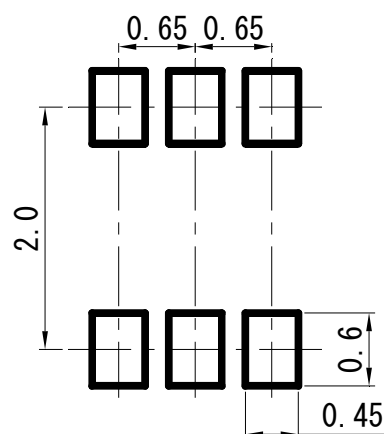


WSMini6-F1-B

Unit: mm



■ Land Pattern (Reference) (Unit : mm)



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