



FL6L52030L

Silicon P-channel MOSFET(FET)

Silicon epitaxial planar type(SBD)

For switching

For DC-DC Converter

■ Features

- Low drain-source ON resistance : $R_{DS(on)}$ typ. = 300 m Ω ($V_{GS} = -4.0$ V)
- Low drive voltage : 2.5 V drive
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

■ Marking Symbol Y3

■ Packaging

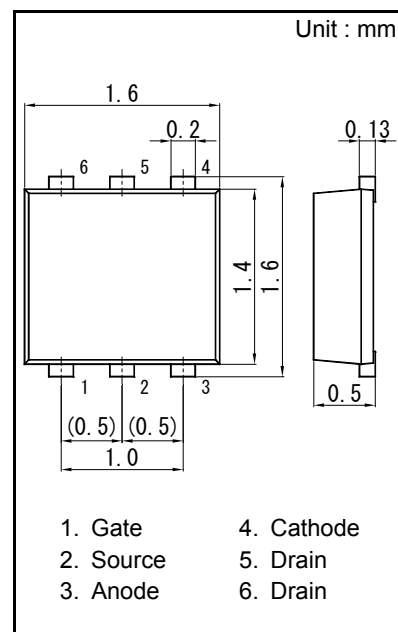
Embossed type (Thermo-compression sealing) 10 000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25$ °C

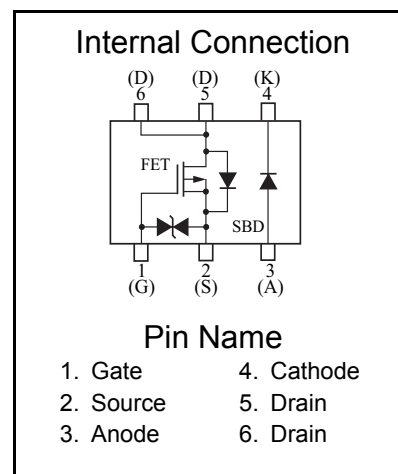
項目		Symbol	Rating	Unit
FET	Drain to Source Voltage	V_{DS}	-20	V
	Gate to Source Voltage	V_{GS}	± 12	V
	Drain current	I_D	-1.0	A
	Peak drain current	I_{Dp}	-4.0	A
	Channel temperature	T_{ch}	150	°C
SBD	Reverse voltage	V_R	20	V
	Forward current (Average)	$I_F(AV)$	800	mA
	Junction temperature	T_j	125	°C
Overall	Total power dissipation ^{*1}	P_D	540	mW
	Operating ambient temperature	T_{opr}	-40 to +85	°C
	Storage temperature	T_{stg}	-55 to +125	°C

Note: ^{*1} Glass epoxy board (25.4 x 25.4 x t0.8 mm) coated with copper foil, which has more than 300mm².

PD absolute maximum rating without a heat sink: 150 mW



Panasonic	WSSMini6-F1
JEITA	—
Code	—



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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	VDSS	ID = -1.0 mA, VGS = 0	-20			V
Drain-source cutoff current	IDSS	VDS = -20 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 mA, VDS = -10 V	-0.45	-1.0	-1.5	V
Drain-source ON resistance *1	RDS(on)	ID = -0.5 A, VGS = -4.0 V		300	420	mΩ
		ID = -0.5 A, VGS = -2.5 V		420	560	
Forward transfer admittance *1	Yfs	ID = -0.5 A, VDS = -10 V, f = 1 kHz	1.0			S
Short-circuit input capacitance (Common source)	Ciss	VDS = -10 V, VGS = 0 V, f = 1 MHz		80		pF
Short-circuit output capacitance (Common source)	Coss			12		
Reverse transfer capacitance (Common source)	Crss			12		
Turn-on delay time *2	td(on)	VDD = -15 V, VGS = 0 to -4.0 V		12		ns
Rise time *2	tr	ID = -0.5 A		6		
Turn-off delay time *2	td(off)	VDD = -15 V, VGS = -4.0 to 0 V		17		ns
Fall time *2	tf	ID = -0.5 A		10		

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

2. *1 Pulse measurement

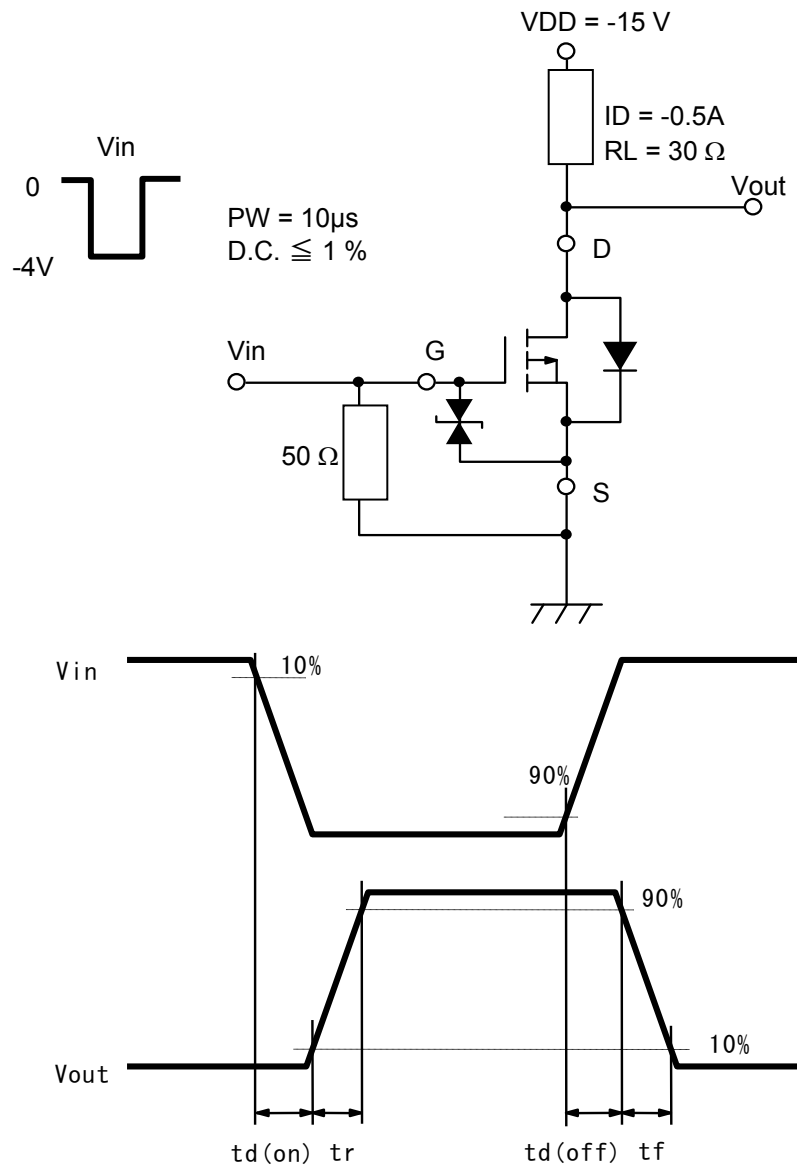
*2 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time

SBD

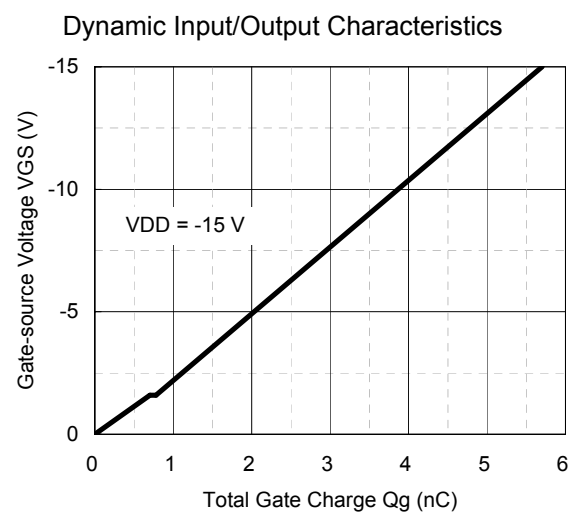
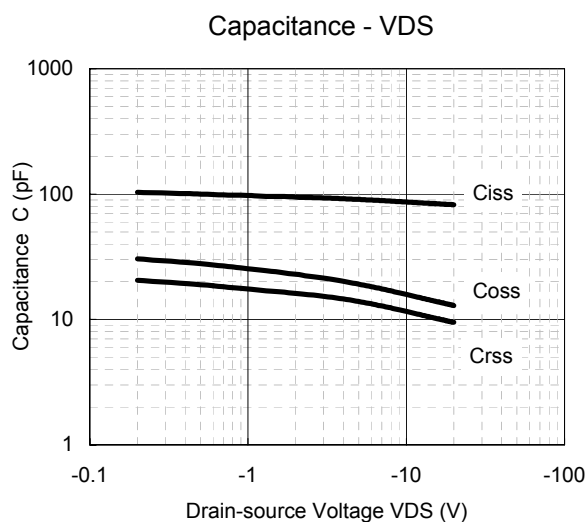
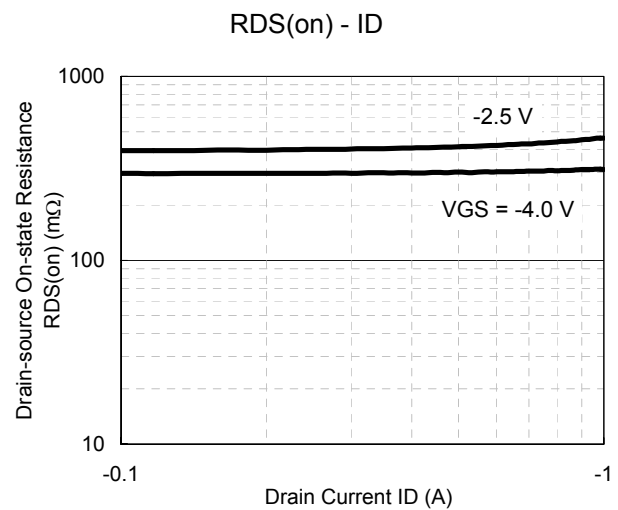
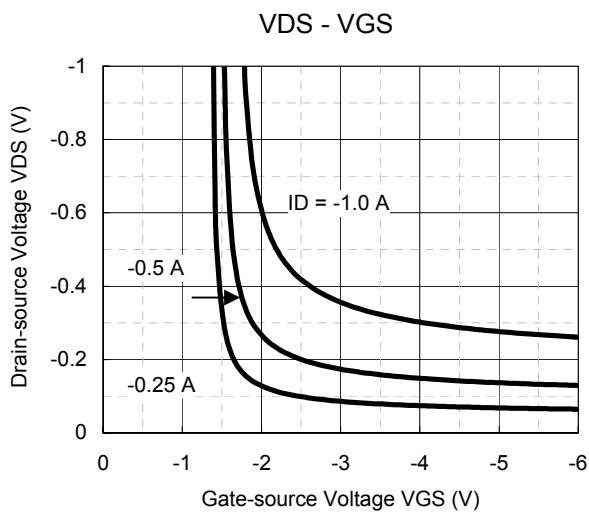
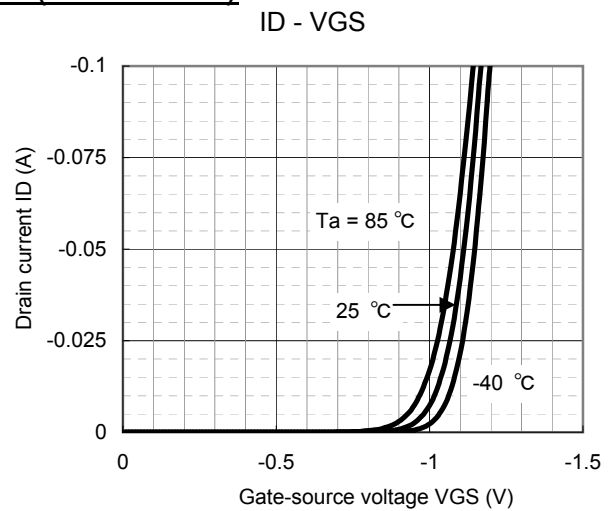
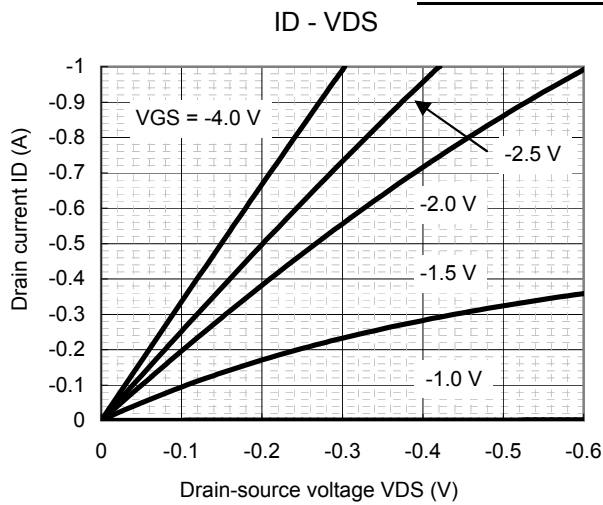
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	VF	IF = 800 mA			0.47	V
Reverse current	IR	VR = 20 V			80	μA

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

*2 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time

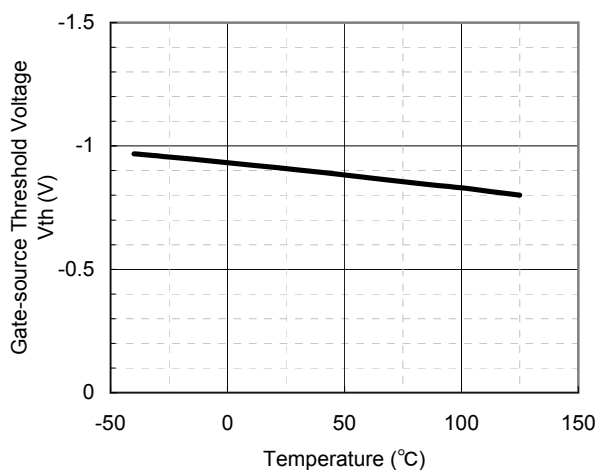


Technical Data (reference)

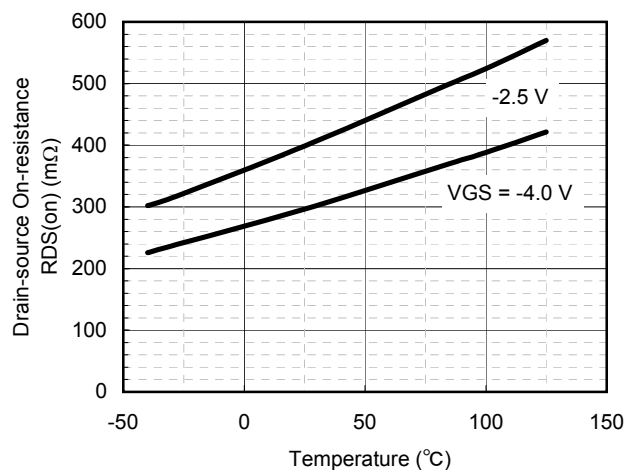


Technical Data (reference)

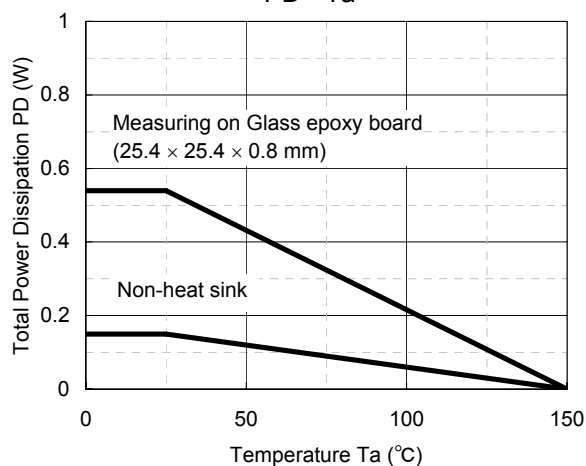
V_{th} - T_a



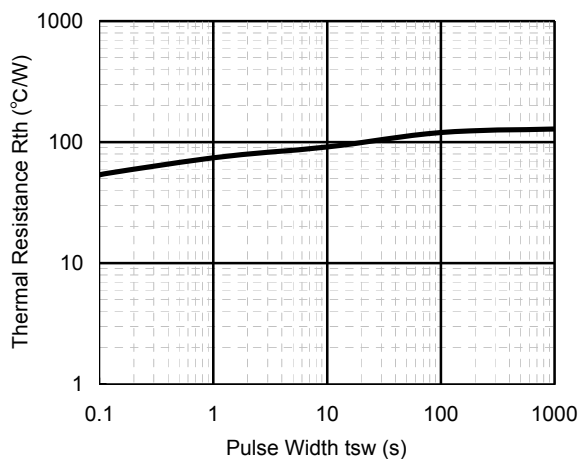
R_{DS(on)} - T_a



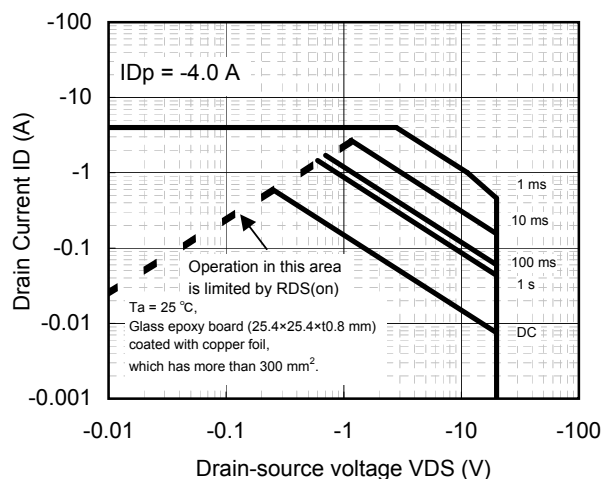
P_D - T_a



R_{th} - t_{sw}

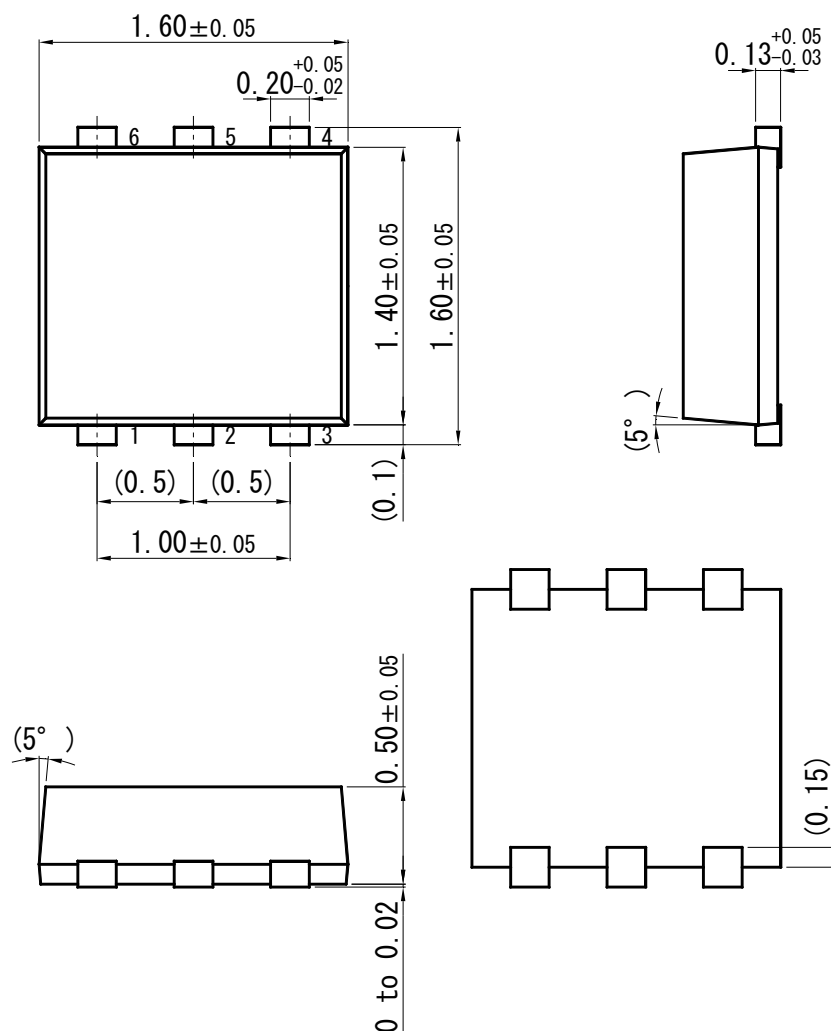


Safe Operating Area

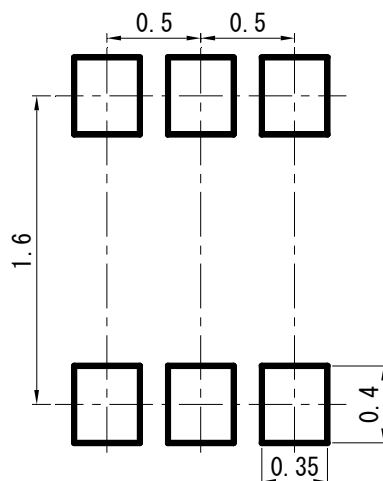


WSSMini6-F1

Unit: mm



■ Land Pattern (Reference) (Unit : mm)



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