

Notification about the transfer of the semiconductor business

The semiconductor business of Panasonic Corporation was transferred on September 1, 2020 to Nuvoton Technology Corporation (hereinafter referred to as "Nuvoton"). Accordingly, Panasonic Semiconductor Solutions Co., Ltd. became under the umbrella of the Nuvoton Group, with the new name of Nuvoton Technology Corporation Japan (hereinafter referred to as "NTCJ").

In accordance with this transfer, semiconductor products will be handled as NTCJ-made products after September 1, 2020. However, such products will be continuously sold through Panasonic Corporation.

Publisher of this Document is NTCJ.

If you would find description "Panasonic" or "Panasonic semiconductor solutions", please replace it with NTCJ.

※ Except below description page

"Request for your special attention and precautions in using the technical information and semiconductors described in this book"

Nuvoton Technology Corporation Japan



FL6L52070L

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 Y4

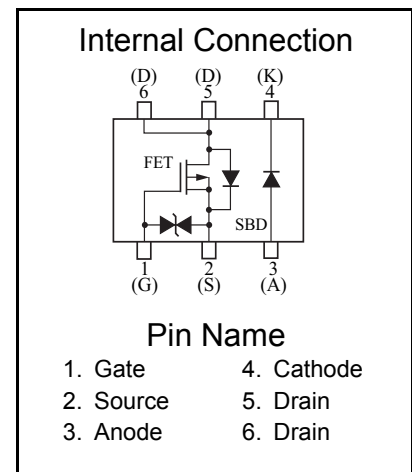
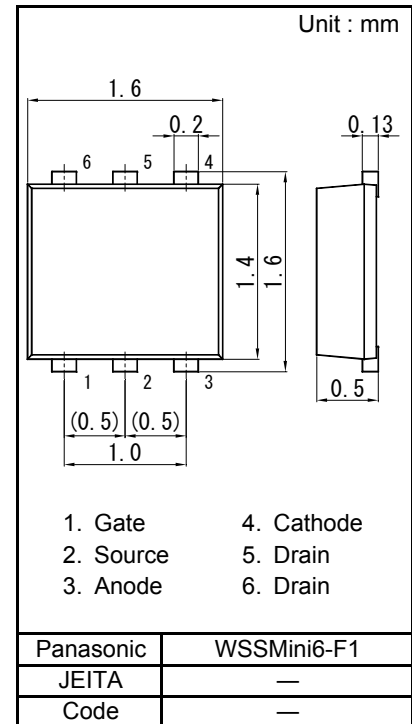
■ Packaging

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	VDS	-20	V
	Gate to Source Voltage	VGS	±12	V
	Drain current	ID	-1.0	A
	Peak drain current	IDp	-4.0	A
	Channel temperature	Tch	150	°C
SBD	Reverse voltage	VR	20	V
	Forward current (Average)	IF(AV)	700	mA
	Junction temperature	Tj	125	°C
Overall	Total power dissipation ^{*1}	PD	540	mW
	Operating ambient temperature	Topr	-40 to +85	°C
	Storage temperature	Tstg	-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



■ 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 V	-20			V
Drain-source cutoff current	IDSS	VDS = -20 V, VGS = 0 V			-1.0	μA
Gate-source cutoff current	IGSS	VGS = ±10 V, VDS = 0 V			±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)1	ID = -0.5 A, VGS = -4.0 V		300	420	mΩ
	RDS(on)2	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

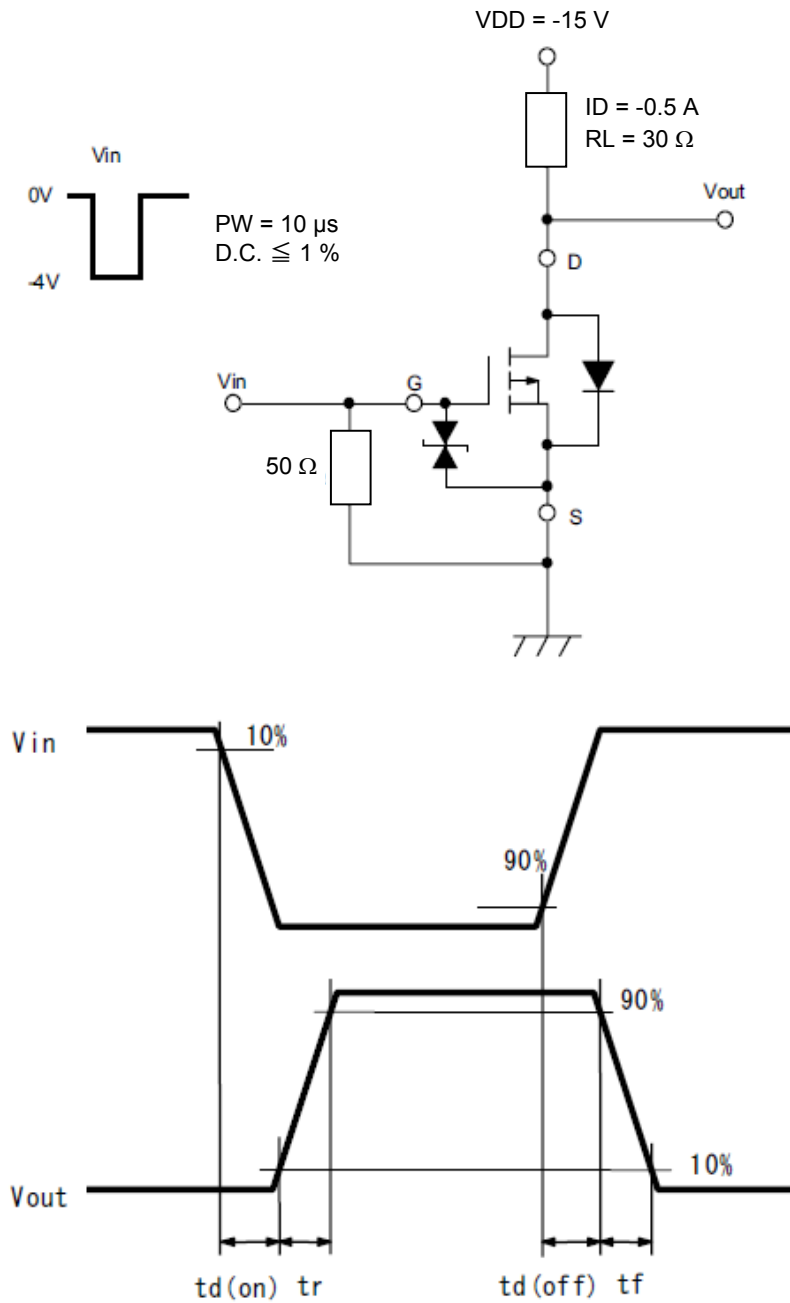
*2 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time

SBD

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	VF1	IF = 10 mA			0.4	V
	VF2	IF = 500 mA			0.55	
Reverse current	IR1	VR = 5 V			1	μA
	IR2	VR = 10 V			10	

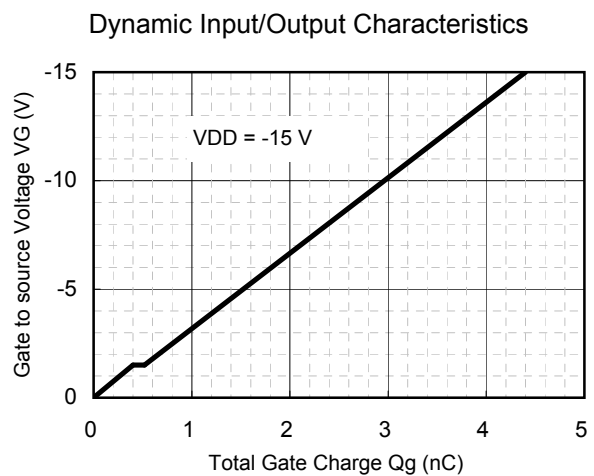
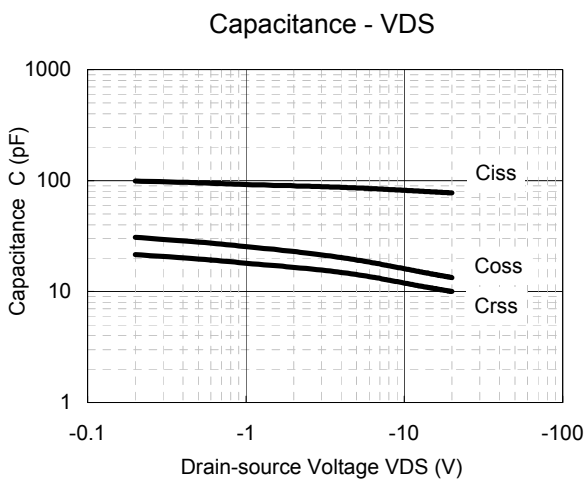
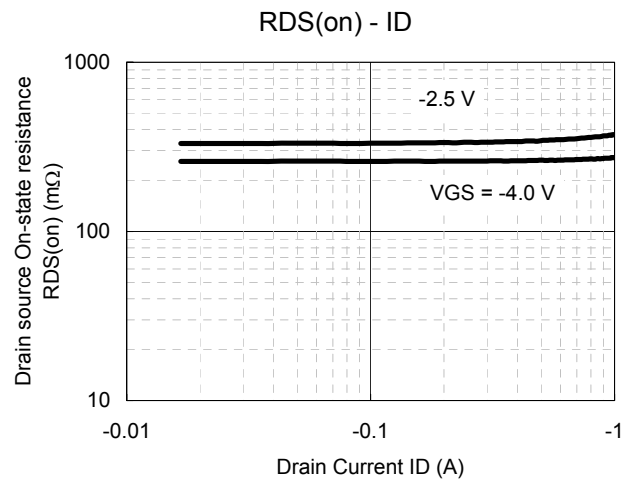
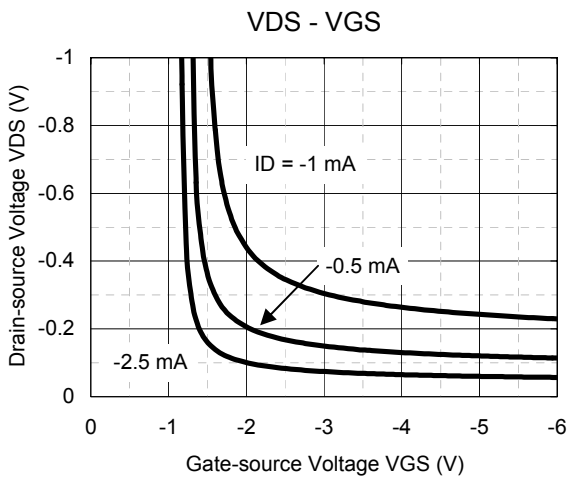
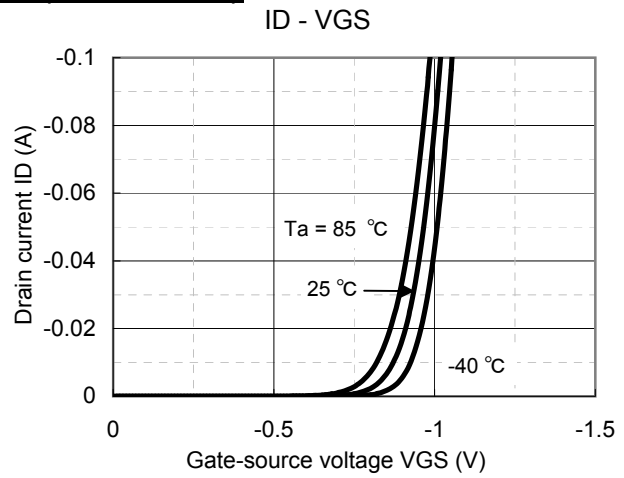
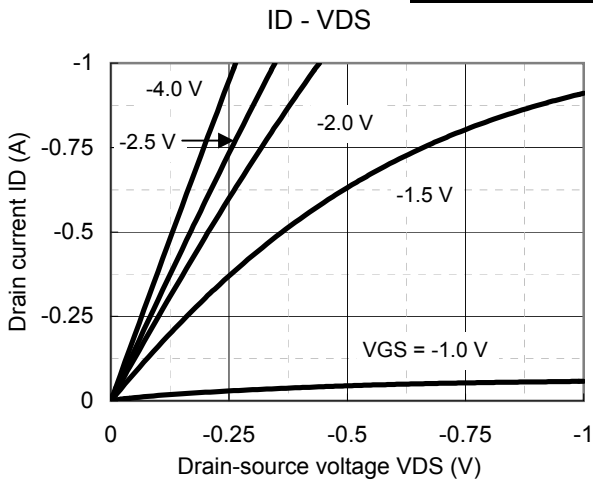
Note: Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 Measuring methods for diodes.

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

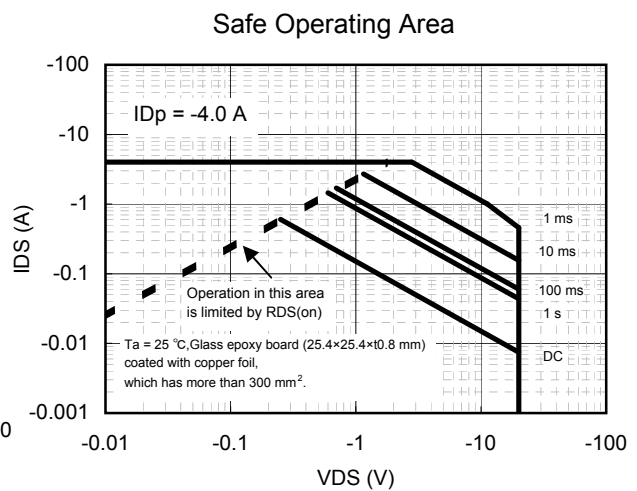
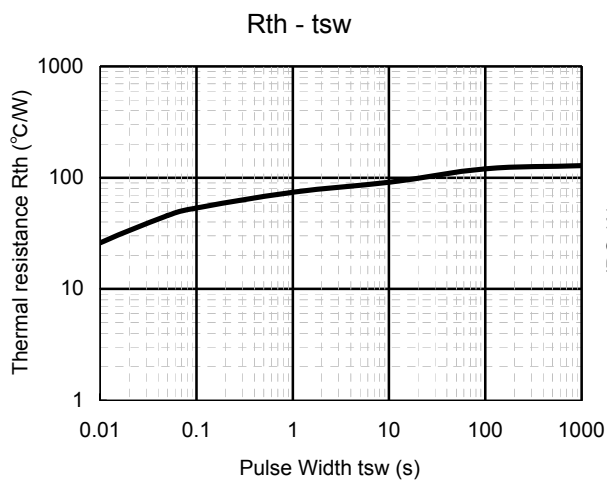
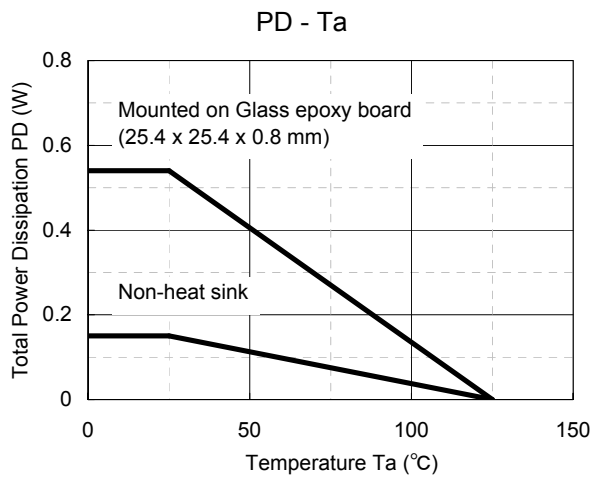
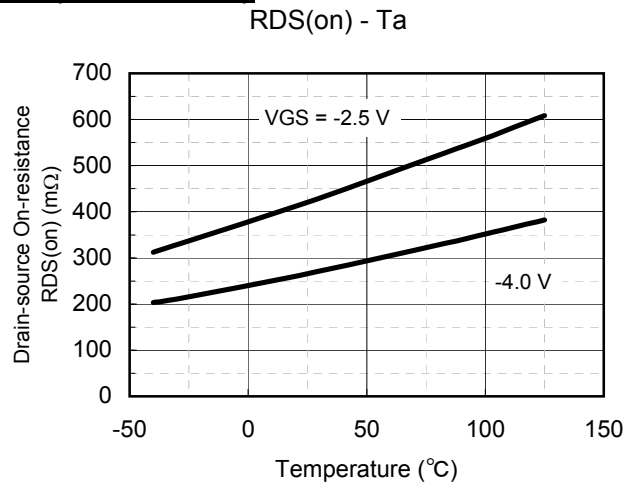
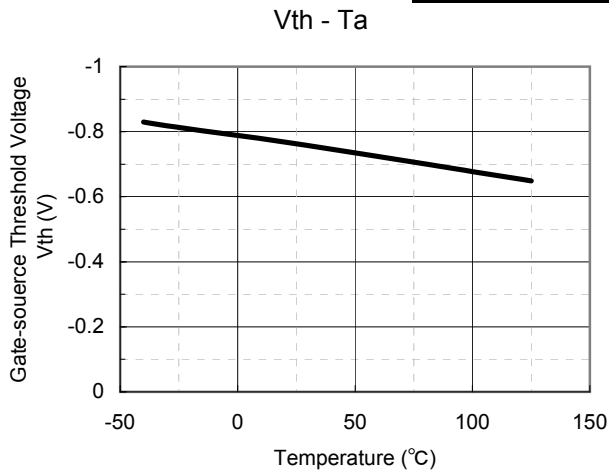




Technical Data (reference)

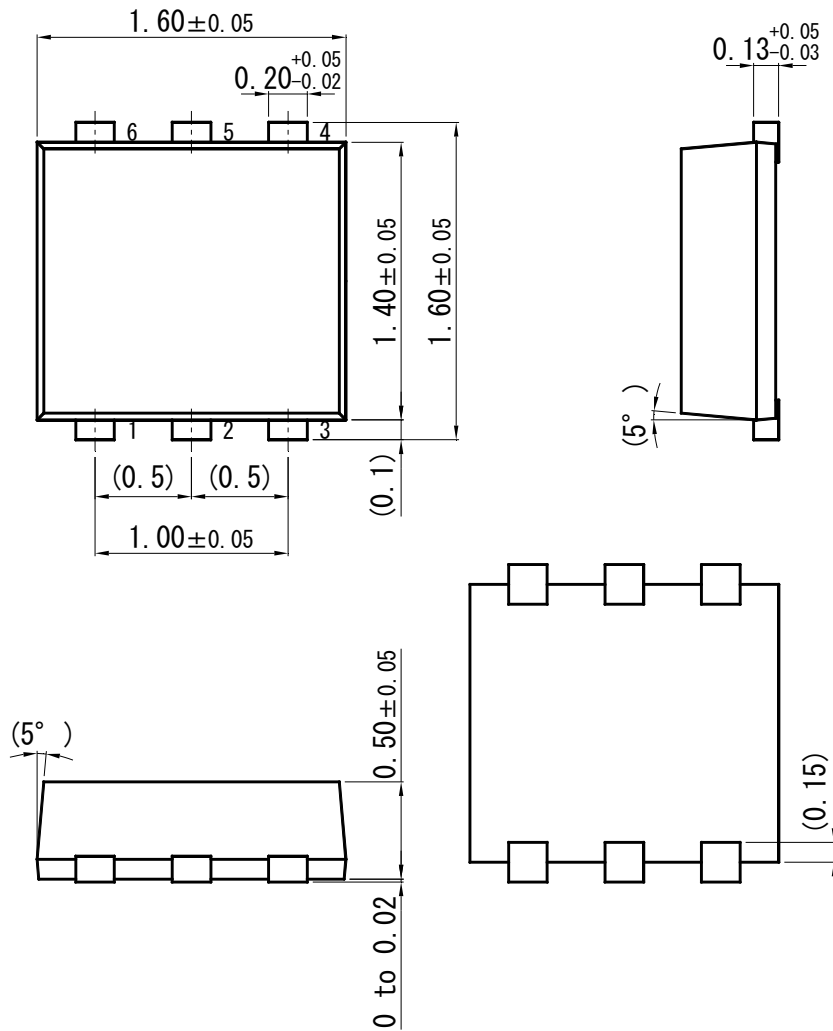


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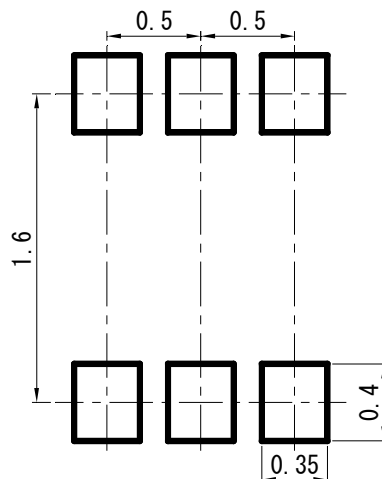


WSSMini6-F1

Unit: mm



■ Land Pattern (Reference) (Unit : mm)



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