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

Panasonic

FC6946010R

Dual N-channel MOS FET

For switching

■ Features

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

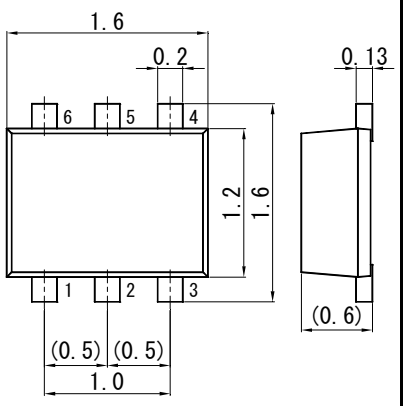
■ Marking Symbol : V6

■ Basic Part Number : Dual FK390601 (Individual)

■ Packaging

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

Unit : mm



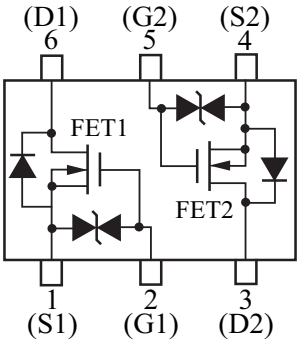
1. Source(FET1) 4. Source(FET2)
2. Gate(FET1) 5. Gate(FET2)
3. Drain(FET2) 6. Drain(FET1)

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

■ Absolute Maximum Ratings Ta = 25 °C

	Parameter	Symbol	Rating	Unit
FET1 FET2	Drain-source breakdown voltage	VDSS	60	V
	Gate-source breakdown voltage	VGSS	±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

Internal Connection



Pin name

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

Established : 2010-06-25
Revised : 2013-07-04

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

FET1,FET2

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source breakdown voltage	VDSS	ID = 1 mA, VGS = 0	60			V
Drain-source cutoff current	IDSS	VDS = 60 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	0.9	1.2	1.5	V
Drain-source ON resistance	RDS(on)1	ID = 10 mA, VGS = 2.5 V		8	15	Ω
	RDS(on)2	ID = 10 mA, VGS = 4.0 V		6	12	Ω
Forward transfer admittance	|Yfs|	ID = 10 mA, VDS = 3.0 V	20	60		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 Turn-on and Turn-off test circuit

Established : 2010-06-25
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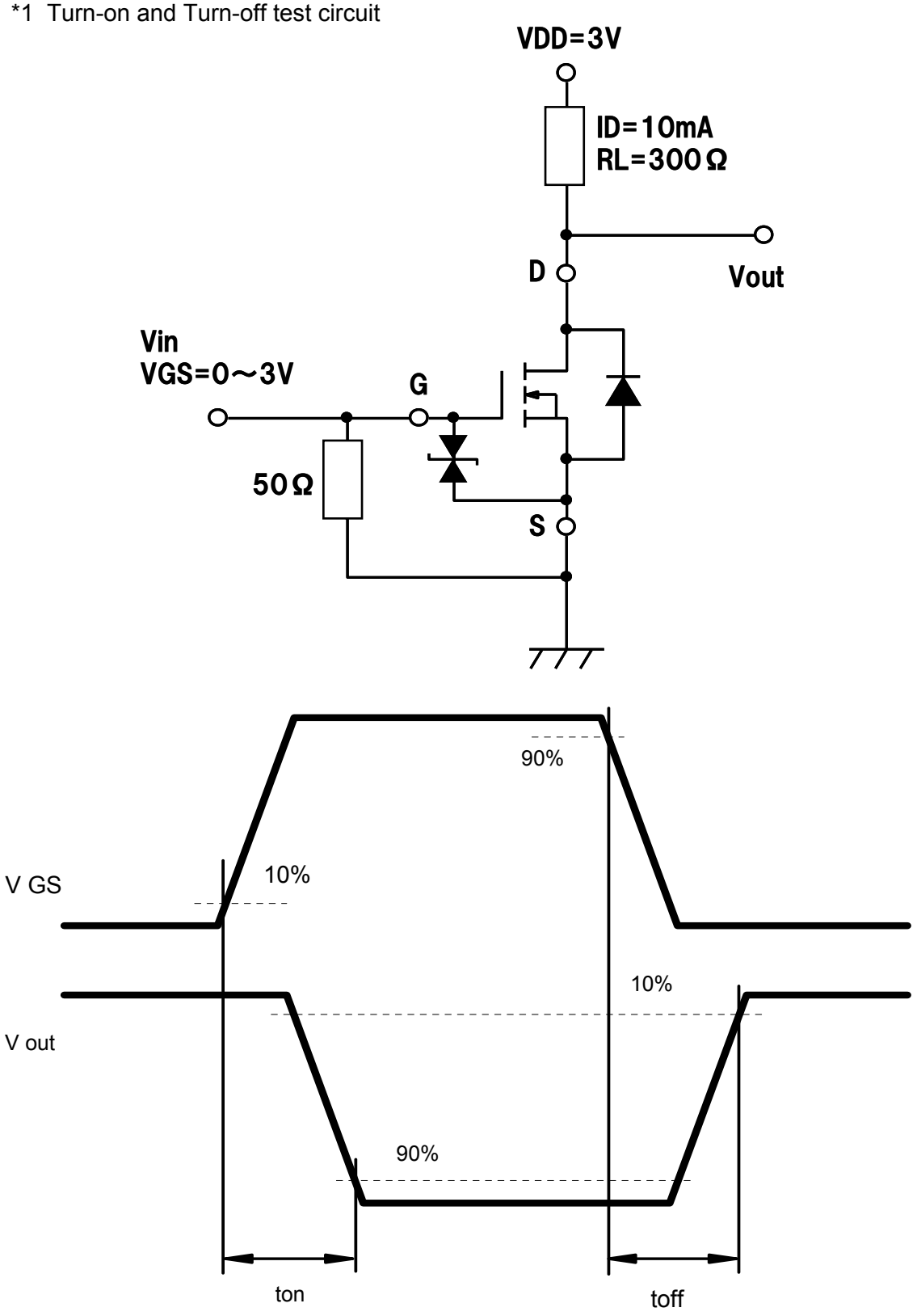
*1 Turn-on and Turn-off test circuit



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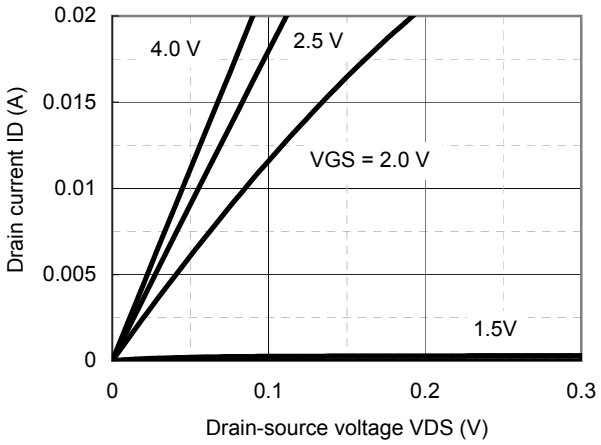
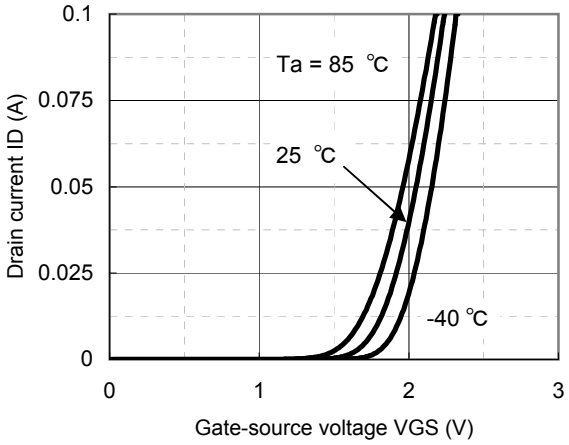
Technical Data (reference)

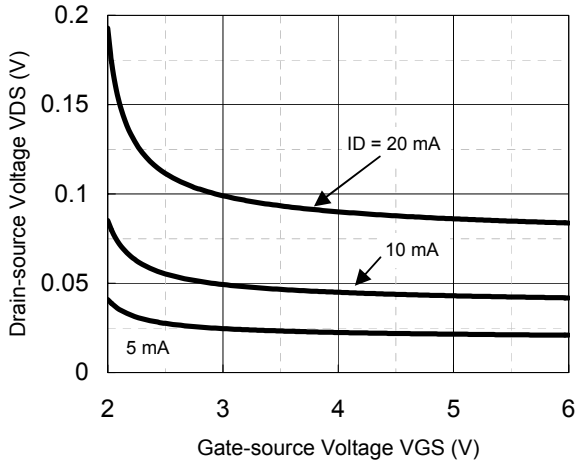
ID - VDS



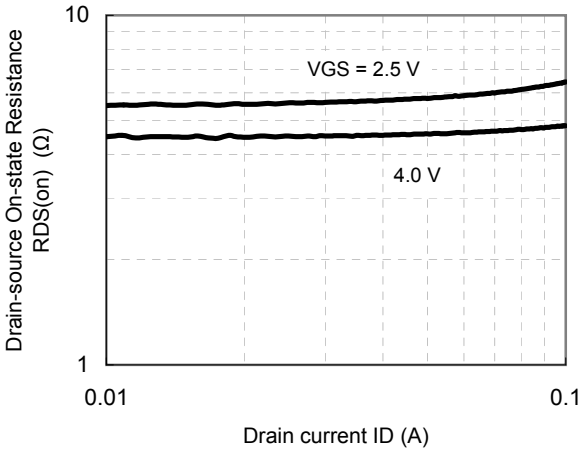
ID - VGS



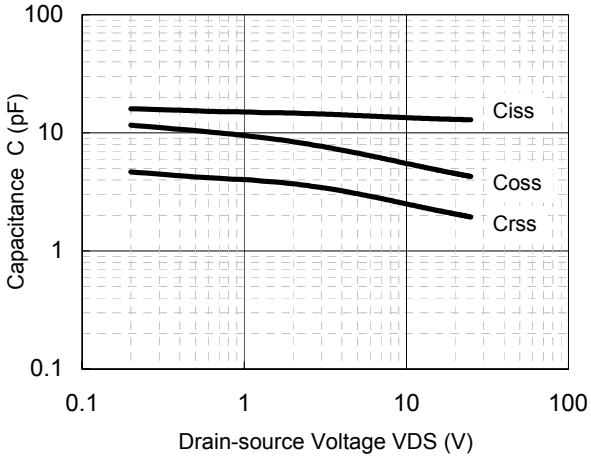
VDS - VGS



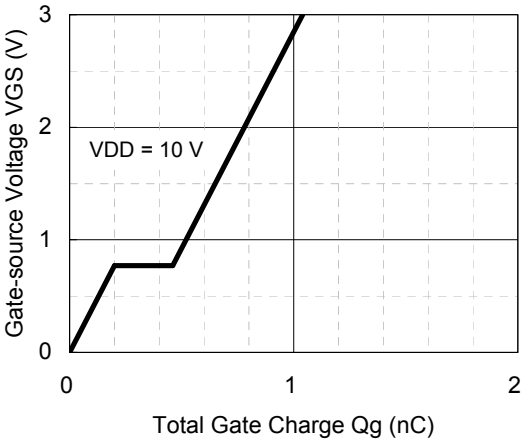
RDS(on) - ID



Capacitance - VDS



Dynamic Input/Output Characteristics



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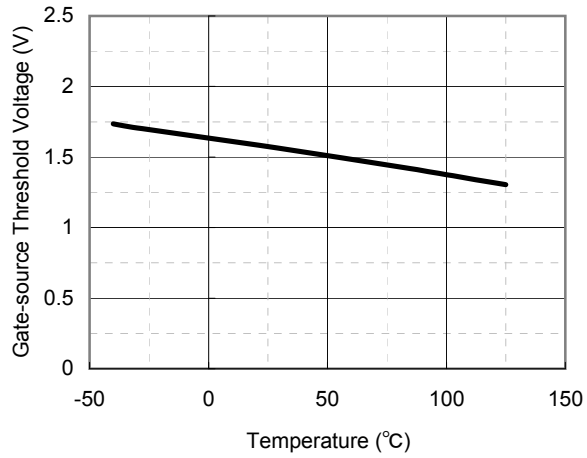
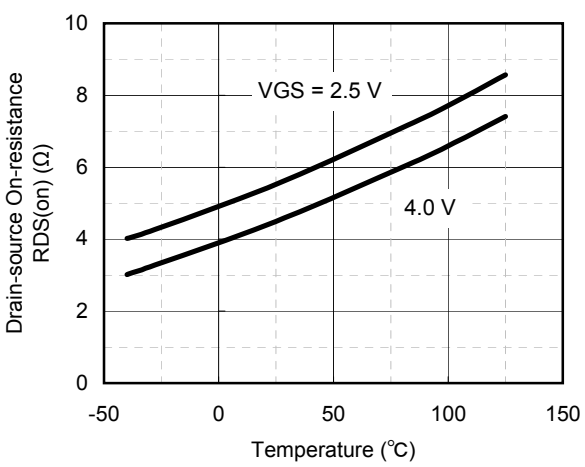
Technical Data (reference)

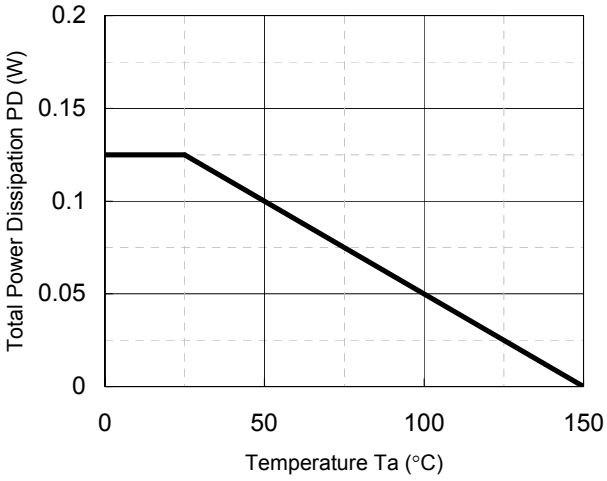
Vth - Ta



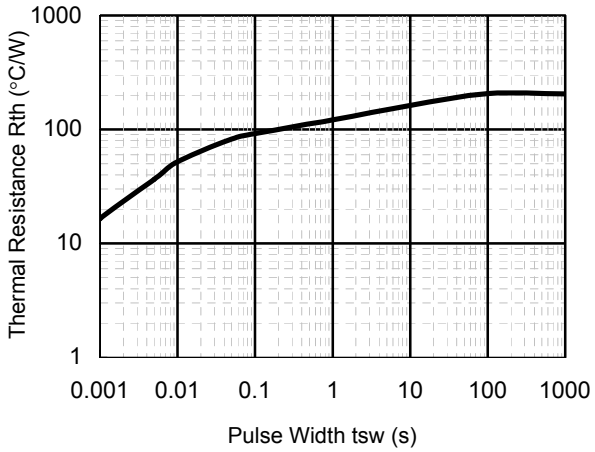
RDS(on) - Ta



PD - Ta



Rth - tsw



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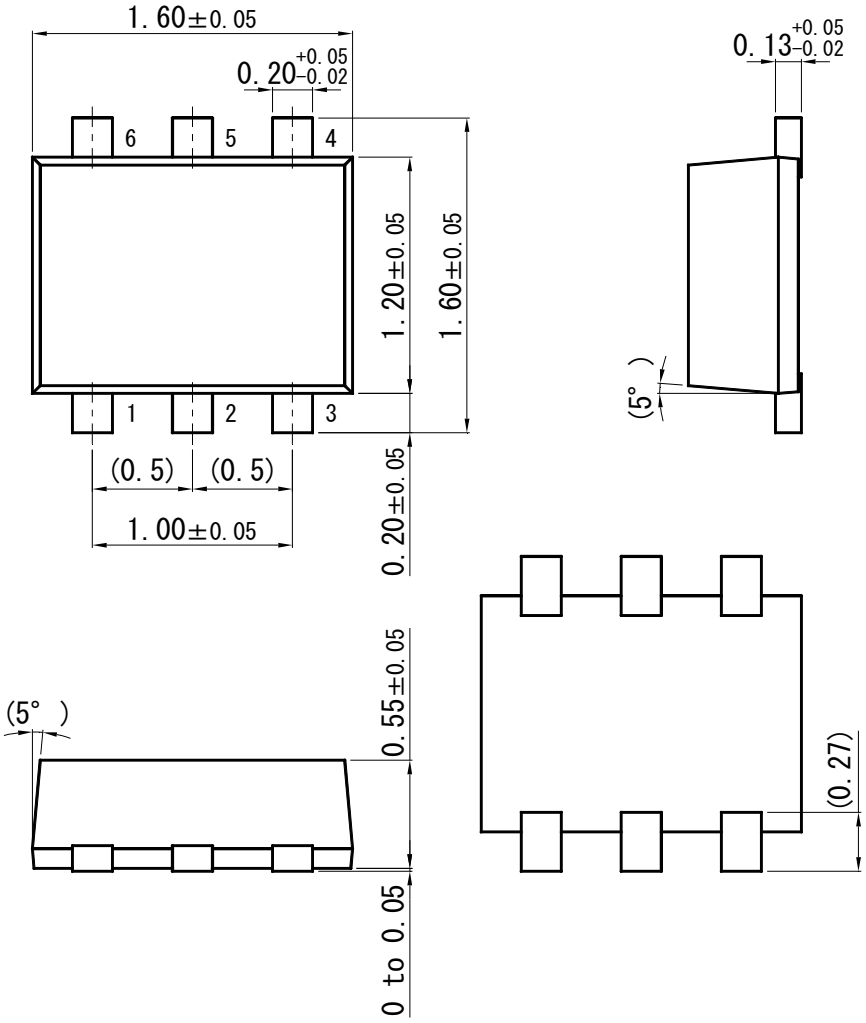
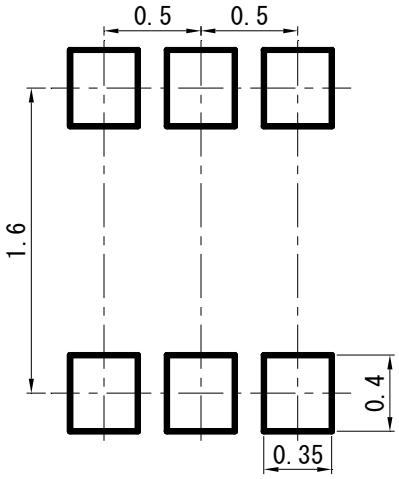
SSMini6-F3-B

Unit: mm



■ Land Pattern (Reference) (Unit : mm)



Established : 2010-06-25
Revised : 2013-07-04

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