

**Panasonic**

MOS FET

MTM861280LBF

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Silicon P-channel MOSFET

For Switching

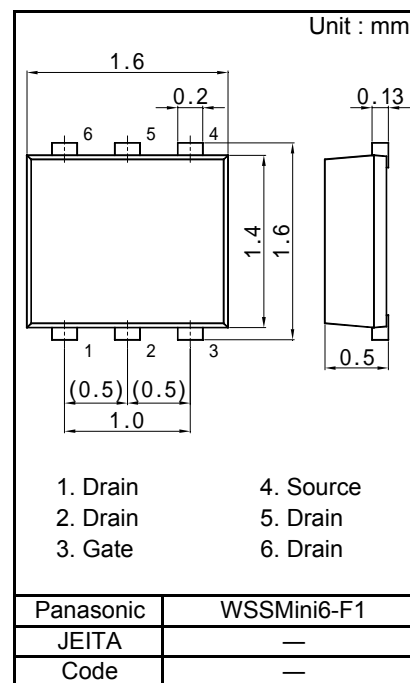
#### ■ Features

- Low drain-source On-state Resistance  
:  $R_{DS(on)}$  typ. = 300 m $\Omega$  ( $V_{GS}$  = -4.0 V)
- Halogen-free / RoHS compliant  
(EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

#### ■ Marking Symbol : ML

#### ■ Packaging

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



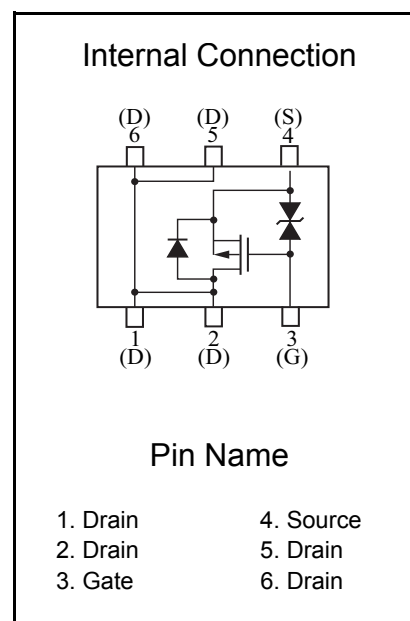
#### ■ Absolute Maximum Ratings $T_a$ = 25 °C

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	$V_{DS}$	-20	V
Gate to Source Voltage	$V_{GS}$	$\pm 12$	
Drain Current	$I_D$	-1.0	
Drain Current (Pulsed) <sup>*1</sup>	$I_{Dp}$	-4.0	A
Total Power Dissipation	$PD1$ <sup>*2</sup>	540	mW
	$PD2$ <sup>*3</sup>	150	
Channel Temperature	$T_{ch}$	150	°C
Operating Ambient Temperature	$T_{opr}$	-40 to +85	
Storage Temperature Range	$T_{stg}$	-55 to +150	

Note) <sup>\*1</sup>  $t \leq 10 \mu s$ , Duty cycle  $\leq 1\%$

<sup>\*2</sup> Glass epoxy substrate (25.4 × 25.4 × t 0.8 mm) coated with copper foil (more than 300 mm<sup>2</sup>)

<sup>\*3</sup> Non-heat sink





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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source Breakdown Voltage	VDSS	ID = -1.0 mA, VGS = 0 V	-20			V
Zero Gate Voltage Drain Current	IDSS	VDS = -20 V, VGS = 0 V			-1.0	μA
Gate-source Leakage Current	IGSS	VGS = ±10 V, VDS = 0 V			±10	μA
Gate-source Threshold Voltage	Vth	ID = -1.0 mA, VDS = -10 V	-0.45	-1.0	-1.5	V
Drain-source On-state 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	1.0	2.0		S
Input Capacitance	Ciss	VDS = -10 V, VGS = 0 V f = 1 MHz		80		pF
Output Capacitance	Coss			12		
Reverse Transfer Capacitance	Crss			12		
Turn-on Delay Time *2	td(on)	VDD = -15 V, VGS = 0 to -4 V		12		ns
Rise Time *2	tr	ID = -0.5 A		6		
Turn-off Delay Time *2	td(off)	VDD = -15 V, VGS = -4 to 0 V		17		ns
Fall Time *2	tf	ID = -0.5 A		10		

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

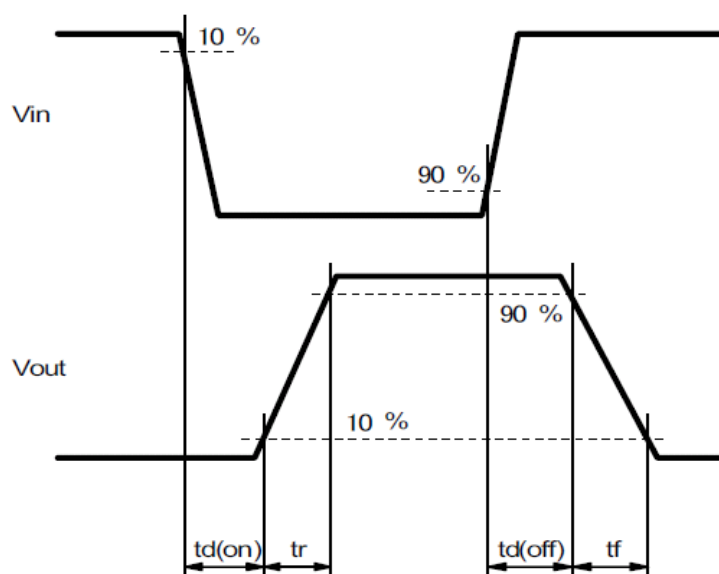
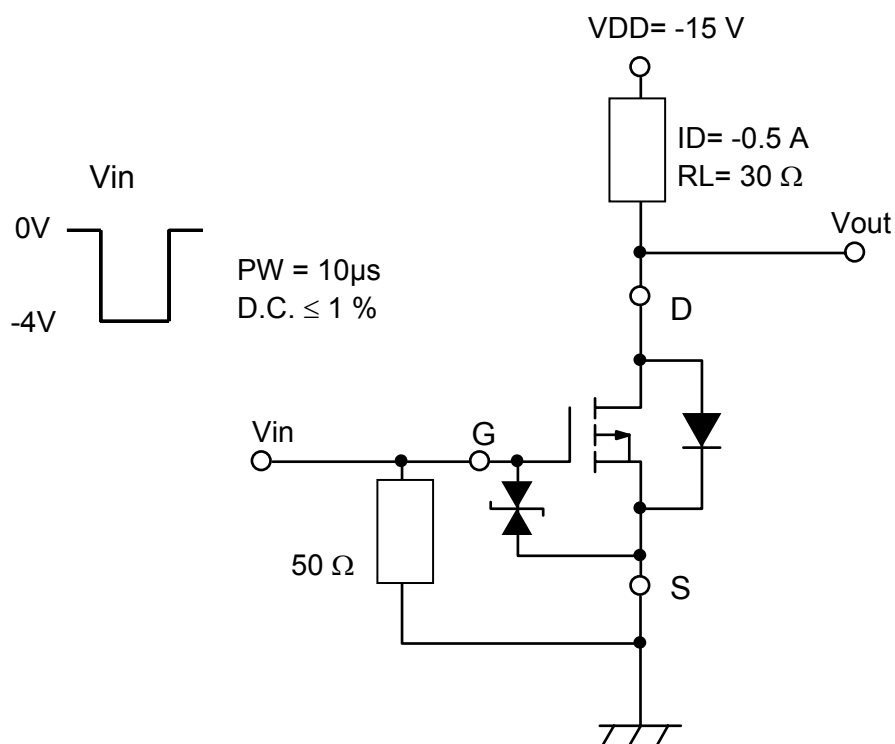
\*1 Pulse test

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

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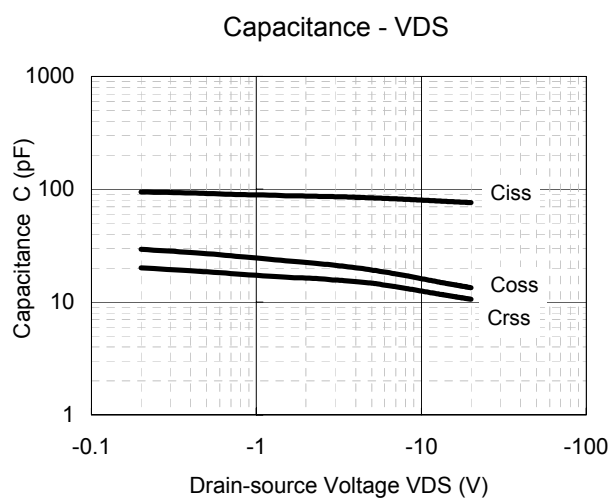
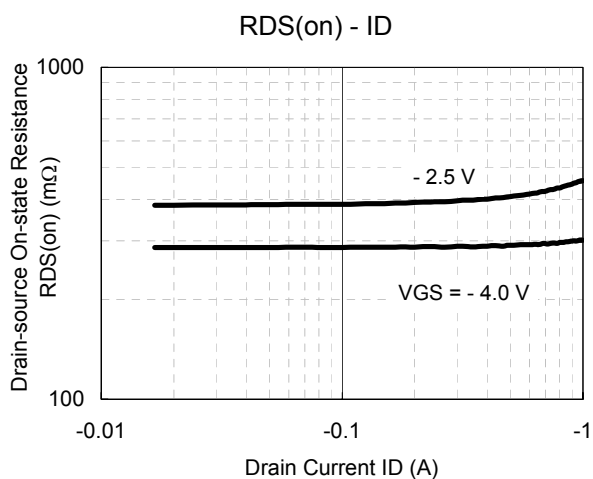
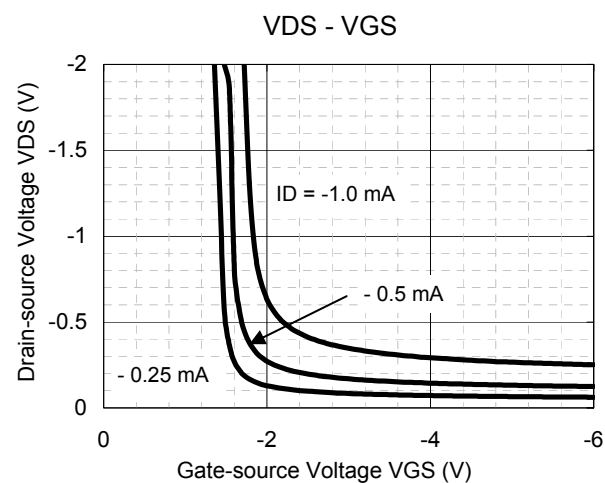
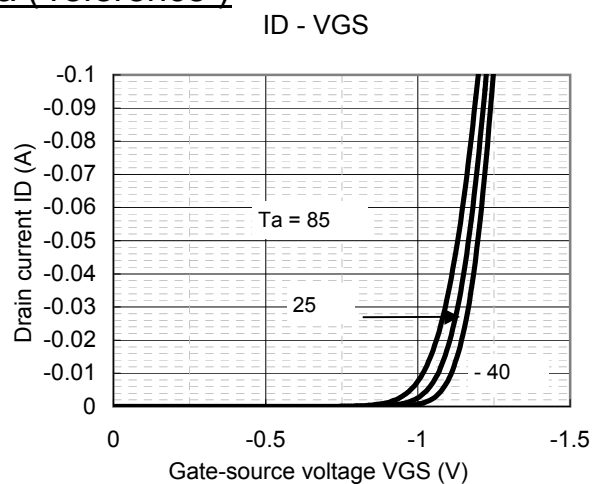
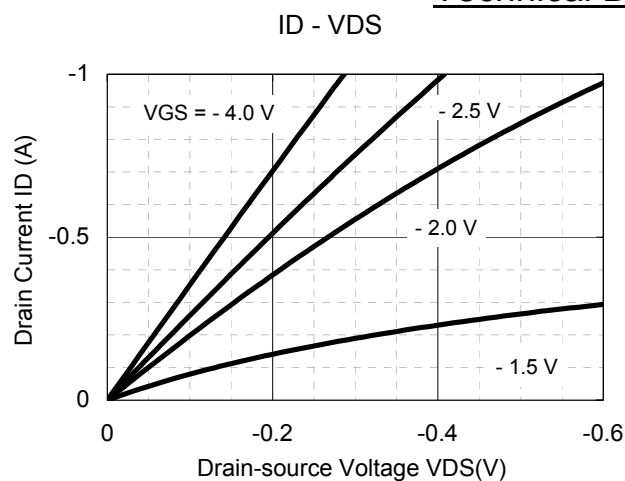
\*2 Measurement circuit for Turn-on Delay Time / Rise Time / Turn-off Delay Time / Fall Time





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Technical Data ( reference )

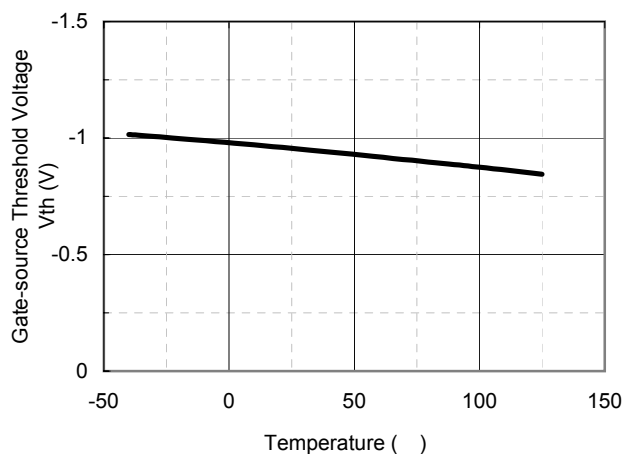


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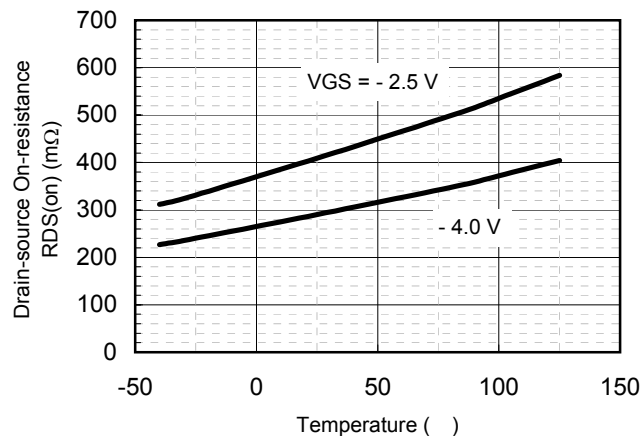
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# Technical Data ( reference )

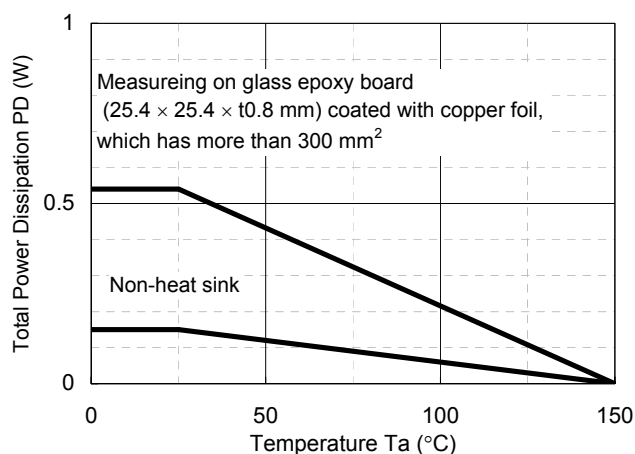
V<sub>th</sub> - T<sub>a</sub>



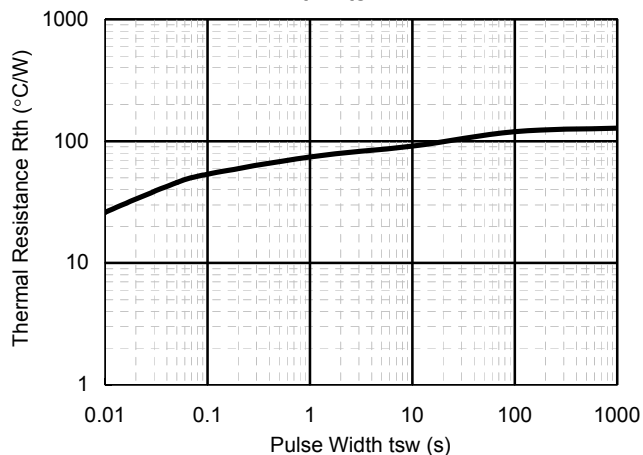
R<sub>DS(on)</sub> - T<sub>a</sub>



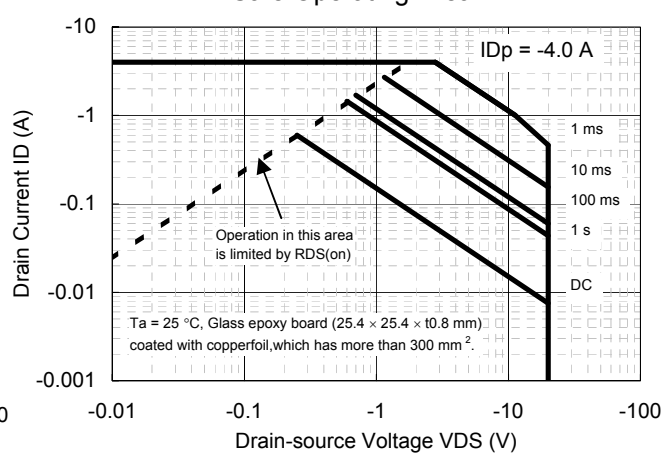
PD - T<sub>a</sub>



R<sub>th</sub> - t<sub>sw</sub>



Safe Operating Area

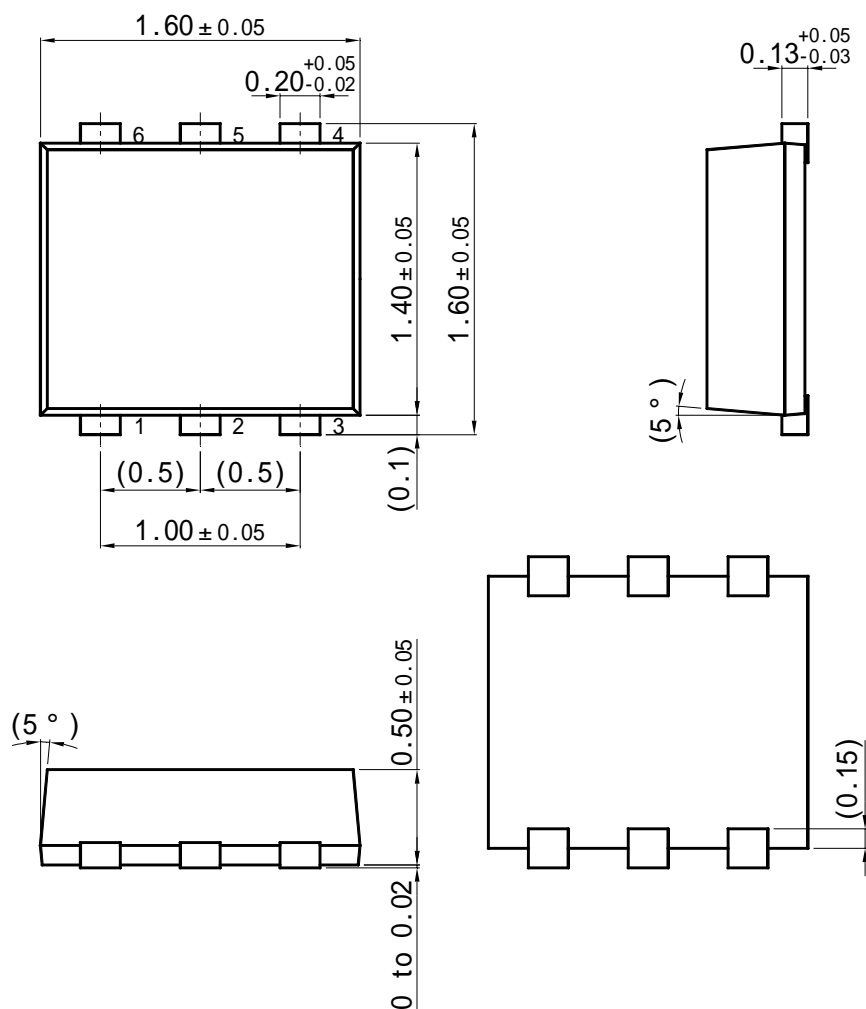


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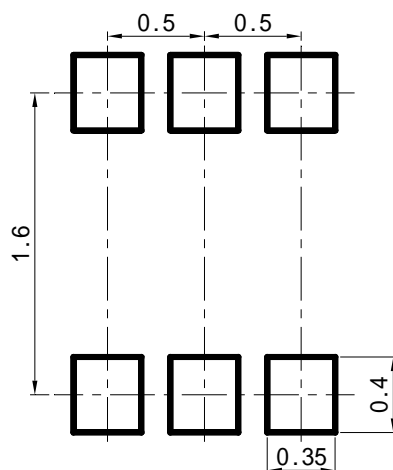
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WSSMini6-F1

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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