

Panasonic

MOS FET

MTM862270LBF

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Silicon N-channel MOSFET

For Switching

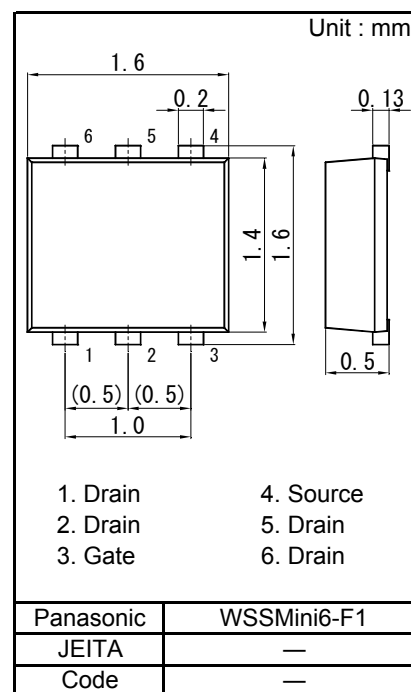
■ Features

- Low drain-source On-state Resistance : $R_{DS(on)}$ typ = $80\text{ m}\Omega$ ($V_{GS} = 4.0\text{ V}$)
- Low drive voltage: 1.8V drive
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

■ Marking Symbol : JF

■ Packaging

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

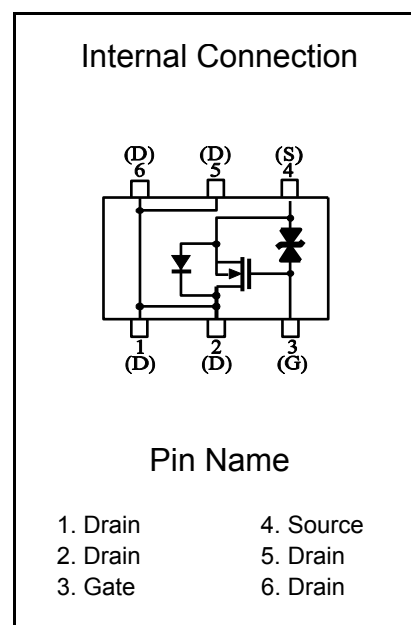


■ Absolute Maximum Ratings $T_a = 25\text{ }^{\circ}\text{C}$

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	V_{DS}	20	V
Gate to Source Voltage	V_{GS}	± 10	
Drain Current	I_D	2.2	A
Drain Current (Pulsed) ^{*1}	I_{Dp}	8.0	
Total Power Dissipation ^{*2}	PD	540	mW
Channel Temperature	T_{ch}	150	$^{\circ}\text{C}$
Operating Ambient Temperature	T_{opr}	-40 to +85	
Storage Temperature Range	T_{stg}	-55 to +150	

Note) ^{*1} Pulse width $t \leq 10\text{ }\mu\text{s}$, Duty cycle $\leq 1\%$

^{*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



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

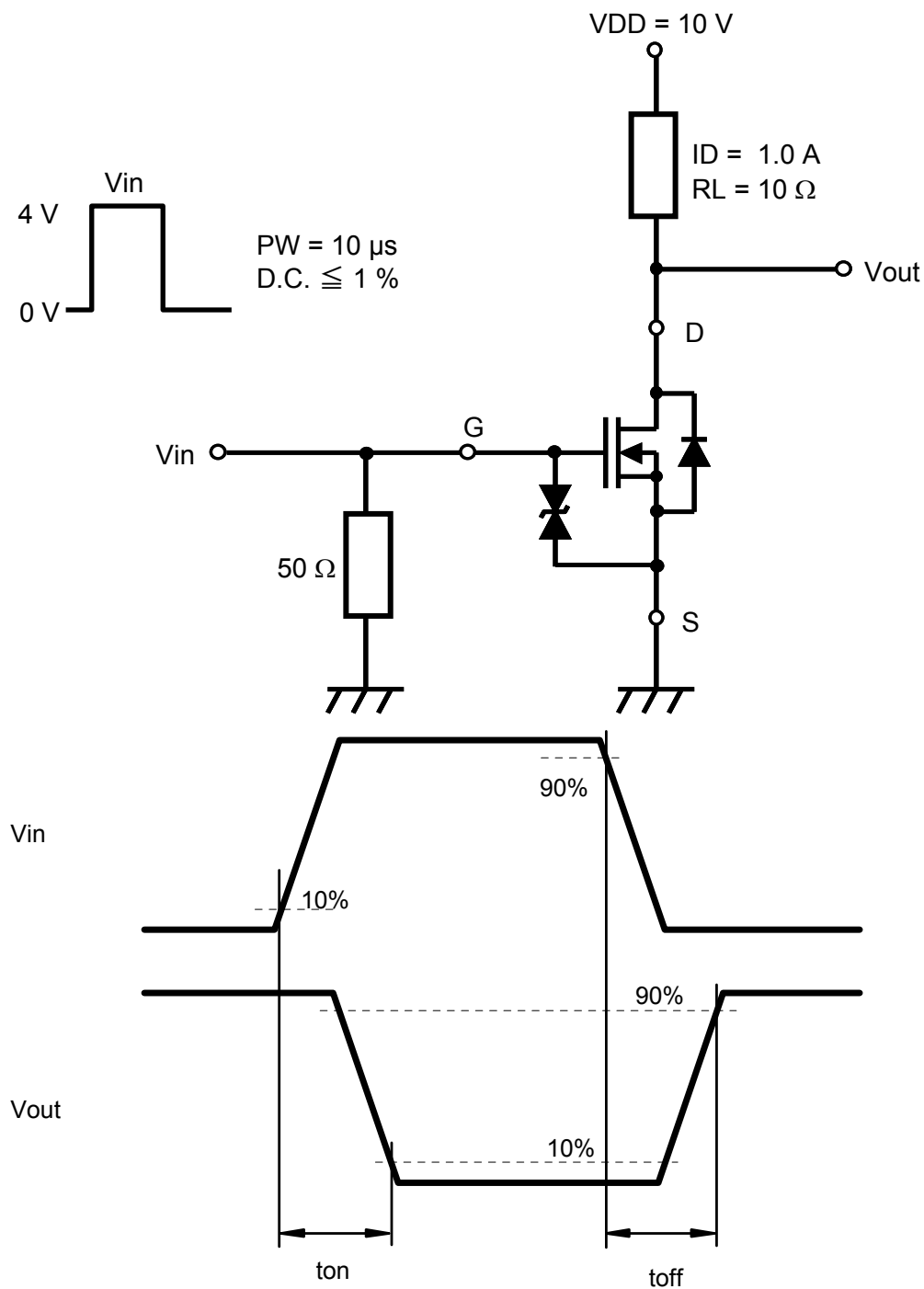
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source Breakdown Voltage	VDSS	ID = 1.0 mA, VGS = 0	20			V
Zero Gate Voltage Drain Current	IDSS	VDS = 20 V, VGS = 0			1.0	μA
Gate-source Leakage Current	IGSS	VGS = ±8.0 V, VDS = 0			±10	μA
Gate-source Threshold Voltage	Vth	ID = 1.0 mA, VDS = 10 V	0.4	0.85	1.3	V
Drain-source On-state Resistance *1	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	mΩ
	RDS(on)3	ID = 0.5 A, VGS = 1.8 V		170	300	mΩ
Forward transfer admittance *1	Yfs	ID = 1.0 A, VDS = 10 V	3.0	4.0		S
Input Capacitance	Ciss	VDS = 10 V, VGS = 0, f = 1 MHz		280		pF
Output Capacitance	Coss			18		pF
Reverse Transfer Capacitance	Crss			17		pF
Turn-on time *2	ton	VDD = 10 V, VGS = 0 to 4 V ID = 1.0 A		12		ns
Turn-off time *2	toff	VDD = 10 V, VGS = 4 to 0 V ID = 1.0 A		50		ns

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

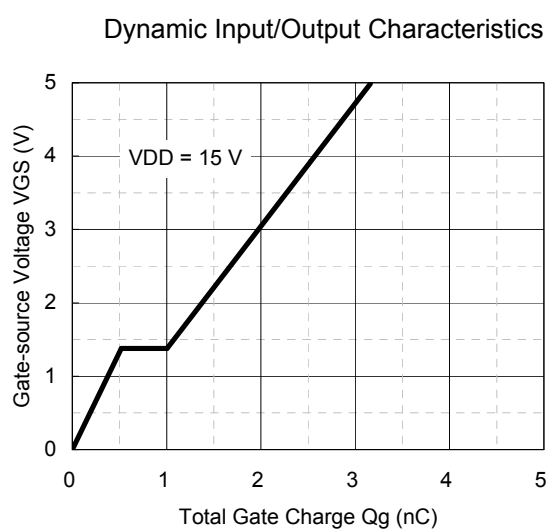
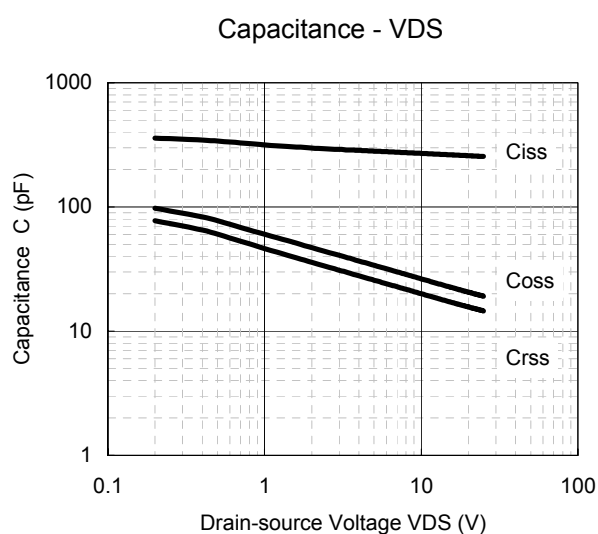
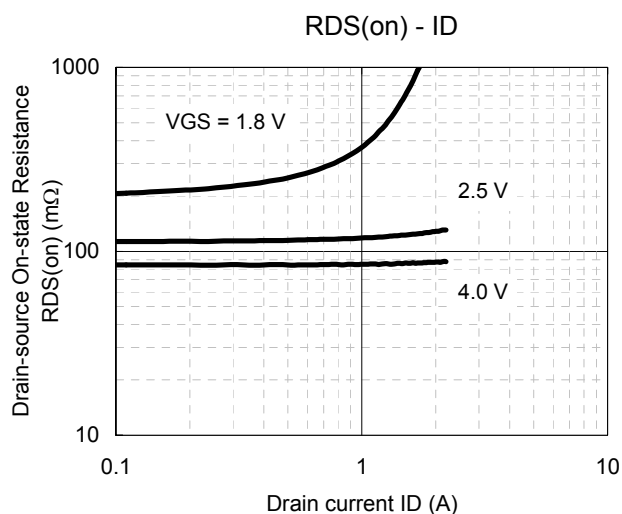
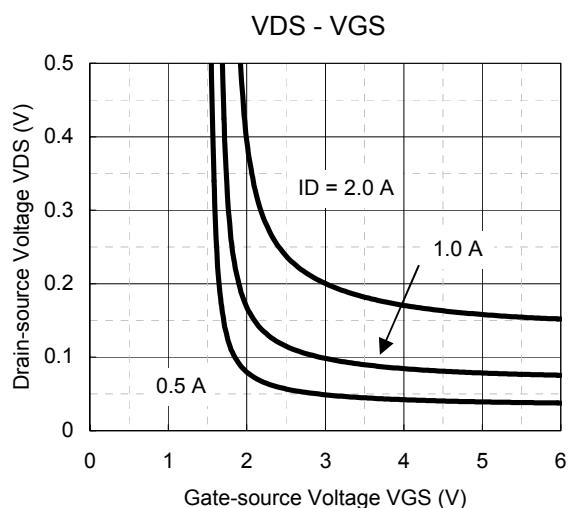
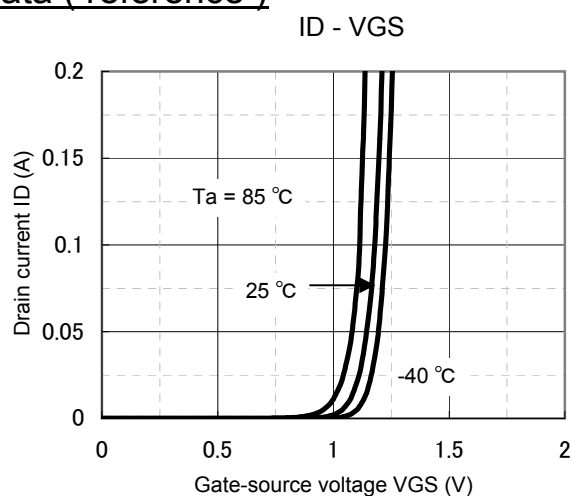
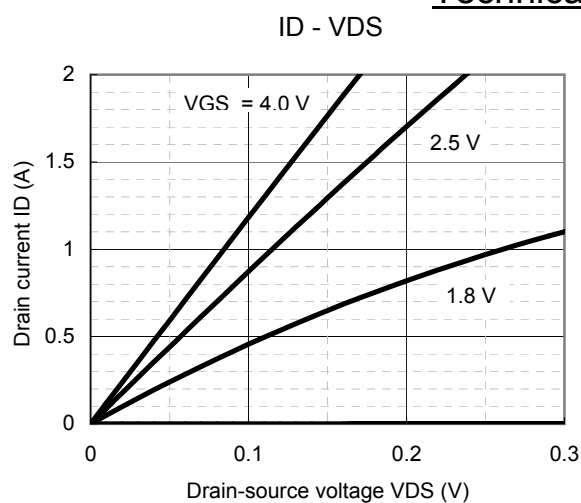
2. *1 Pulse test

*2 Measurement circuit for Turn-on Time / Turn-off Time

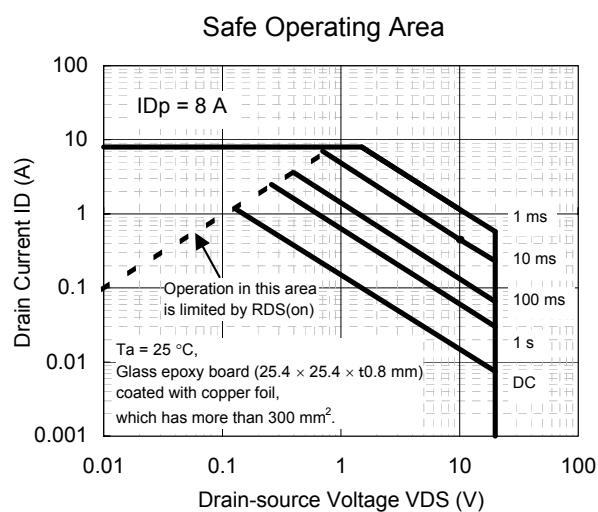
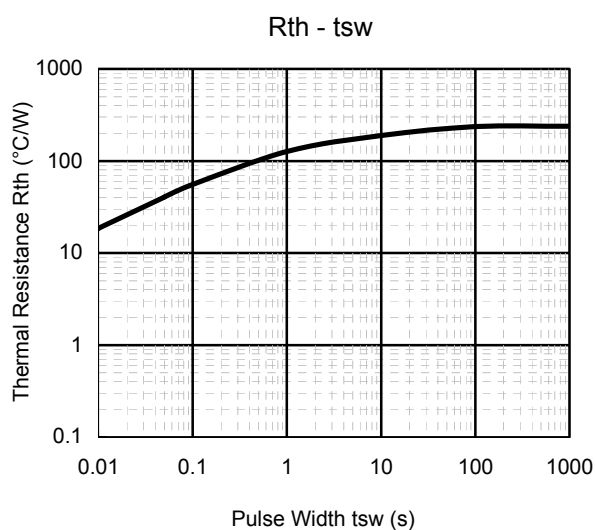
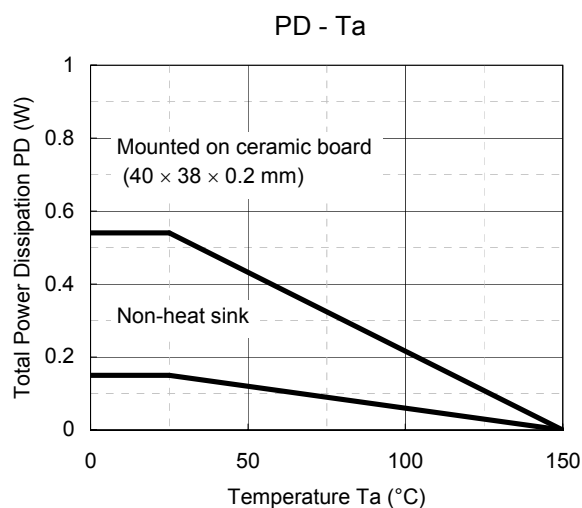
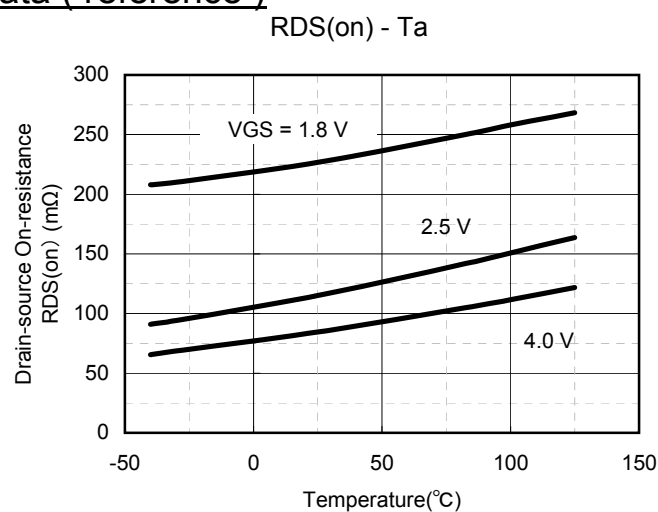
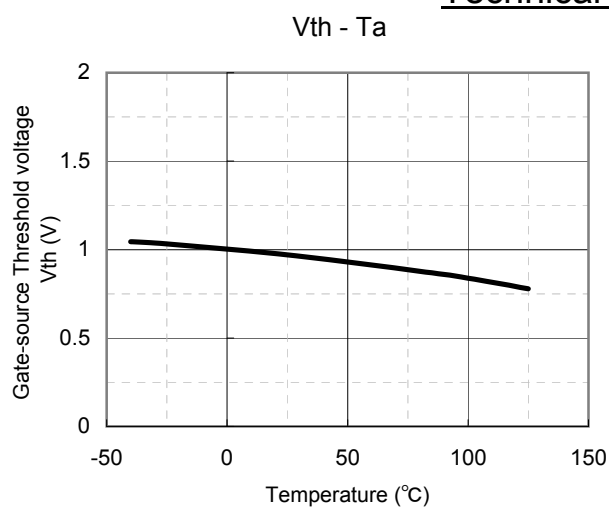
*2 Measurement circuit for Turn-on Time / Turn-off Time



Technical Data (reference)



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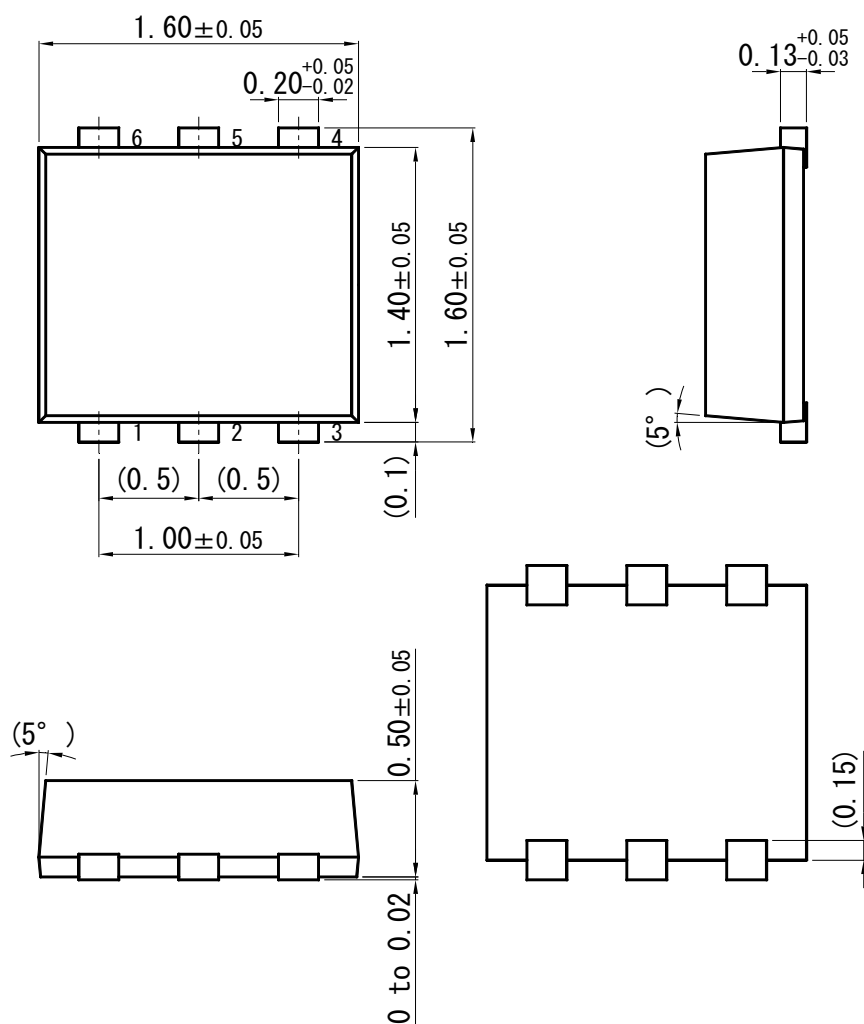


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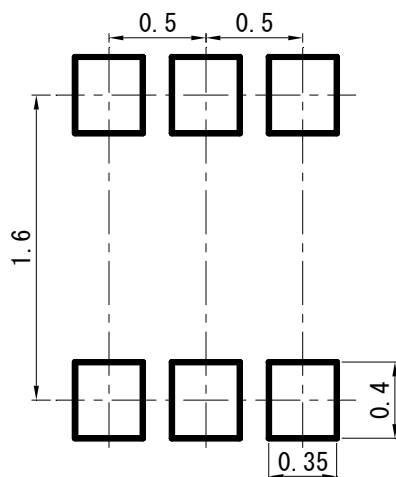
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WSSMini6-F1

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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