MOS FET

Panasonic

MTM862270LBF

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Silicon N-channel MOSFET

For Switching

■ Features

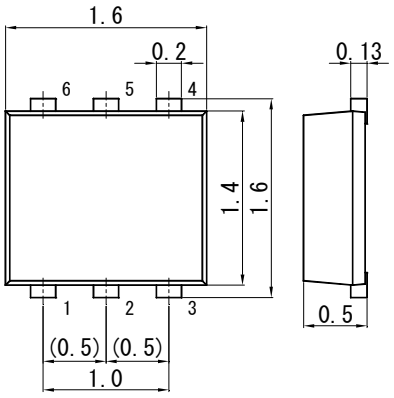
- Low drain-source On-state Resistance : RDS(on) typ = 80 mΩ (VGS = 4.0 V)
- Low drive voltage:1.8V drive
- Halogen-free / RoHS compliant
  (EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

■ Marking Symbol : JF

■ Packaging

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

Unit : mm



1. Drain	4. Source
2. Drain	5. Drain
3. Gate	6. Drain

Panasonic	WSSMini6-F1
JEITA	—
Code	—

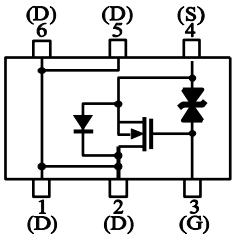
■ Absolute Maximum Ratings Ta = 25 °C

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	VDS	20	V
Gate to Source Voltage	VGS	±10	
Drain Current	ID	2.2	A
Drain Current (Pulsed) *1	IDp	8.0	
Total Power Dissipation *2	PD	540	mW
Channel Temperature	Tch	150	°C
Operating Ambient Temperature	Topr	-40 to +85	
Storage Temperature Range	Tstg	-55 to +150	

Note) *1 Pulse width t ≤ 10 μs, Duty cycle ≤ 1 %

*2 Measuring on ceramic substrate at 40 mm × 38 mm × 0.2 mm
PD absolute maximum rating without a heat shink: 150 mW

Internal Connection



Pin Name

1. Drain	4. Source
2. Drain	5. Drain
3. Gate	6. Drain

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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	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

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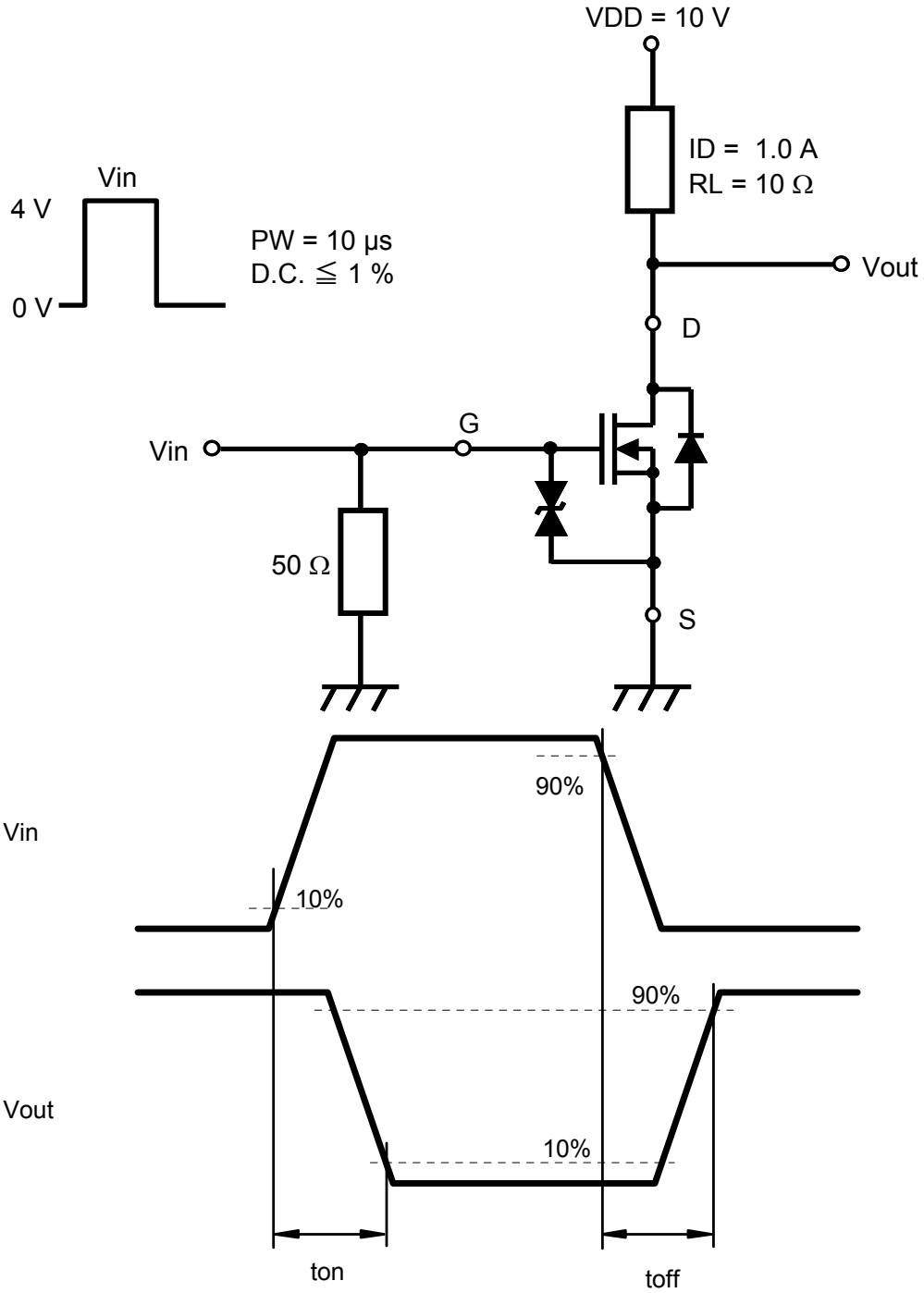
*2 Measurement circuit for Turn-on Time / Turn-off Time



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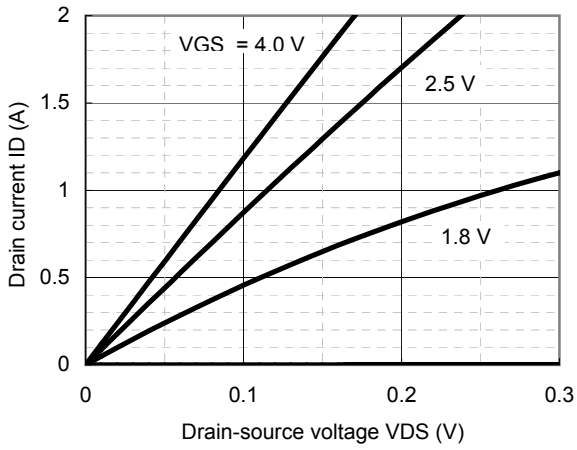
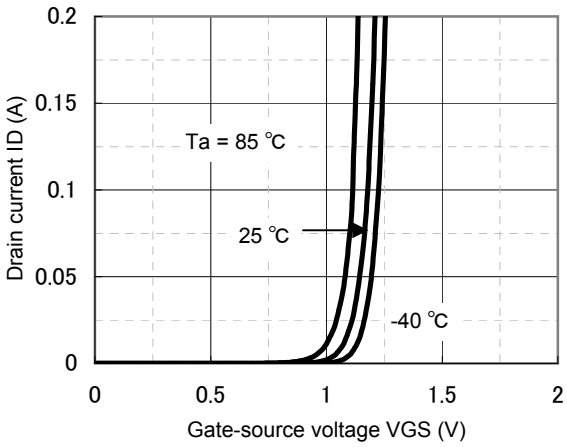
Technical Data (reference)

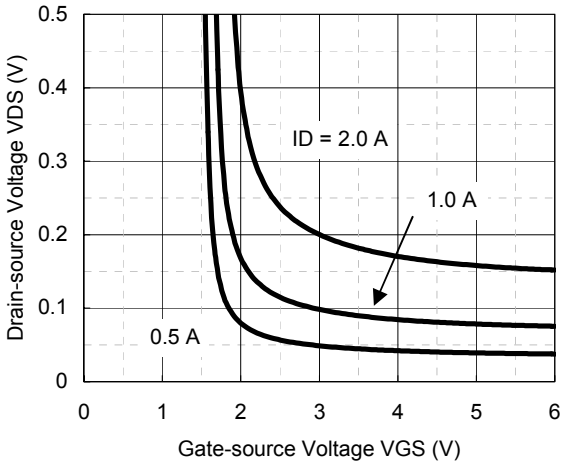
ID - VDS



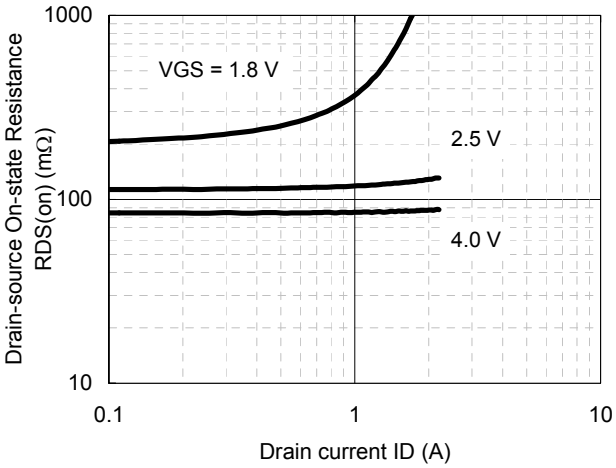
ID - VGS



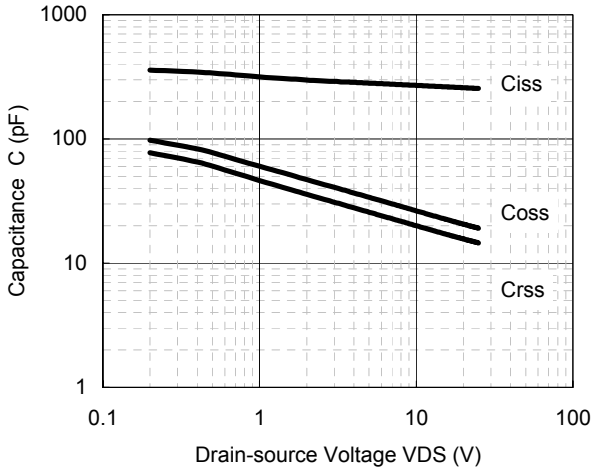
VDS - VGS



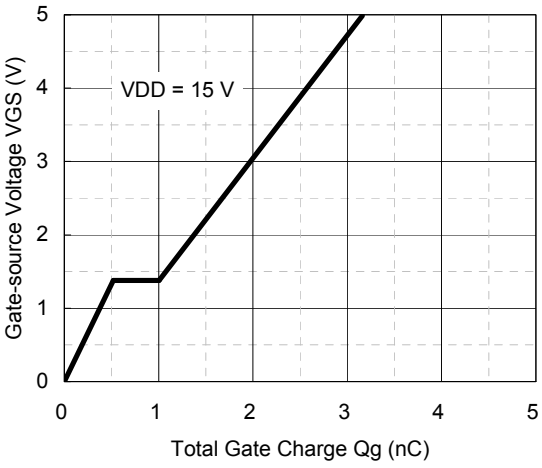
RDS(on) - ID



Capacitance - VDS



Dynamic Input/Output Characteristics



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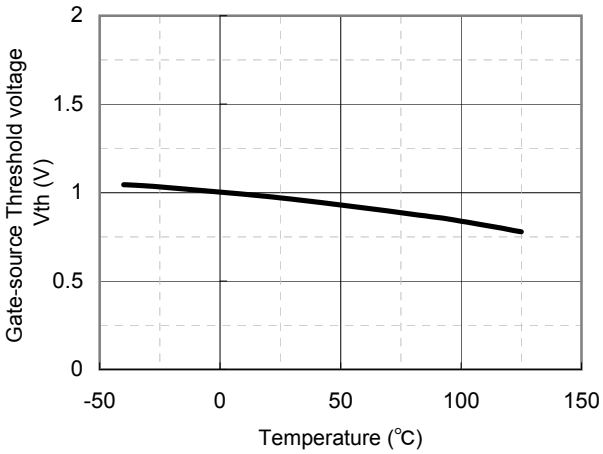
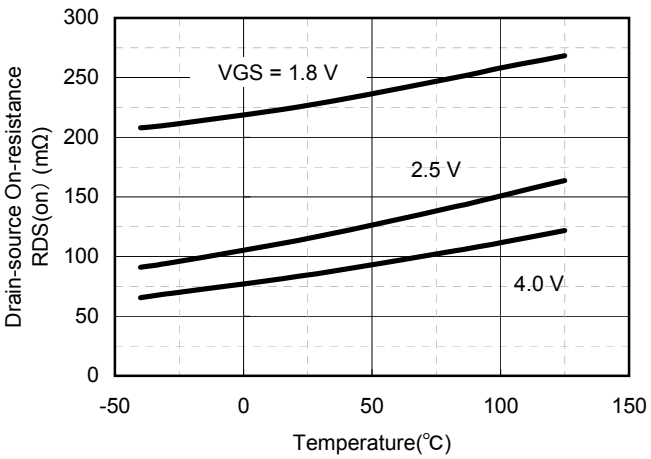
Technical Data (reference)

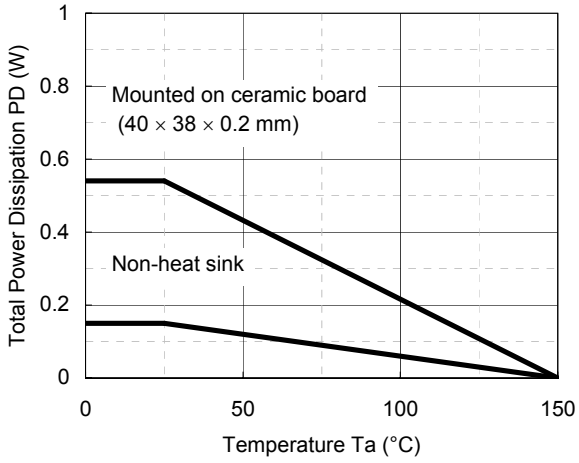
Vth - Ta



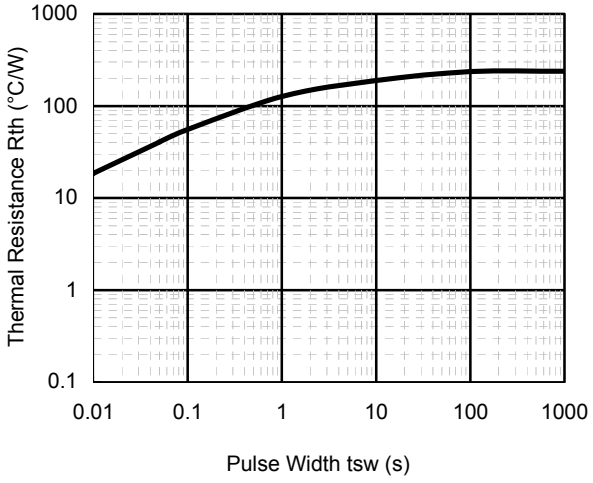
RDS(on) - Ta



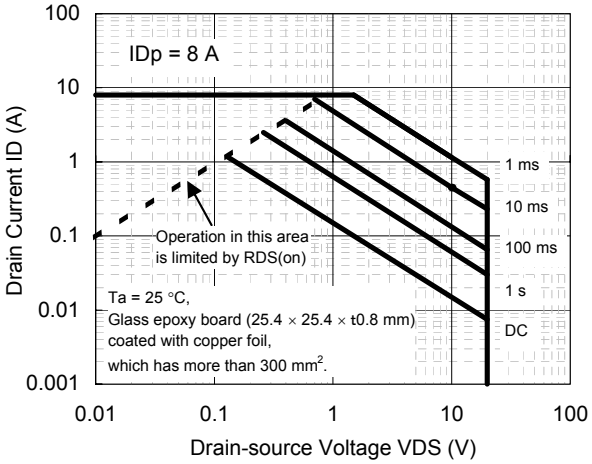
PD - Ta



Rth - tsw



Safe Operating Area



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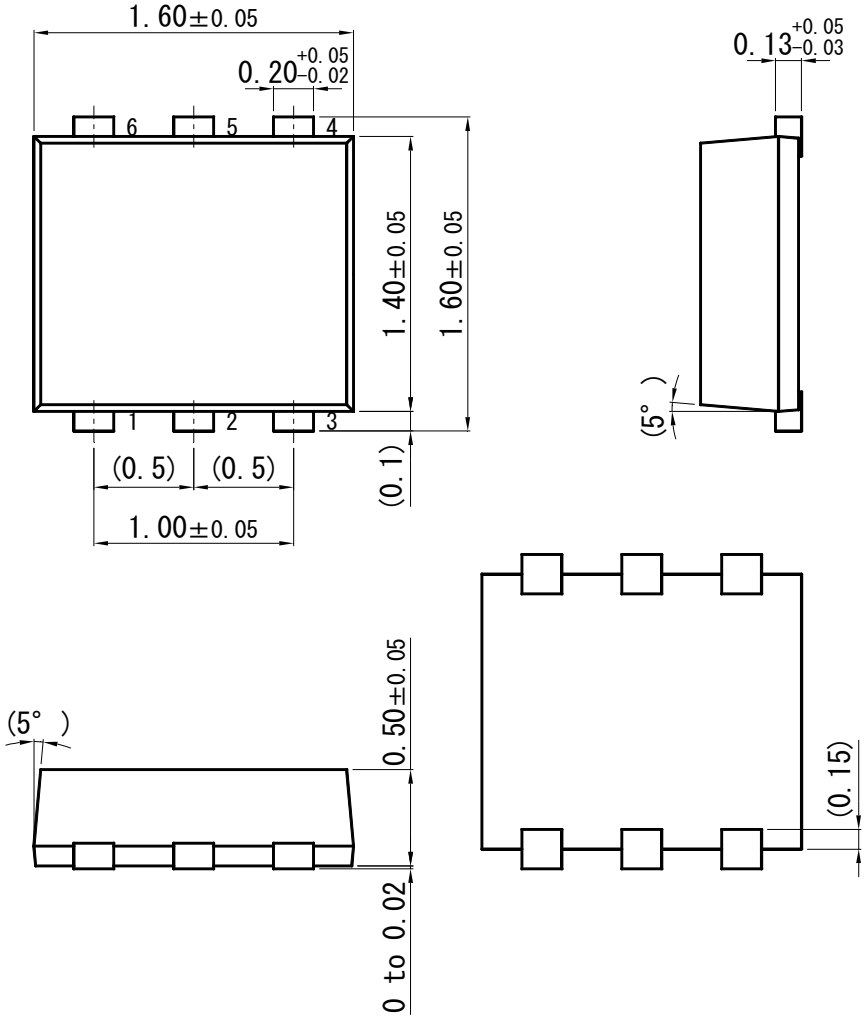
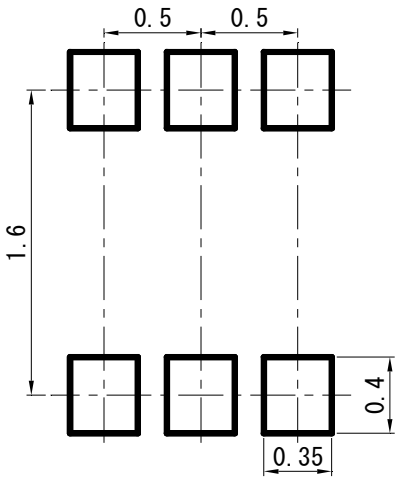
WSSMini6-F1

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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