

Panasonic

MOS FET
MTM981400BBF

MTM981400BBF Silicon P-channel MOSFET

For switching

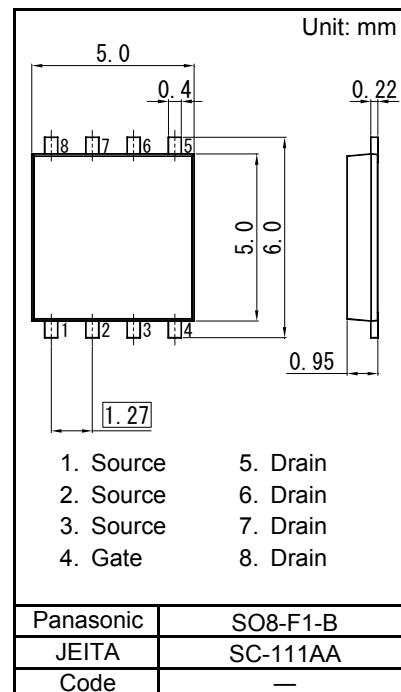
■ Features

- Low drain-source On-state Resistance
RDS(on) typ = 28 mΩ (VGS = -4.5 V)
- Halogen-free / RoHS compliant
(EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

■ Marking Symbol BA

■ Packaging

Embossed type (Thermo-compression sealing) 3 000 pcs / reel (standard)



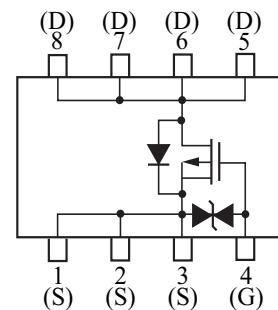
Panasonic	SO8-F1-B
JEITA	SC-111AA
Code	—

■ Absolute Maximum Ratings Ta = 25 °C

Parameter	Symbol	Rating	Unit
Drain-source Voltage	VDS	-40	V
Gate-source Voltage	VGS	±20	V
Drain Current	ID	-7.0	A
Drain Current (Pulsed)	IDp	-28	A
Total Power dissipation ^{*1}	PD	2	W
Channel Temperature	Tch	150	°C
Operating Ambient Temperature	Topr	-40 to +85	°C
Storage Temperature Range	Tstg	-55 to +150	°C

Note: *1 Measuring on ceramic board at 50 mm × 50 mm × 1.0 mm.

Internal Connection



Pin Name

1. Source	5. Drain
2. Source	6. Drain
3. Source	7. Drain
4. Gate	8. Drain

■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Static Characteristics

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source Breakdown Voltage	VDSS	ID = -1 mA, VGS = 0 V	-40			V
Zero Gate Voltage Drain Current	IDSS	VDS = -40 V, VGS = 0 V			-10	μA
Gate-source Leakage Current	IGSS	VGS = ± 16 V, VDS = 0 V			± 10	μA
Gate-source threshold Voltage	Vth	ID = -1.0 mA, VDS = -10.0 V	-1		-2.5	V
Drain-source On-state Resistance ^{*1}	RDS(on)1	ID = -7.0 A, VGS = -10 V		19	25	$\text{m}\Omega$
	RDS(on)2	ID = -3.5 A, VGS = -4.5 V		28	45	
Forward transfer admittance ^{*1}	Yfs	ID = -7.0 A, VDS = -10 V	10			S
Input Capacitance	Ciss	VDS = -10 V, VGS = 0 V, f = 1 MHz	2 700			pF
Output Capacitance	Coss			190		
Reverse Transfer Capacitance	Crss			175		
Turn-on Delay Time ^{*1,*2}	td(on)	VDD = -25 V, VGS = 0 V to -10 V ID = -3.5 A	18			ns
Rise Time ^{*1,*2}	tr			15		
Turn-off Delay Time ^{*1,*2}	td(off)	VDD = -25 V, VGS = -10 V to 0 V ID = -3.5 A	230			ns
Fall Time ^{*1,*2}	tf			70		

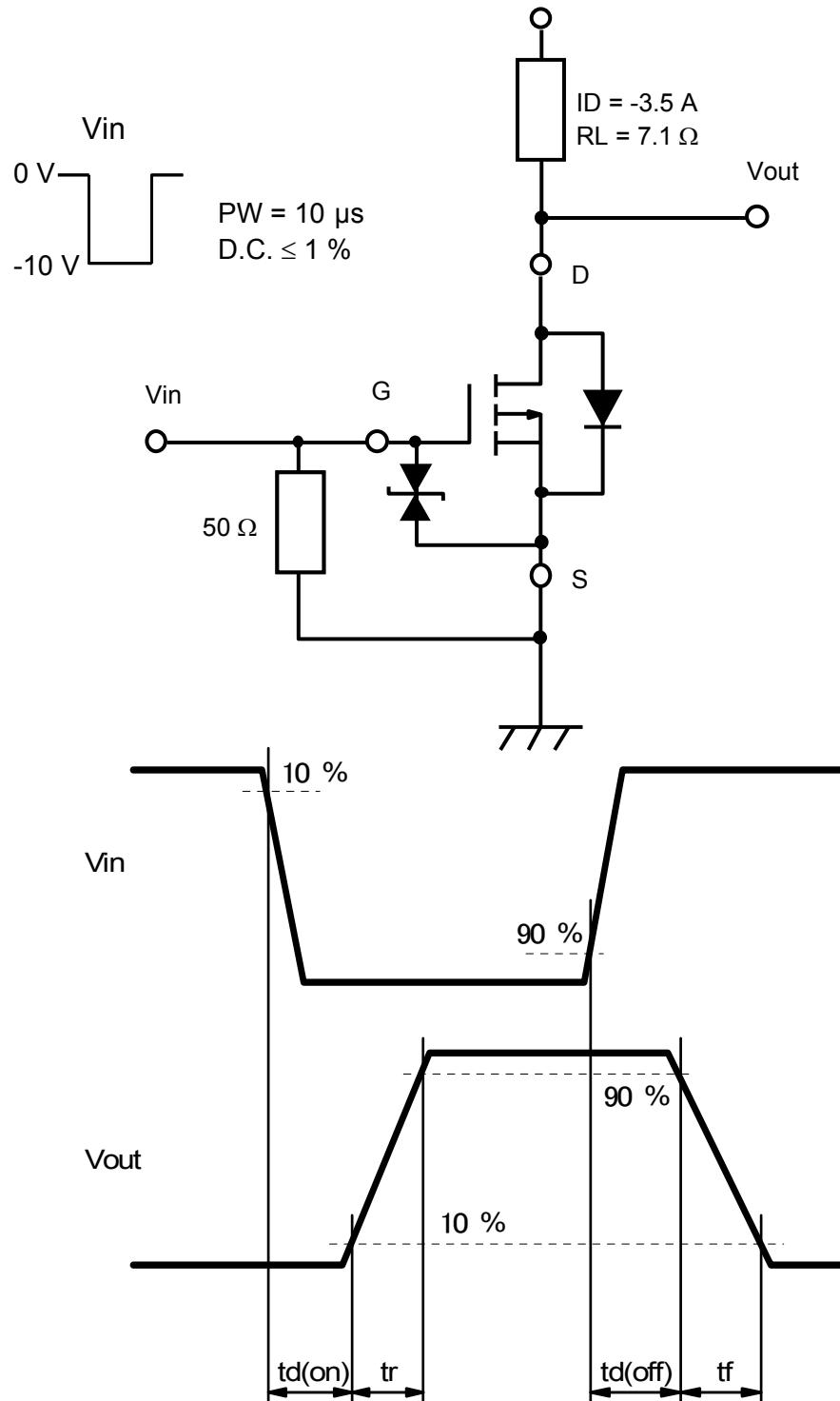
Note: 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.

2. *1 Pulse test

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

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

VDD = -25 V



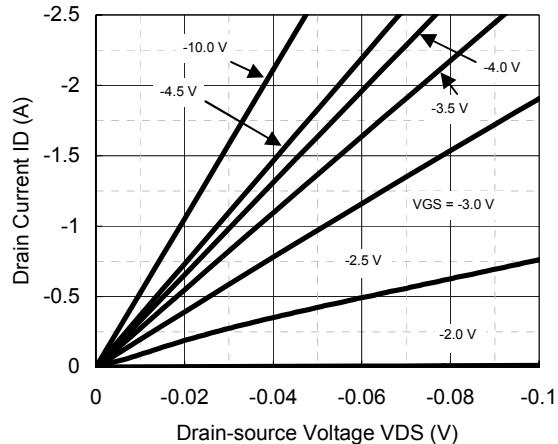
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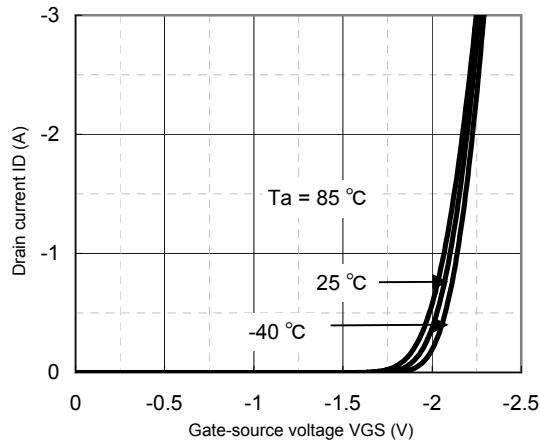
MTM981400BBF

Technical Data (reference)

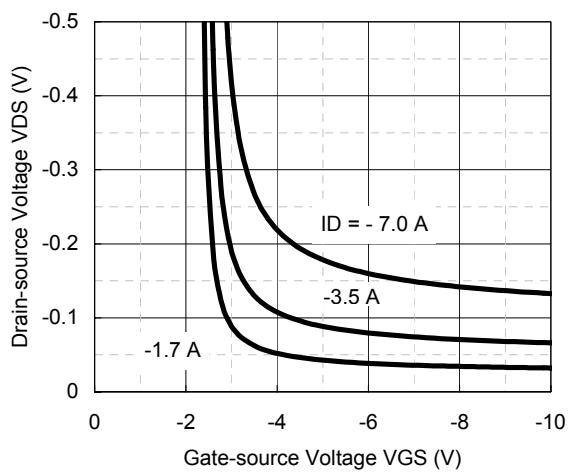
ID - VDS



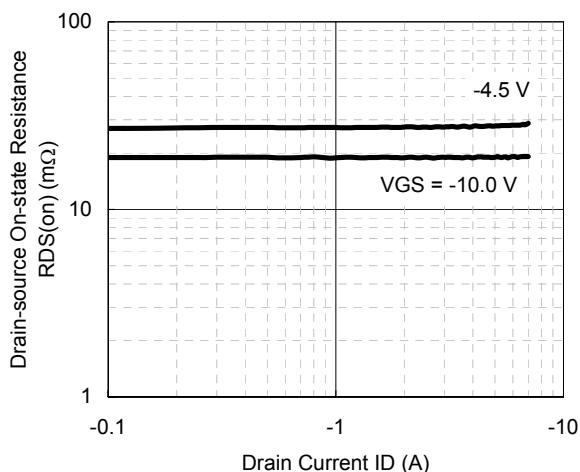
ID - VGS



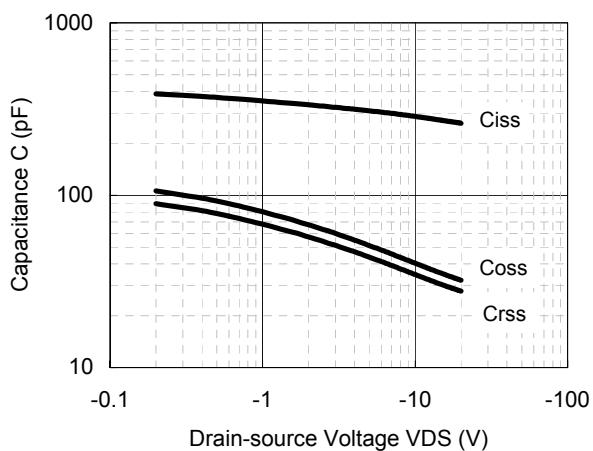
VDS - VGS



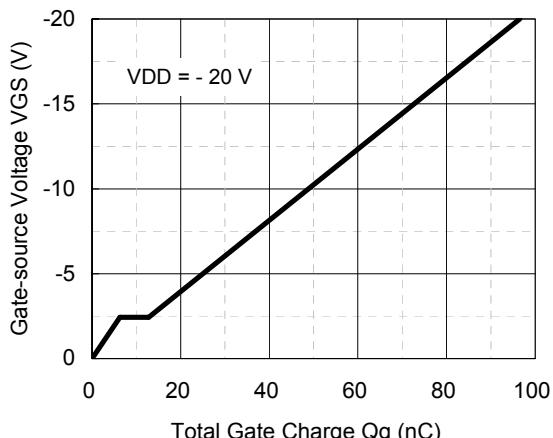
RDS(on) - ID



Capacitance - VDS

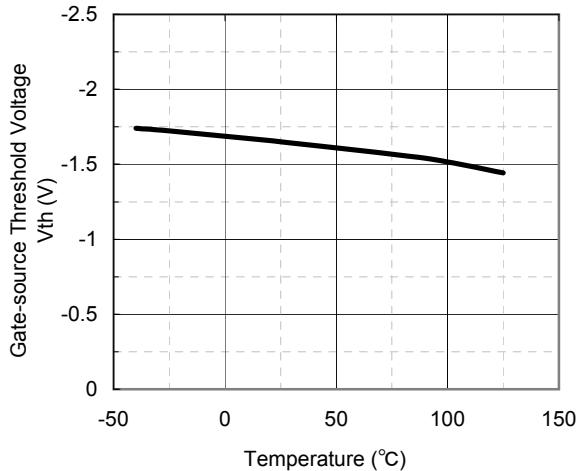


Dynamic Input/Output Characteristics

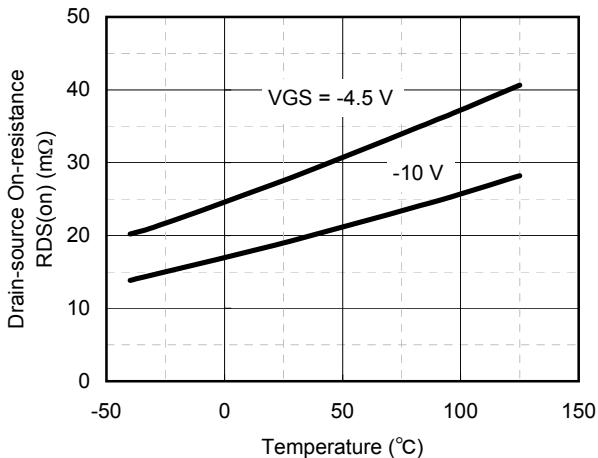


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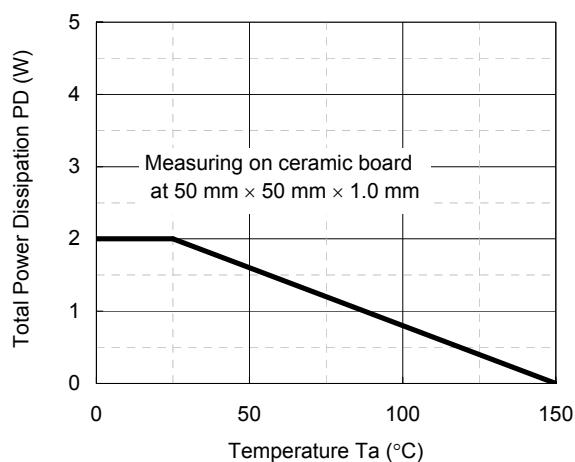
V_{th} - Ta



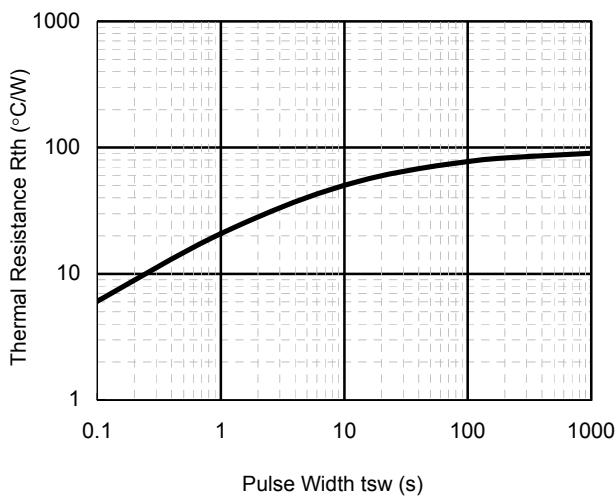
RDS(on) - Ta



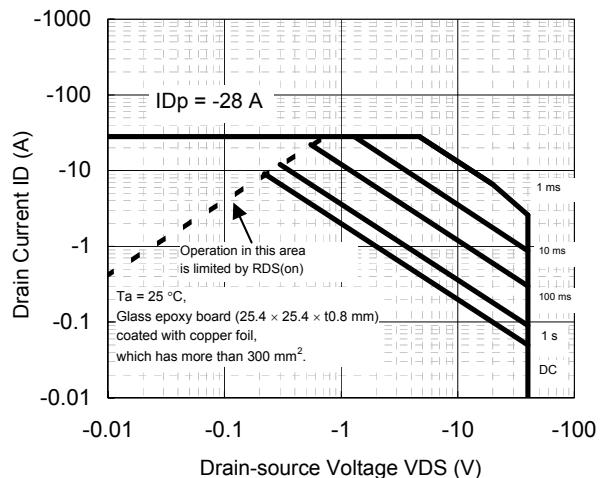
PD - Ta



R_{th} - tsw



Safe Operating Area



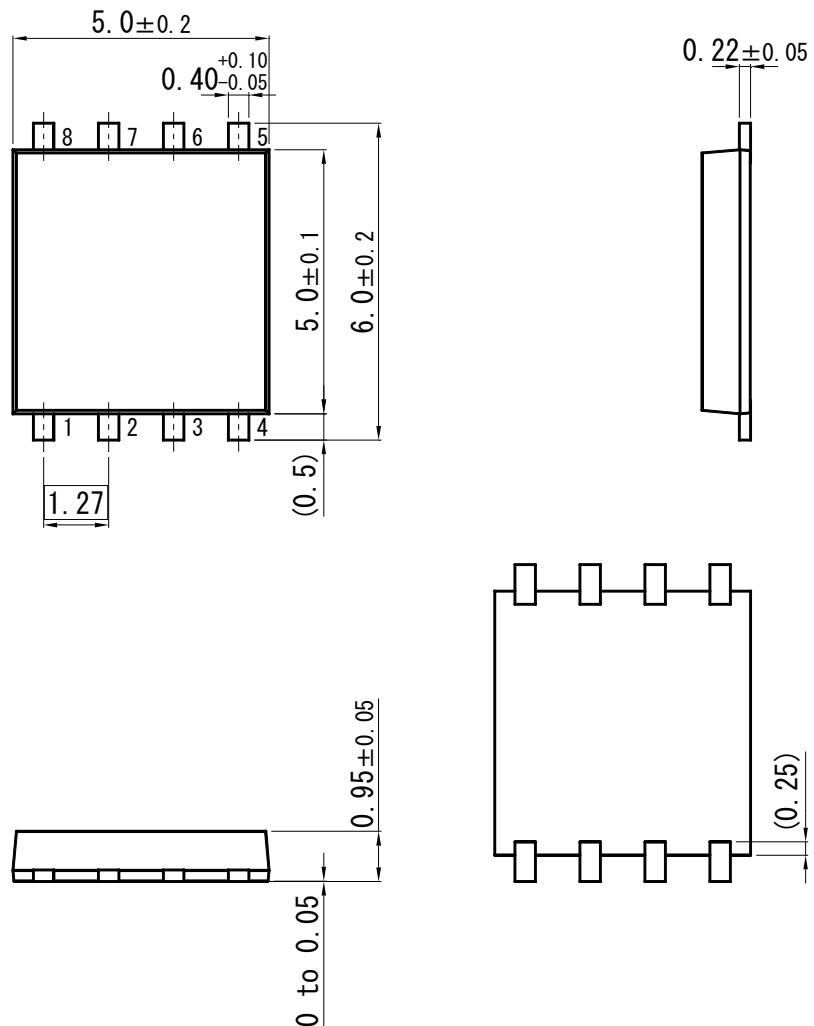
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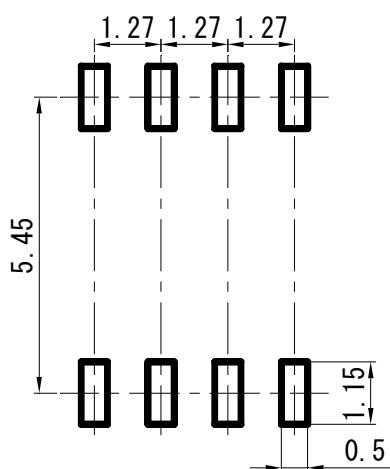
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SO8-F1-B

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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