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MOS FET MTM981400BBF

MTM981400BBF Silicon P-channel MOSFET

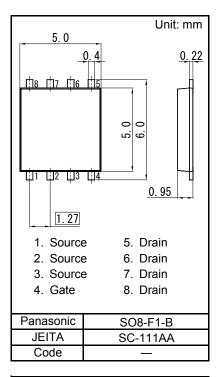
For switching

Features

- Low drain-source On-state Resistance RDS(on) typ = $28 \text{ m}\Omega \text{ (VGS} = -4.5 \text{ V)}$
- 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)



■ 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	А
Drain Current (Pulsed)	IDp	-28	Α
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 Magguring on coromic board at 50) mm v 50 mr	n v 1.0 mm	

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



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

Symbol	Conditions	Min	Тур	Max	Unit
VDSS	ID = -1 mA, VGS = 0 V	-40			V
IDSS	VDS = -40 V, VGS = 0 V			-10	μA
IGSS	VGS = ±16 V, VDS = 0 V			±10	μA
Vth	ID = -1.0 mA, VDS = -10.0 V	-1		-2.5	V
RDS(on)1	ID = -7.0 A, VGS = -10 V		19	25	mΩ
RDS(on)2	ID = -3.5 A, VGS = -4.5 V		28	45	
Yfs	ID = -7.0 A, VDS = -10 V	10			S
Ciss			2 700		
Coss	VDS = -10 V, VGS = 0 V, f = 1 MH		190		pF
Crss			175		
td(on)	VDD = -25 V, VGS = 0 V to -10 V		18		20
tr	ID = -3.5 A		15		ns
td(off)	VDD = -25 V, VGS = -10 V to 0 V		230		20
tf	ID = -3.5 A		70		ns
	VDSS IDSS IGSS Vth RDS(on)1 RDS(on)2 Yfs Ciss Coss Crss td(on) tr td(off)	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	VDSS ID = -1 mA, VGS = 0 V -40 IDSS VDS = -40 V, VGS = 0 V -40 IGSS VGS = ± 16 V, VDS = 0 V -40 Vth ID = -1.0 mA, VDS = -10.0 V -1 RDS(on)1 ID = -7.0 A, VGS = -10 V 19 RDS(on)2 ID = -3.5 A, VGS = -4.5 V 28 Yfs ID = -7.0 A, VDS = -10 V 10 Ciss 2700 Coss VDS = -10 V, VGS = 0 V, f = 1 MH; 190 Crss 175 td(on) VDD = -25 V, VGS = 0 V to -10 V 18 tr ID = -3.5 A 15 td(off) VDD = -25 V, VGS = -10 V to 0 V 230	VDSS ID = -1 mA, VGS = 0 V -40 IDSS VDS = -40 V, VGS = 0 V -10 IGSS VGS = ± 16 V, VDS = 0 V ± 10 Vth ID = -1.0 mA, VDS = -10.0 V -1 -2.5 RDS(on)1 ID = -7.0 A, VGS = -10 V 19 25 RDS(on)2 ID = -3.5 A, VGS = -4.5 V 28 45 Yfs ID = -7.0 A, VDS = -10 V 10 2700 Ciss 2700 2700 2700 Coss VDS = -10 V, VGS = 0 V, f = 1 MH 190 175 td(on) VDD = -25 V, VGS = 0 V to -10 V 18 15 td(off) VDD = -25 V, VGS = -10 V to 0 V 230 230

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

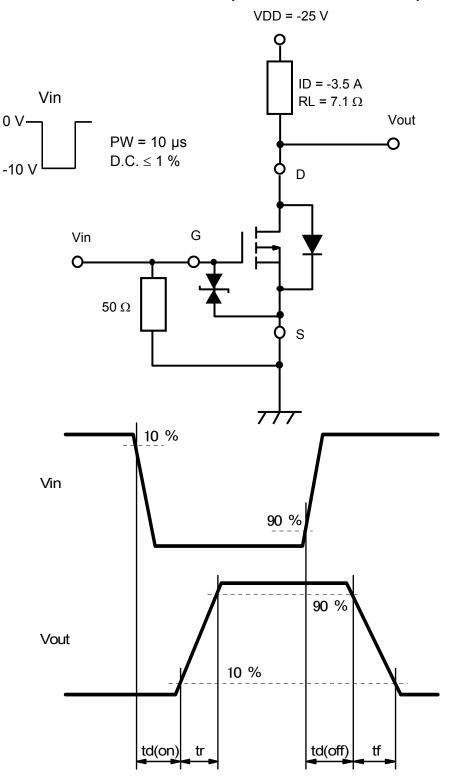
2. *1 Pulse test

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

Doc No. TT4-EA-10096 Revision. 3

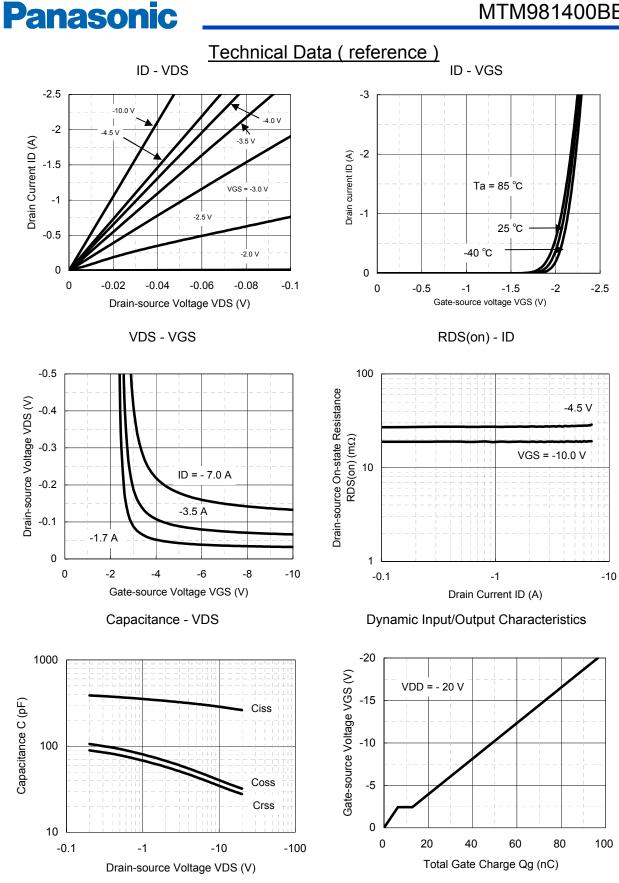


*2 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time



Established : 2007-11-08 Revised : 2013-10-15

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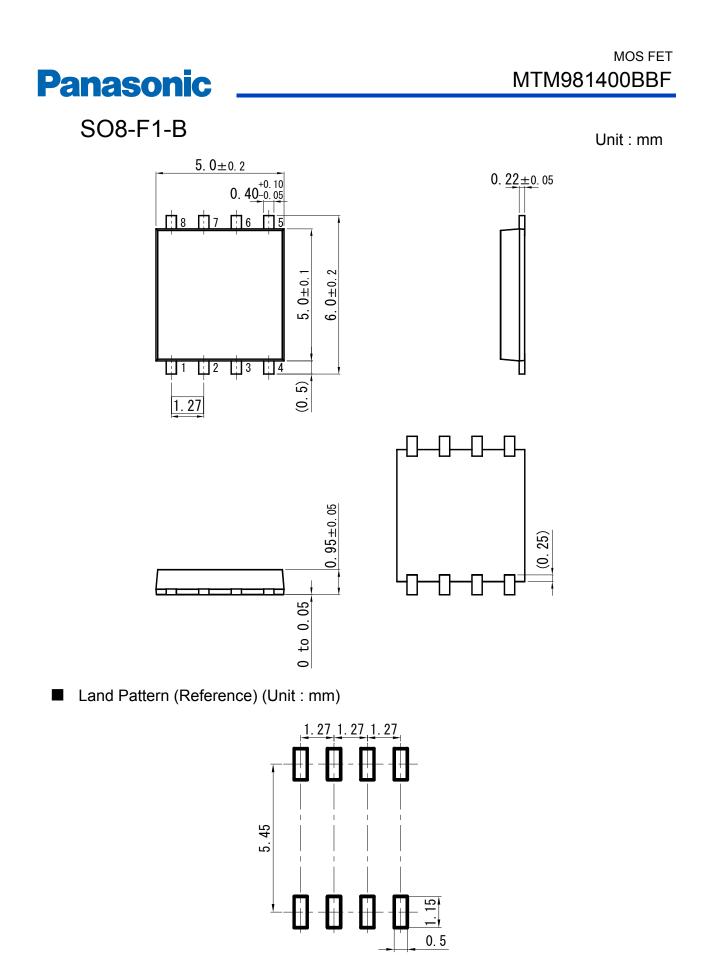
Established : 2007-11-08 Revised : 2013-10-15

Panasonic MTM981400BBF Technical Data (reference) Vth - Ta -2.5 50 Gate-source Threshold Voltage Drain-source On-resistance -2 40 VGS = -4.5 V RDS(on) (mΩ) 30 -1.5 -10 V Vth (V) 20 -1 10 -0.5 0 0 0 100 -50 50 150 -50 0 50 100 150 Temperature (°C) Temperature (°C) PD - Ta 5 Total Power Dissipation PD (W) 4 Measuring on ceramic board 3 at 50 mm \times 50 mm \times 1.0 mm 2 1 0 0 50 100 150 Temperature Ta (°C) Rth - tsw Safe Operating Area -1000 1000 Thermal Resistance Rth (°C/W) -100 IDp = -28 A Drain Current ID (A) 100 -10 -1 ation in this 10 is limited by RDS(on) 25 °C Glass epoxy board (25.4 \times 25.4 -0.1 coated with copper foil, which has more than 300 mm 1 s DC -0.01 1 1000 -0.01 -1 -10 -100 0.1 1 10 100 -0.1 Drain-source Voltage VDS (V) Pulse Width tsw (s)

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MOS FET

Established : 2007-11-08 Revised : 2013-10-15



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