



MTM231102LBF
 Silicon P-channel MOSFET

For Switching

MTM76110 in SMini3 type package

■ Features

- Low Drain-source On-state Resistance : $R_{DS(on)}$ typ. = 30 mΩ (VGS = -4 V)
- Low Drive Voltage : 1.8 V Drive
- Halogen-free / RoHS compliant
 (EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

■ Marking Symbol : DM

■ Packaging

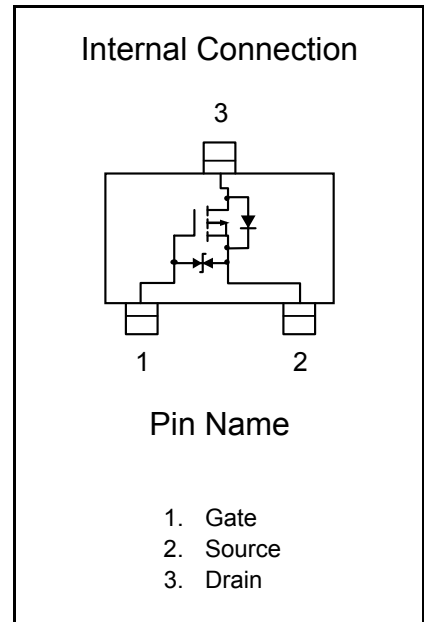
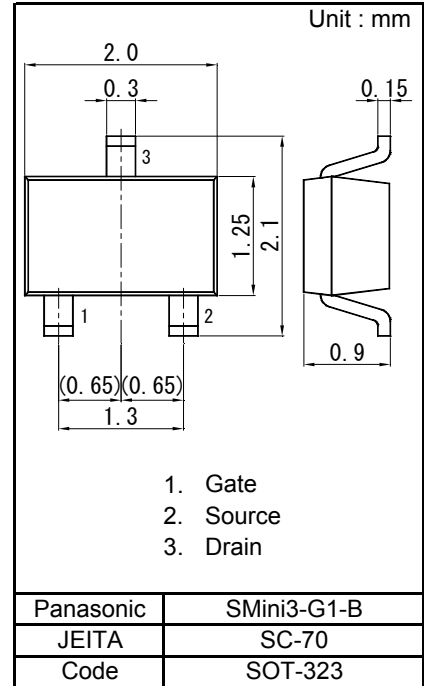
Embossed type (Thermo-compression sealing) : 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

Parameter	Symbol	Rating	Unit
Drain to Source Voltage	VDS	-12	V
Gate to Source Voltage	VGS	±8	V
Drain Current	ID	-4	A
Drain Current (Pulsed) *1	IDp	-16	A
Total Power Dissipation *2	PD	500	mW
Channel Temperature	Tch	150	°C
Storage Temperature Range	Tstg	-55 to +150	°C

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

*2 Measuring on ceramic board at 40 mm × 38 mm × 0.1 mm.
 Absolute maximum rating PD Non-heat sink shall be made 150 mW.



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

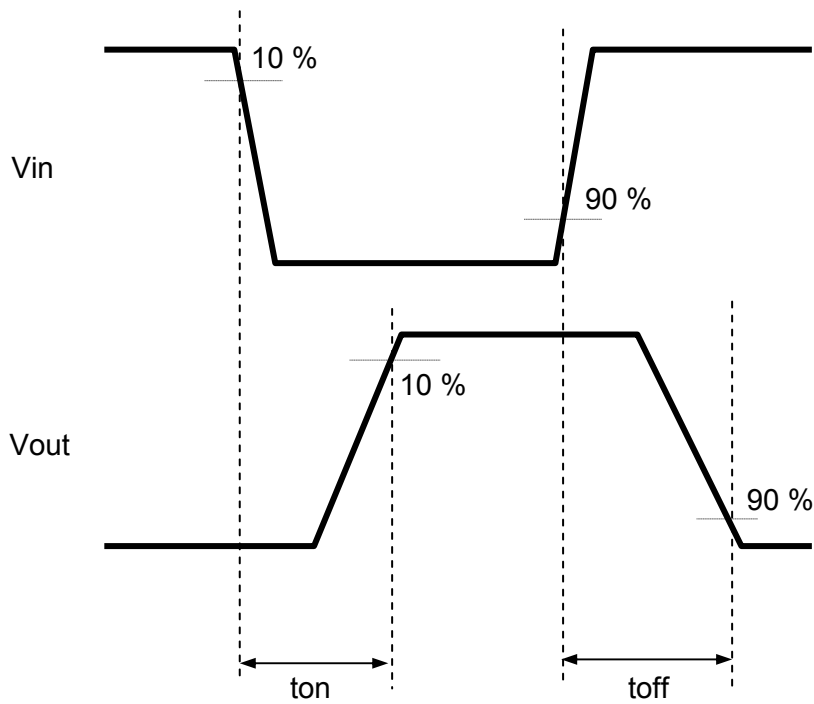
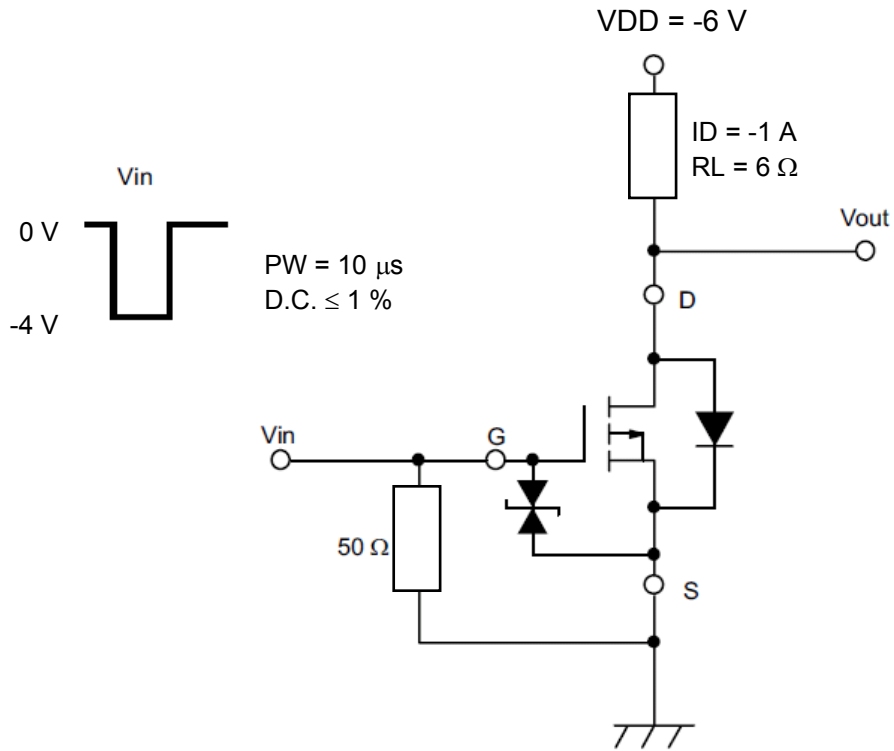
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source Breakdown Voltage	VDSS	ID = -1 mA, VGS = 0 V	-12			V
Zero Gate Voltage Drain Current	IDSS	VDS = -12 V, VGS = 0 V			-1	μA
Gate-source Leakage Current	IGSS	VGS = ±6.4 V, VDS = 0 V			±10	μA
Gate-source Threshold Voltage	Vth	ID = -1 mA, VDS = -6 V	-0.3	-0.65	-1	V
Drain-source On-state Resistance *1	RDS(on)1	ID = -1 A, VGS = -4 V		30	40	mΩ
	RDS(on)2	ID = -0.5 A, VGS = -2.5 V		35	55	
	RDS(on)3	ID = -0.2 A, VGS = -1.8 V		50	75	
Forward transfer admittance *1	Yfs	ID = -1 A, VDS = -10 V, f = 1 kHz	3.5			S
Input Capacitance	Ciss	VDS = -10 V, VGS = 0 V f = 1 MHz		1 200		pF
Output Capacitance	Coss			110		
Reverse Transfer Capacitance	Crss			110		
Turn-on Delay Time *2	ton	VDD = -6 V, VGS = 0 to -4 V		25		ns
Rise Time *2		ID = -1 A				
Turn-off Delay Time *2	toff	VDD = -6 V, VGS = -4 to 0 V		300		ns
Fall Time *2		ID = -1 A				

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

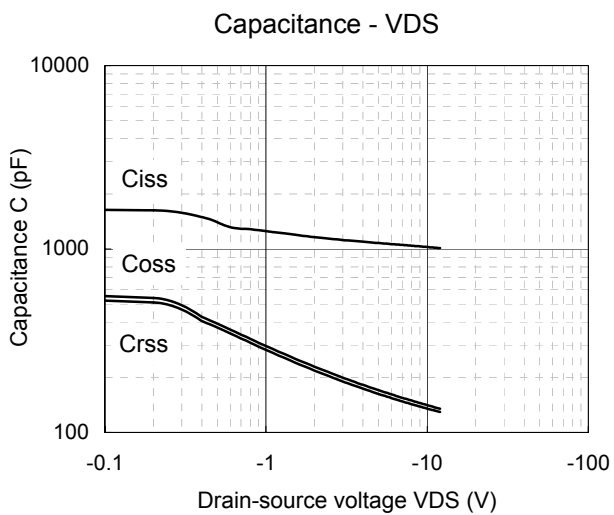
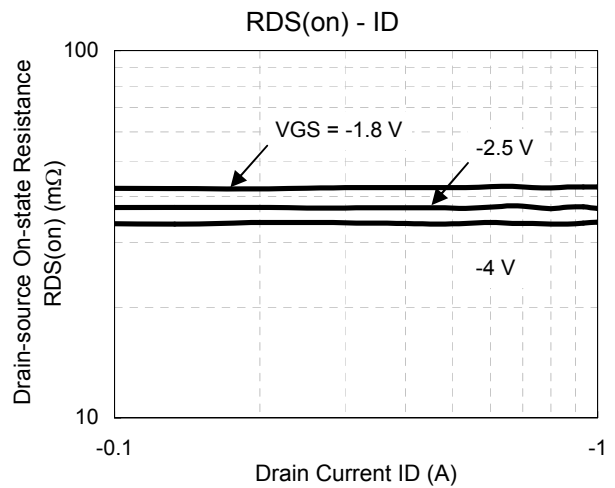
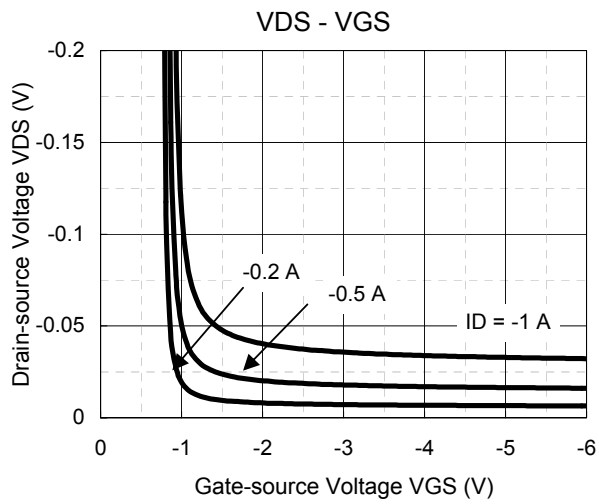
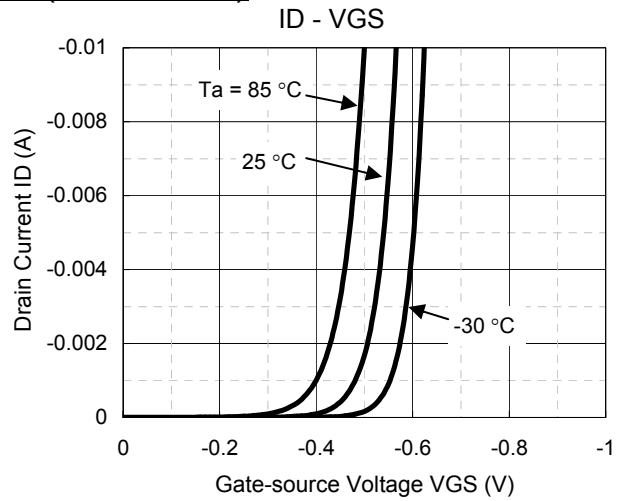
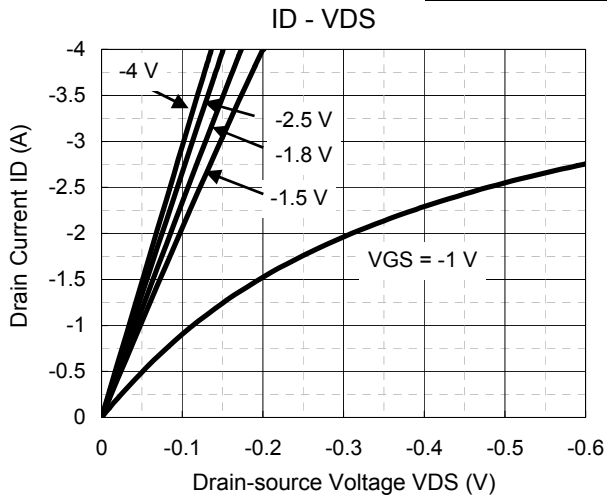
*1 Pulse test : Pulse width ≤ 10 μs, Duty cycle ≤ 1 %

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

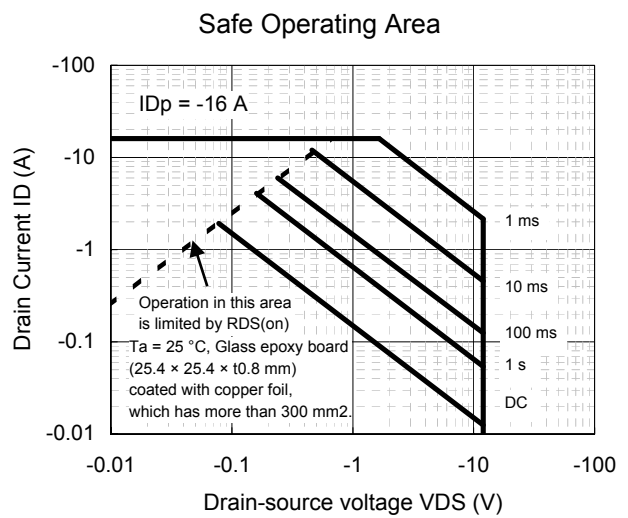
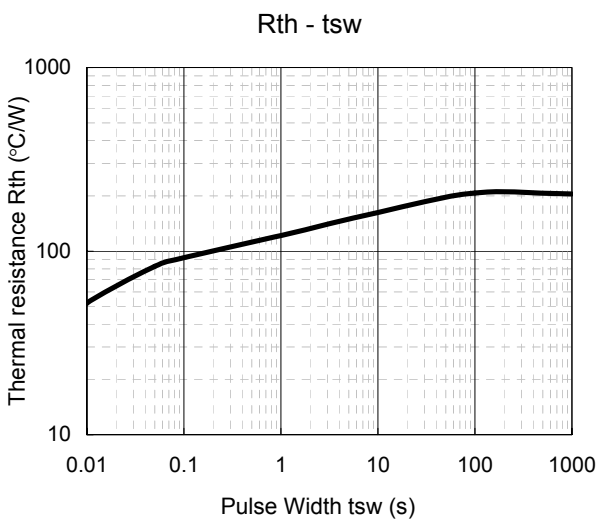
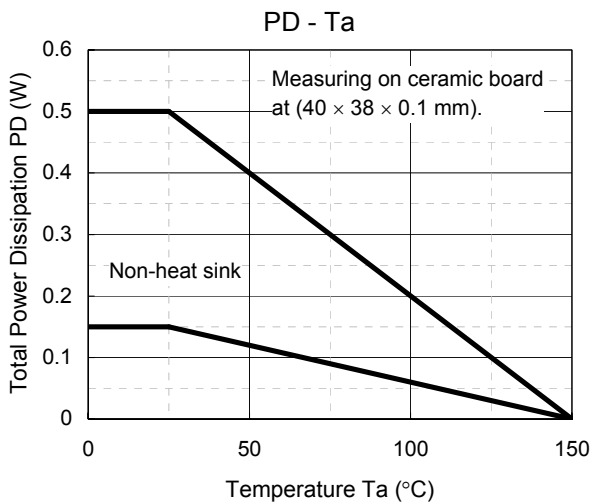
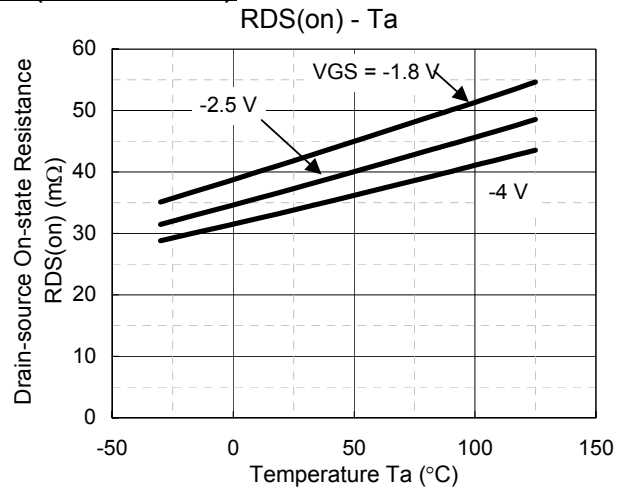
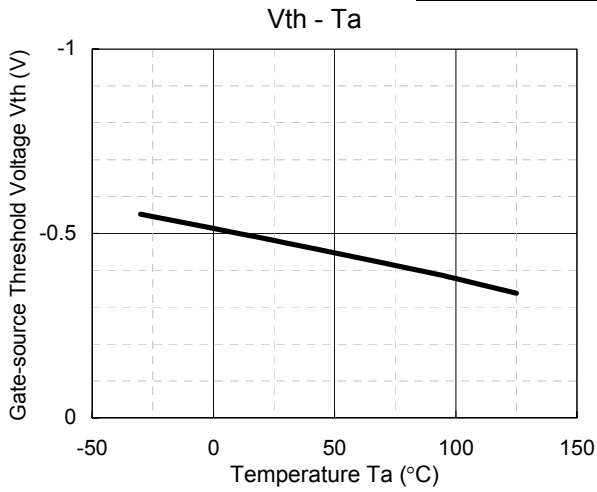
*2 Measurement circuit for Turn-on Delay Time / Turn-off Delay Time



Technical Data (reference)

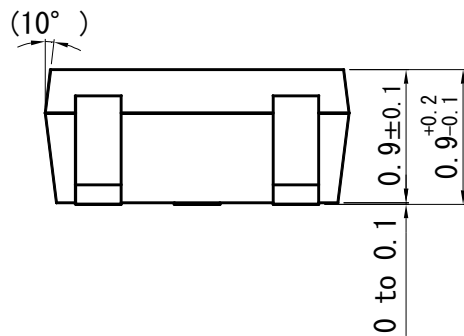
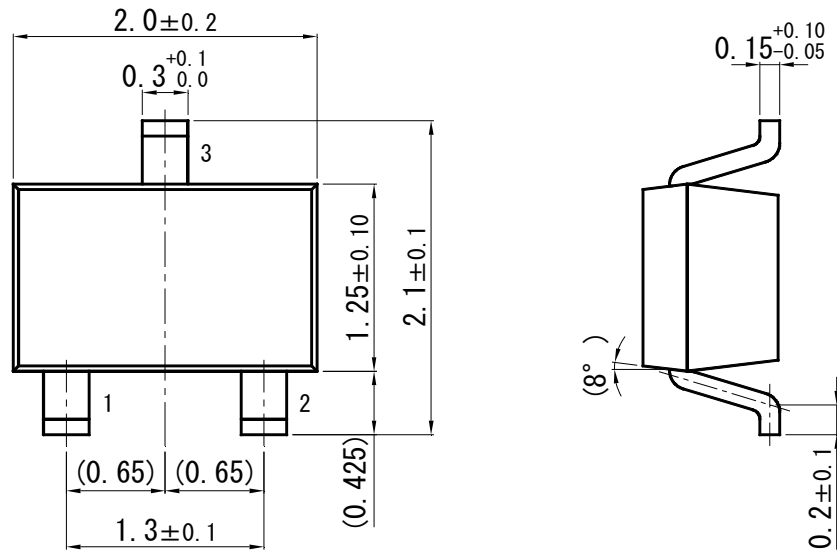


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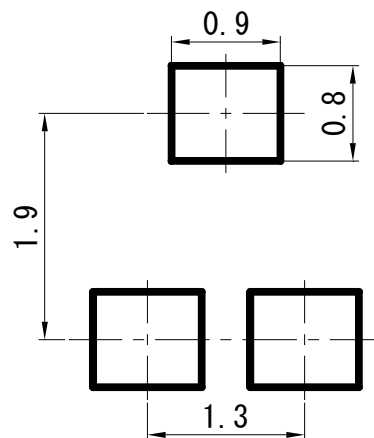


SMini3-G1-B

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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