



MTM231232LBF
 Silicon P-channel MOSFET

For Switching

MTM76123 in SMini3 type package

■ Features

- Low Drain-source On-state Resistance : $R_{DS(on)}$ typ. = 40 mΩ (VGS = -4 V)
- Low Drive Voltage : 2.5 V Drive
- Halogen-free / RoHS compliant
 (EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

■ Marking Symbol : BL

■ Packaging

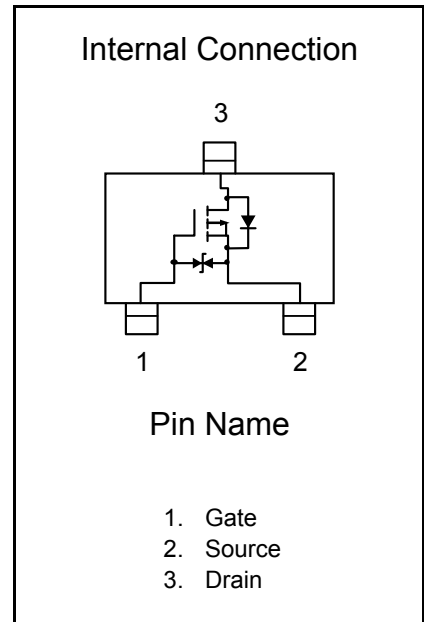
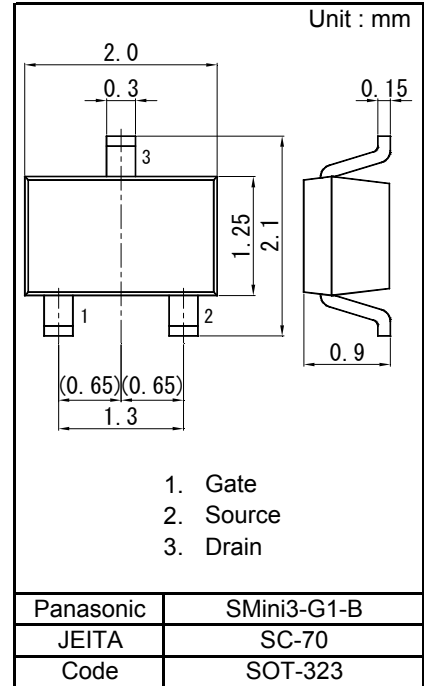
Embossed type (Thermo-compression sealing) : 3 000 pcs / reel (standard)

■ Absolute Maximum Ratings Ta = 25 °C

| Parameter | Symbol | Rating | Unit |
|----------------------------|--------|-------------|------|
| Drain to Source Voltage | VDS | -20 | V |
| Gate to Source Voltage | VGS | ±10 | V |
| Drain Current | ID | -3 | 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

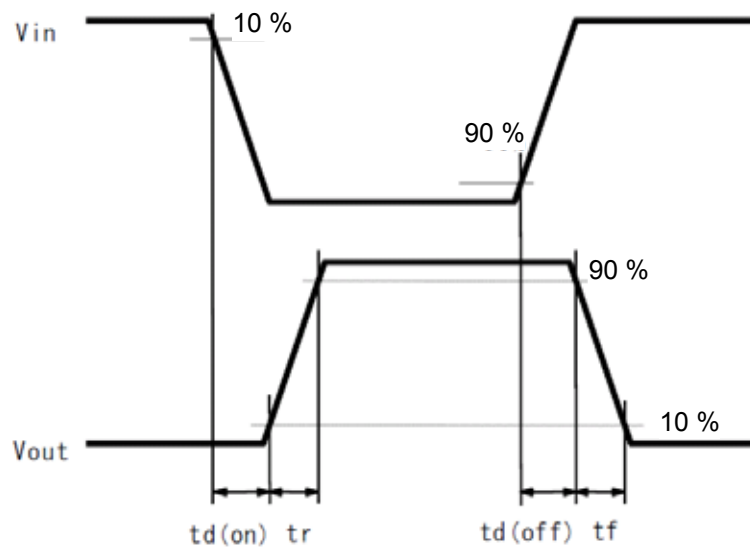
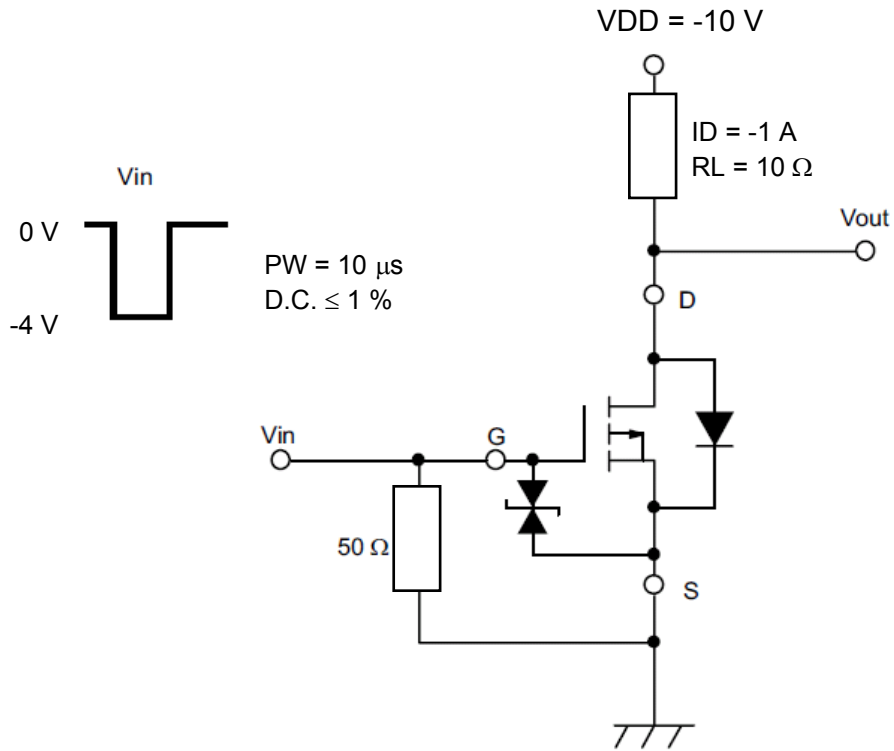
| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|-------------------------------------|----------|-------------------------------------|------|-------|------|------|
| Drain-source Breakdown Voltage | VDSS | ID = -1 mA, VGS = 0 V | -20 | | | V |
| Zero Gate Voltage Drain Current | IDSS | VDS = -20 V, VGS = 0 V | | | -1 | μA |
| Gate-source Leakage Current | IGSS | VGS = ±8 V, VDS = 0 V | | | ±10 | μA |
| Gate-source Threshold Voltage | Vth | ID = -1 mA, VDS = -10 V | -0.4 | -0.85 | -1.3 | V |
| Drain-source On-state Resistance *1 | RDS(on)1 | ID = -1 A, VGS = -4 V | | 40 | 55 | mΩ |
| | RDS(on)2 | ID = -0.5 A, VGS = -2.5 V | | 45 | 70 | |
| 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 | | 1 000 | | pF |
| Output Capacitance | Coss | | | 120 | | |
| Reverse Transfer Capacitance | Crss | | | 120 | | |
| Turn-on Delay Time *2 | td(on) | VDD = -10 V, VGS = 0 to -4 V | | 25 | | ns |
| Rise Time *2 | tr | ID = -1 A | | 25 | | |
| Turn-off Delay Time *2 | td(off) | VDD = -10 V, VGS = -4 to 0 V | | 120 | | ns |
| Fall Time *2 | tf | ID = -1 A | | 70 | | |

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

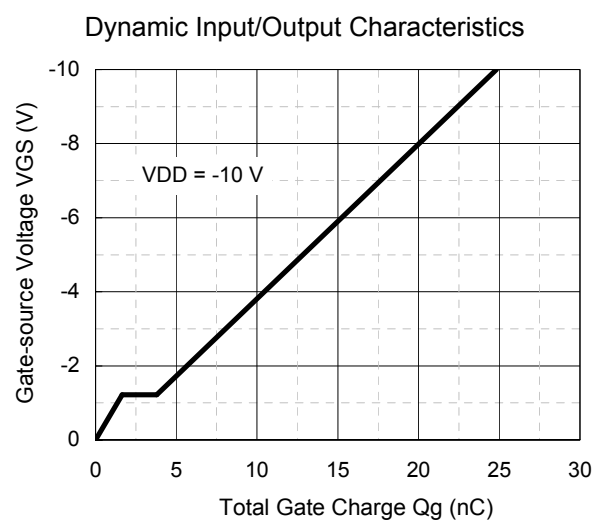
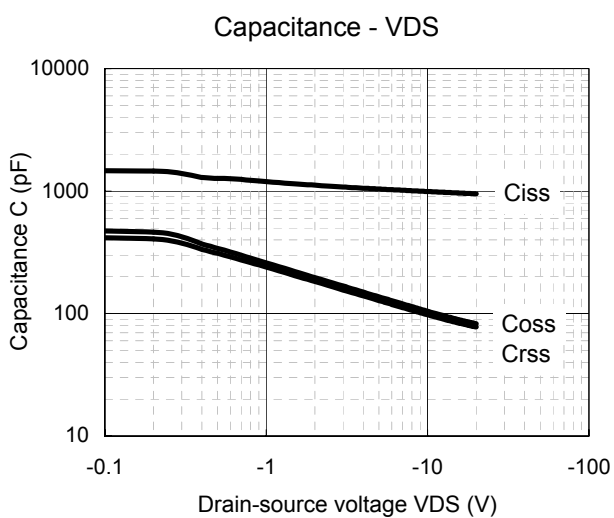
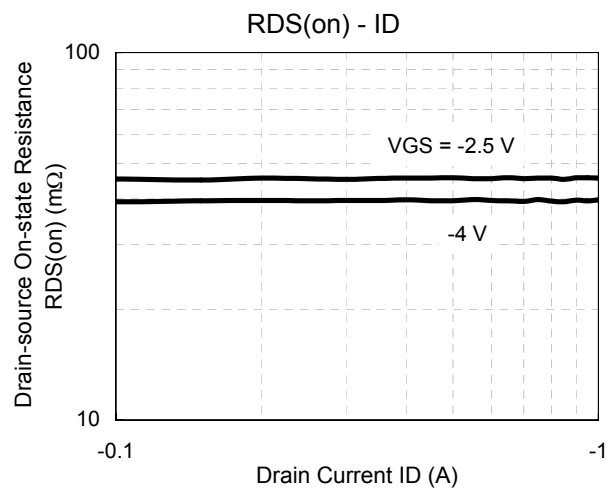
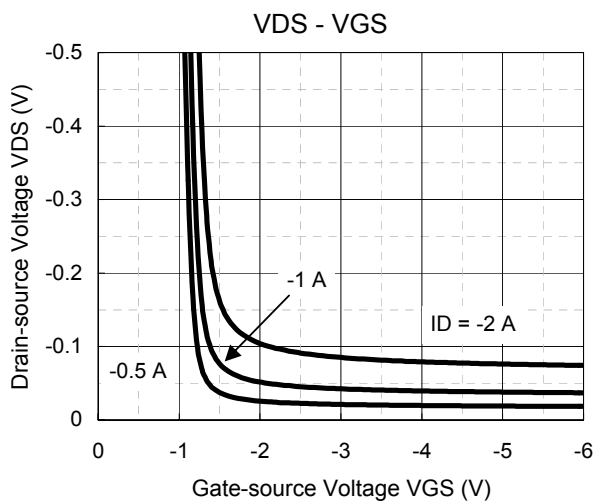
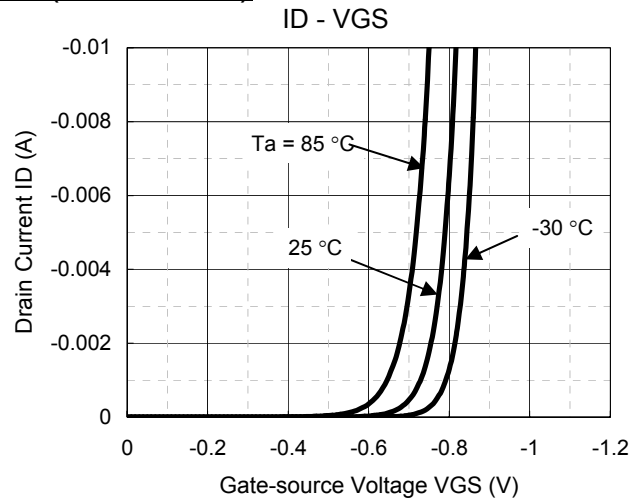
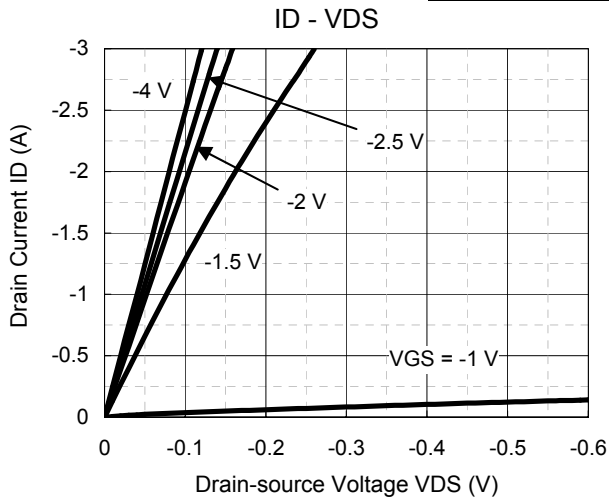
*1 Pulse test : Pulse width ≤ 300 μs, Duty cycle ≤ 2 %

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

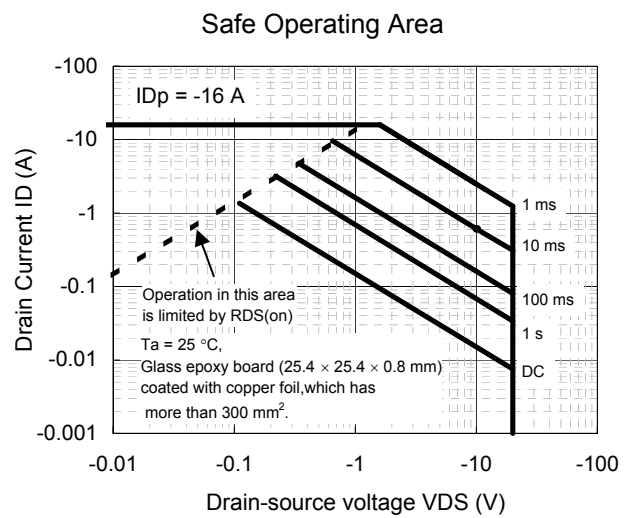
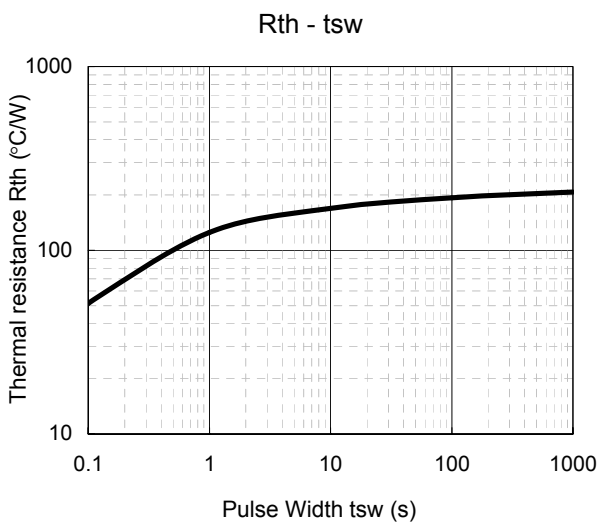
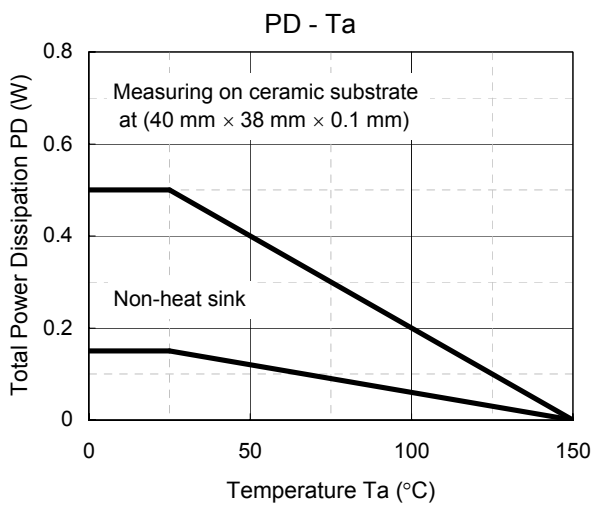
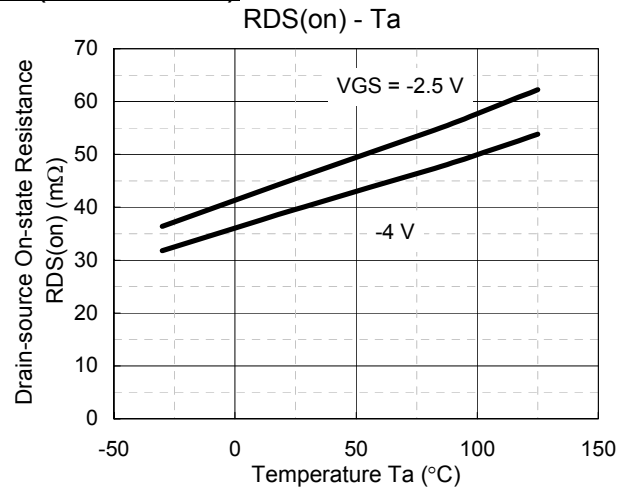
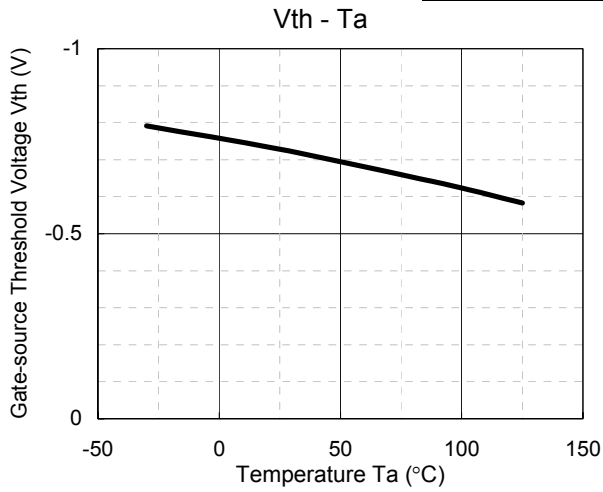
*2 Measurement circuit for Turn-on Delay Time / Rise Time / Turn-off Delay Time / Fall Time



Technical Data (reference)

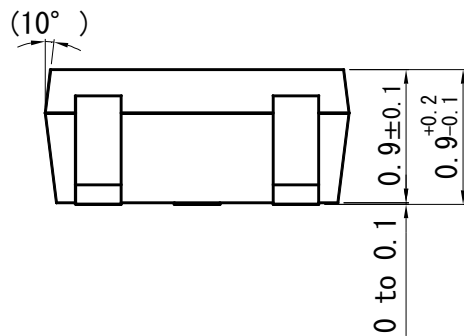
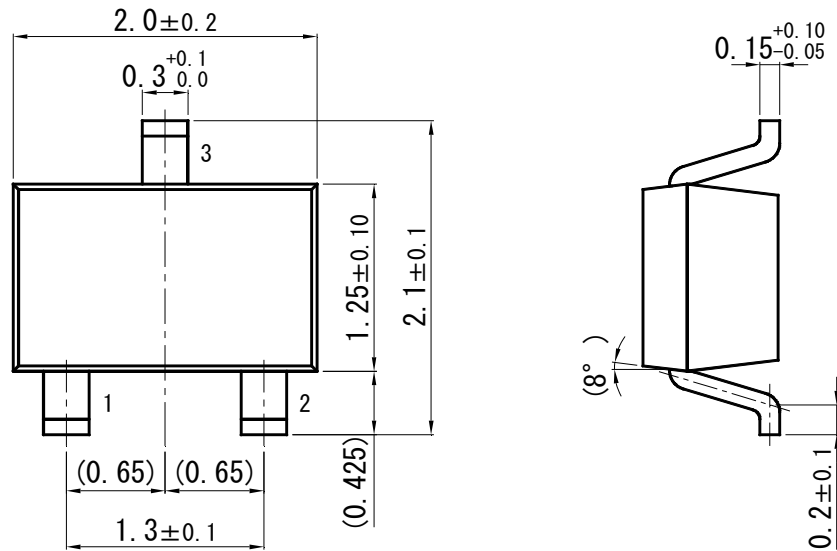


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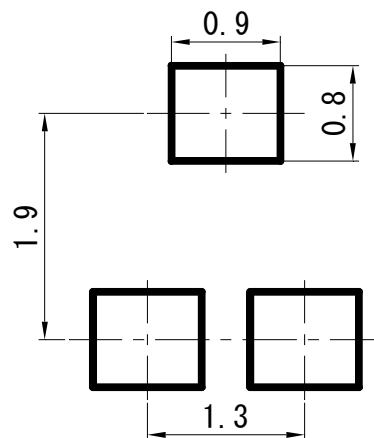


SMini3-G1-B

Unit : mm



■ Land Pattern (Reference) (Unit : mm)



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