MOS FET

Panasonic

MTM232230LBF

MTM232230LBF

Silicon N-channel MOS FET

For switching

■ Features

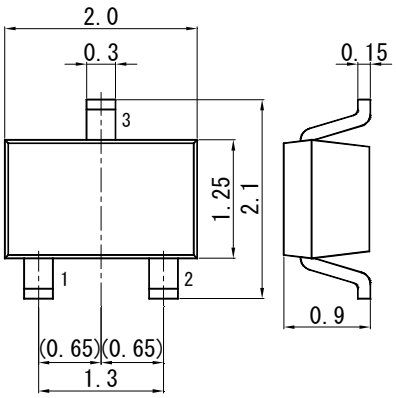
- Low drain-source On-state resistance : RDS(on) typ = 20 mΩ (VGS = 4.0 V)
- Low drive voltage: 2.5 V drive
  Halogen-free / RoHS compliant
  (EU RoHS / UL-94 V-0 / MSL : Level 1 compliant)

■ Marking Symbol : BK

■ Packaging

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

Unit : mm



1. Gate
2. Source
3. Drain

Panasonic	SMini3-G1-B
JEITA	SC-70
Code	SOT-323

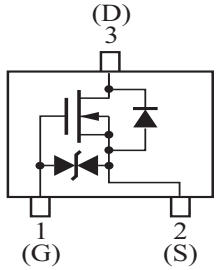
■ Absolute Maximum Ratings Ta = 25 °C

項目	記号	定格	単位
Drain-source Voltage	VDS	20	V
Gate-source Voltage	VGS	±10	
Drain current	ID	4.5	A
Peak drain current *1	IDp	18	A
Power dissipation *2	PD	500	mW
Channel temperature	Tch	150	°C
Operating ambient temperature	Topr	-40 to + 85	°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 × 38 × 0.1 mm
Absolute maximum rating PD without heat sink shall be made 150 mW.

Internal Connection



Pin Name

1. Gate
2. Source
3. Drain

Established : 2010-12-15
Revised : 2013-07-01

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

項目	記号	条件	最小	標準	最大	単位
Drain-source surrender voltage	VDSS	ID = 1 mA, VGS = 0 V	20			V
Drain-source cutoff current	IDSS	VDS = 20 V, VGS = 0 V			1.0	μA
Gate-source cutoff current	IGSS	VGS = ±8 V, VDS = 0 V			±10	μA
Gate threshold voltage	Vth	ID = 1.0 mA, VDS = 10.0 V	0.4	0.85	1.3	V
Drain-source ON resistance *1	RDS(ON)1	ID = 1 A, VGS = 4 V		20	28	mΩ
	RDS(ON)2	ID = 0.6 A, VGS = 2.5 V		26	40	
Forward transfer admittance *1	|Yfs|	ID = 1 A, VDS = 10 V, f = 1 kHz	3.5			S
Short-circuit input capacitance (Common source)	Ciss	VDS = 10 V, VGS = 0, f = 1 MHz		1 200		pF
Short-circuit output capacitance (Common source)	Coss			85		
Reverse transfer capacitance (Common source)	Crss			80		
Turn-on Time *2	ton	VDD = 10 V, VGS = 0 to 4 V ID = 1 A		16		ns
Turn-off Time *2	toff	VDD = 10 V, VGS = 4 to 0 V ID = 1 A		220		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 Measuring methods for transistors.
2. *1 Pulse test : Pulse width < 300 μs、Duty cycle < 2 %
*2 Turn-on and Turn-off test circuit

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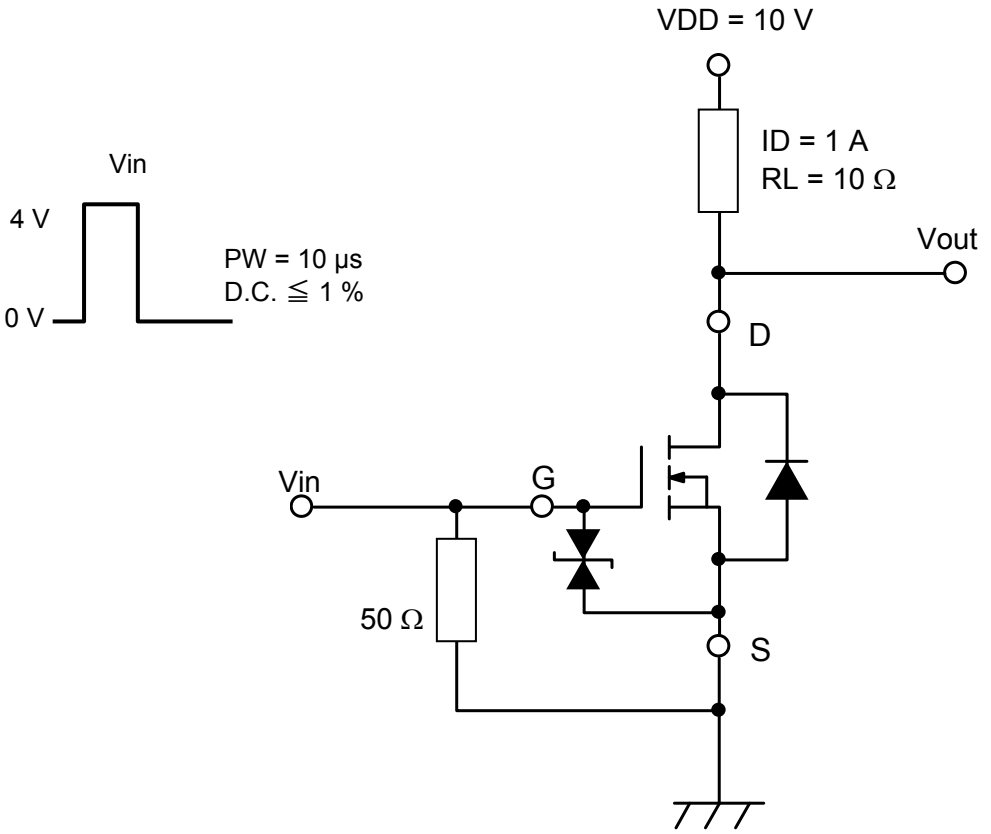
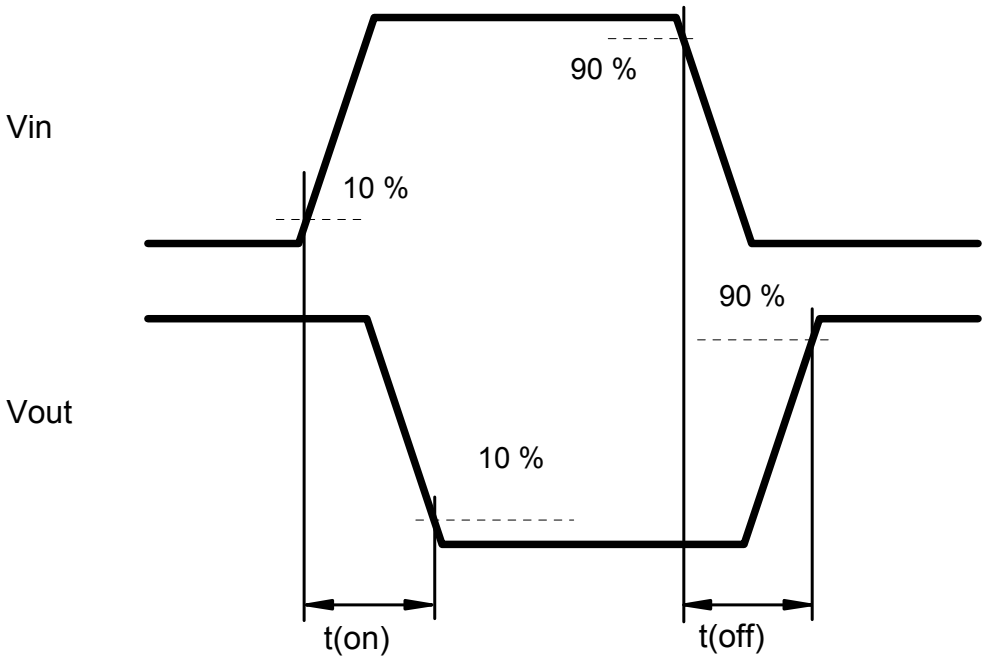
*2 Turn-on and Turn-off test circuit





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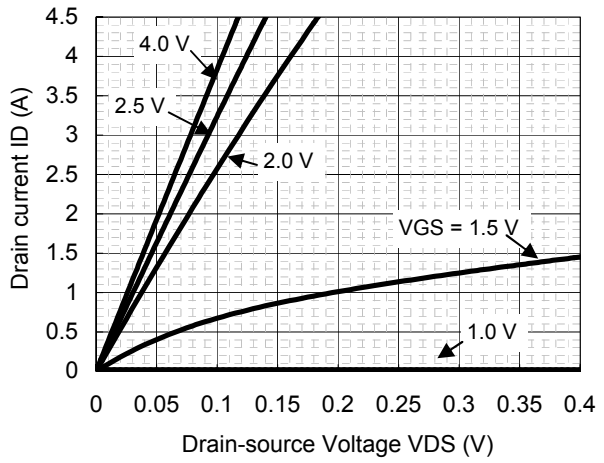
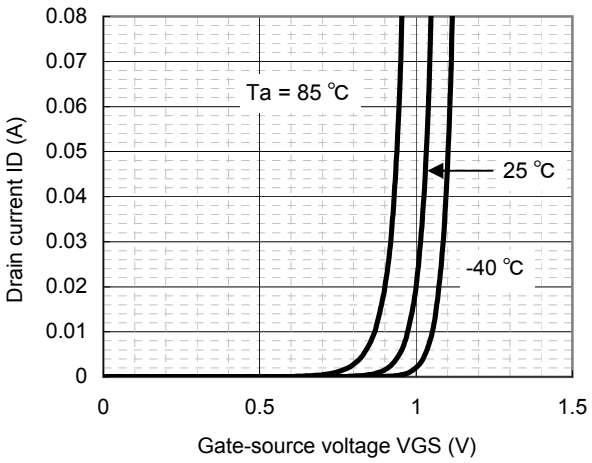
Technical Data (reference)

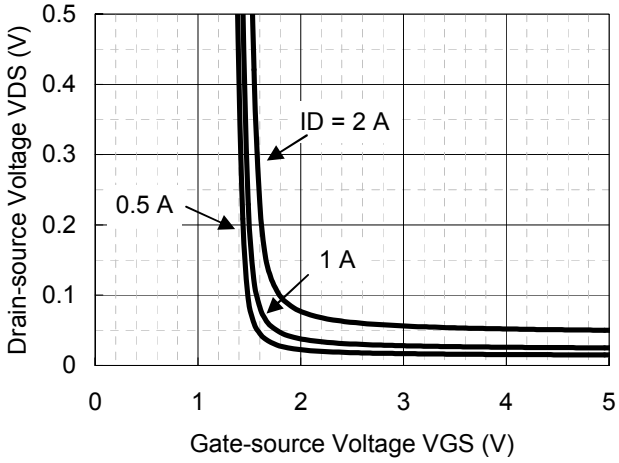
ID - VDS



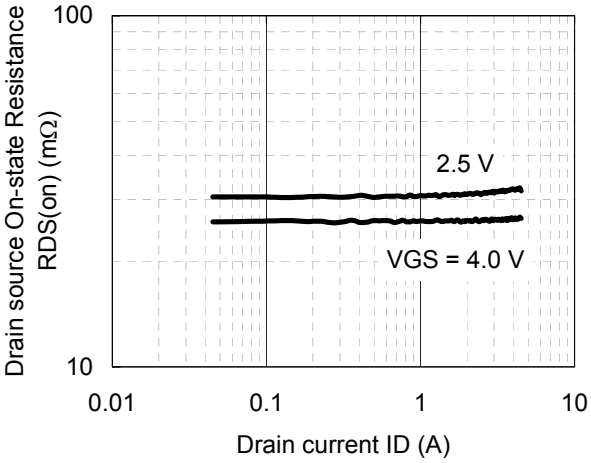
ID - VGS



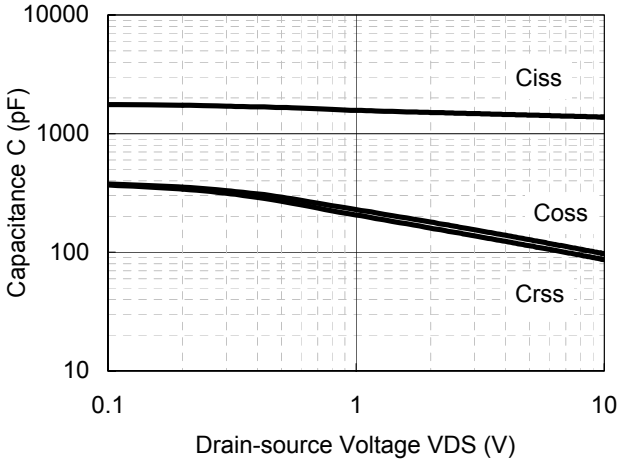
VDS - VGS



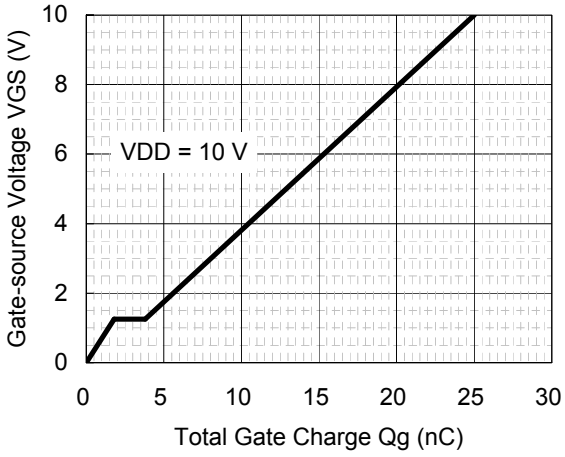
RDS(on) - ID



Capacitance - VDS



Dynamic Input/Output Characteristics



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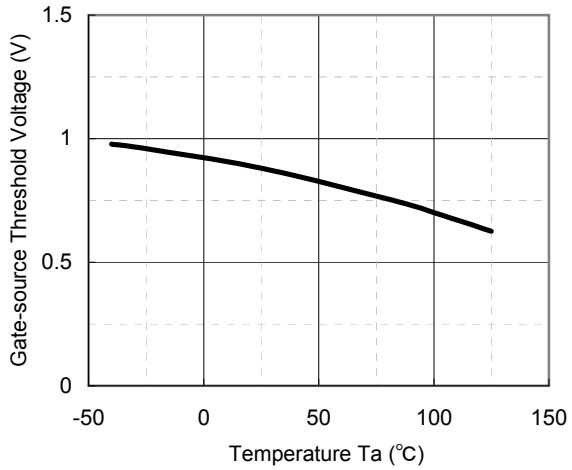
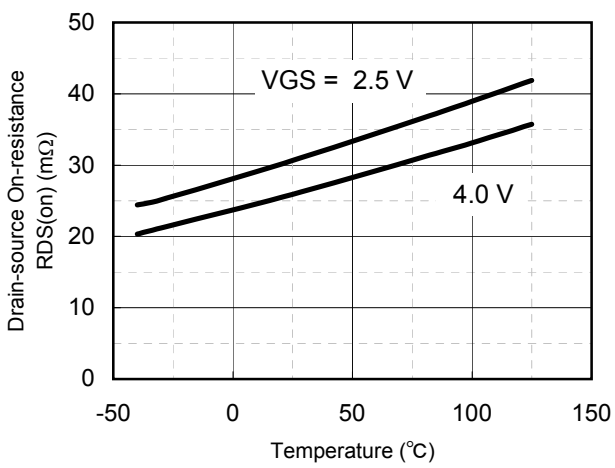
Technical Data (reference)

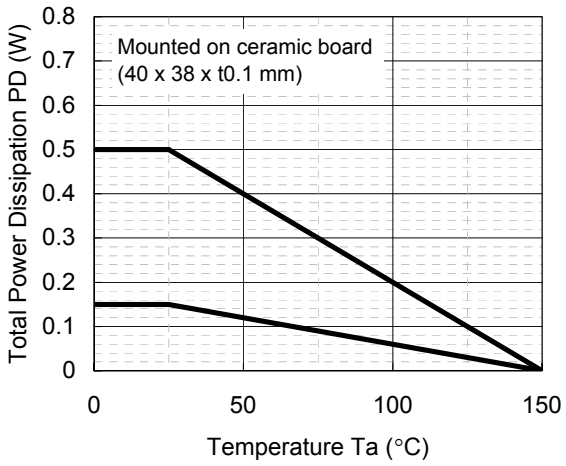
Vth - Ta



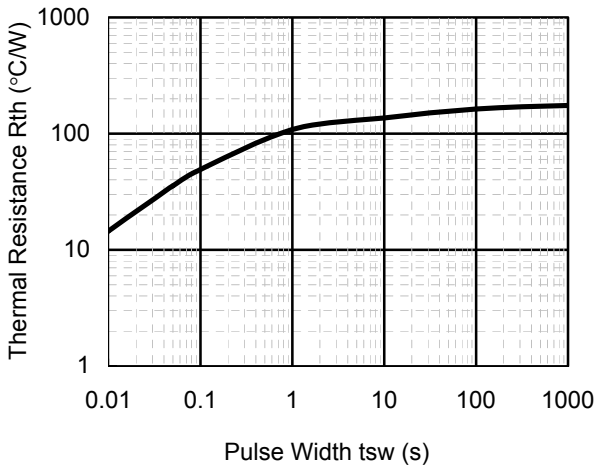
RDS(on) - Ta



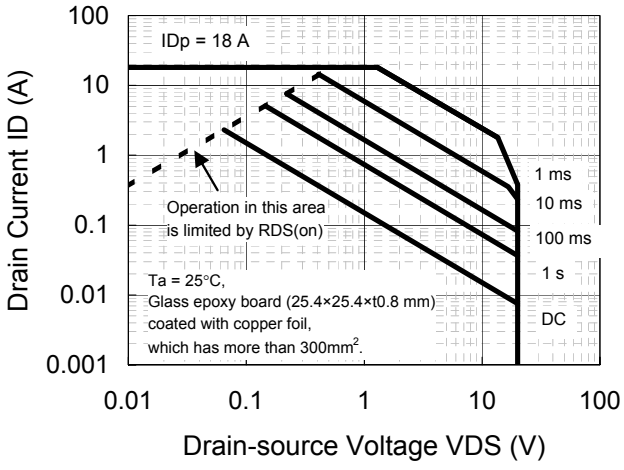
PD - Ta



Rth - tsw



Safe Operating Area



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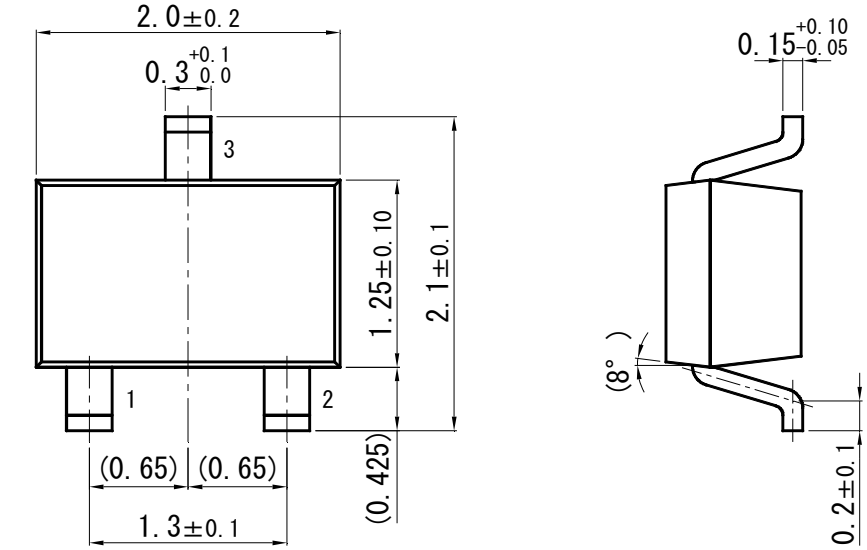
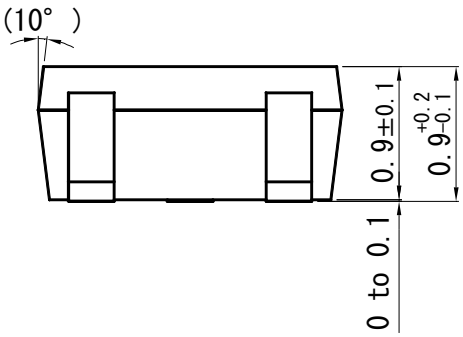
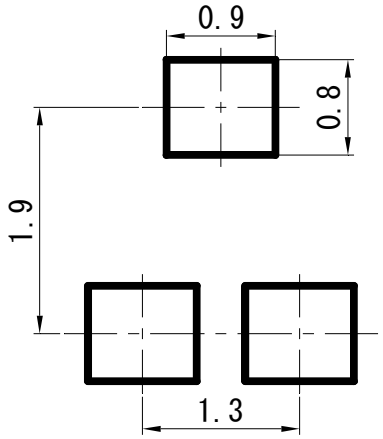




■ Land Pattern (Reference) (Unit : mm)



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