Doc No. TT4-EA-10073

Revision. 2

Panasonic

MOS FET

MTM761230LBF

MTM761230LBF

Silicon P-channel MOSFET

For Switching

■ Features

- Low drain-source On-state Resistance : RDS(on) typ. = 36 m Ω (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 :9C

■ Packaging

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

■ Absolute Maximum Ratings Ta = 25 °C

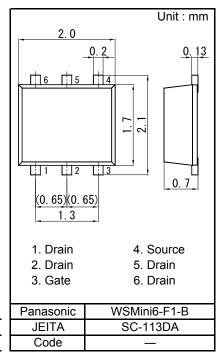
Parameter	Symbol	Rating	Unit	
			Offic	
Drain to Source Voltage	VDS	-20	V	
Gate to Source Voltage	VGS	±10	V	
Drain Current	ID	-3	3 A	
Drain Current (Pulsed) *1	IDp	-16	Α	
Total Power Dissipation *2	PD	700	mW	
Channel Temperature	Tch	150	°C	
Operating Ambient Temperature	Topr	-40 to +85	°C	
Storage Temperature Range	Tstg	-55 to +150	°C	

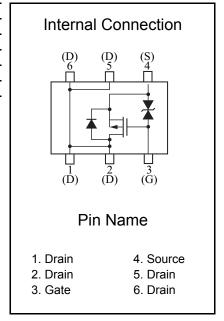
Note) *1 Pulse width \leq 10 μ s, Duty cycle \leq 1 %

Established: 2007-11-07

: 2013-06-18

Revised





^{*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.

Doc No. TT4-EA-10073 Revision. 2

Panasonic

MOS FET MTM761230LBF

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

Parameter	Symbol	Conditions	Min	Тур	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	μА
Gate-source Leakage Current	IGSS	$VGS = \pm 8 \text{ V}, VDS = 0 \text{ V}$			±10	μΑ
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		36	55	mΩ
	RDS(on)2	ID = -0.5 A, VGS = -2.5 V		42	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		1 000		pF
Output Capacitance	Coss	f = 1 MHz		100		
Reverse Transfer Capacitance	Crss			100		
Turn-on Delay Time *2	ton	VDD = -10 V, VGS = 0 to -4 V		30		ns
		ID = -1 A		30		113
Turn-off Delay Time *2	toff	VDD = -10 V, VGS = -4 to 0 V		250		ns
		ID = -1 A		230		113

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

Page 2 of 6

Established: 2007-11-07 : 2013-06-18 Revised

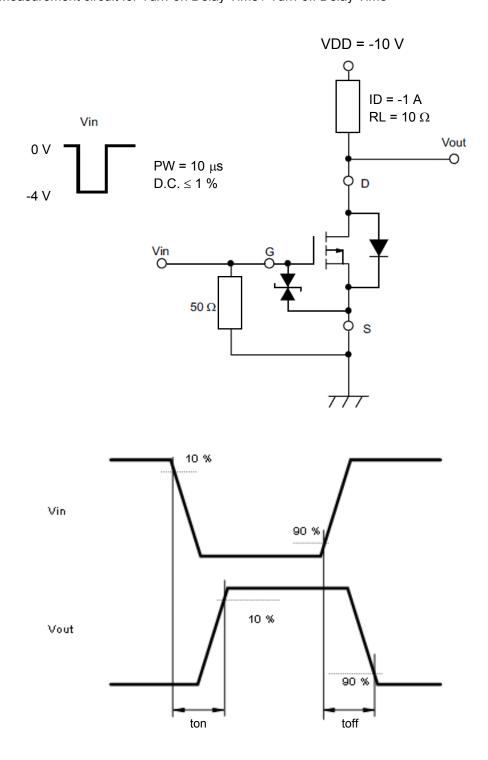
^{*1} Pulse test : Pulse width $\leq 300~\mu s,$ Duty cycle $\leq 2~\%$

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

MOS FET

MTM761230LBF

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



Established: 2007-11-07 : 2013-06-18 Revised

MOS FET MTM761230LBF

Technical Data (reference) ID - VDS ID - VGS -3 -0.01 -2.5 Ta = 85 ℃ -0.008 Drain Current ID (A) -2.5 V Drain current ID (A) -2 -0.006 -1.5 25 °C -0.004 -1 -40 °C -0.002 -0.5 VGS = -1 0 0 0 -0.1 -0.2 -0.3 -0.4 0 -0.2 -0.4 -0.6 -1 -1.2 Drain-source Voltage VDS (V) Gate-source voltage VGS (V) VDS - VGS RDS(on) - ID -0.5 100 Drain-source On-state Resistance Drain-source Voltage VDS (V) -0.4 VGS = -2.5 V RDS(on) (m\O) -0.3 -4 V -0.2 ID = -2 A -0.1 -0.5 A 0 10 0 -2 -3 -5 -6 -1 -0.1 -1 Drain Current ID (A) Gate-source Voltage VGS (V) Capacitance - VDS **Dynamic Input/Output Characteristics** 10000 -10 Gate-source Voltage VGS (V) -8 Capacitance C (pF) VDD = -10 V 1000 Ciss -6 -4 100 Coss Crss -2 10 0

30

25

Established: 2007-11-07 Revised: 2013-06-18

-0.1

-10

Drain-source voltage VDS (V)

-100

0

5

10

15

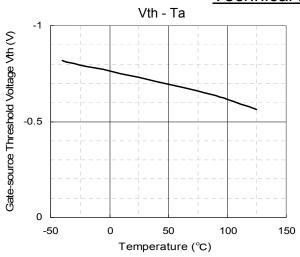
Total Gate Charge Qg (nC)

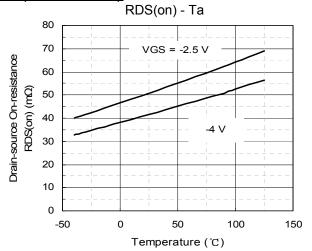
20

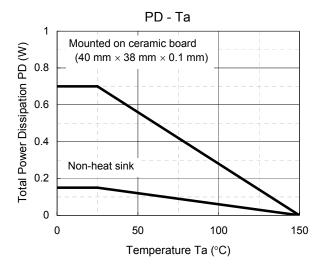
MOS FET

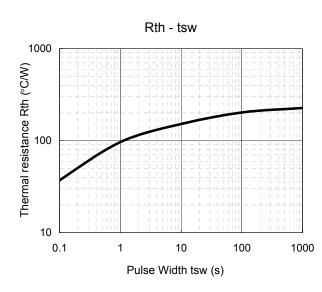
MTM761230LBF

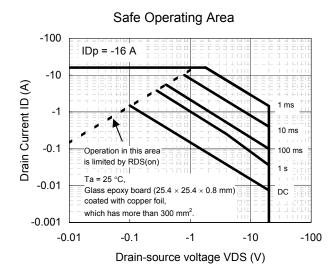
Technical Data (reference)











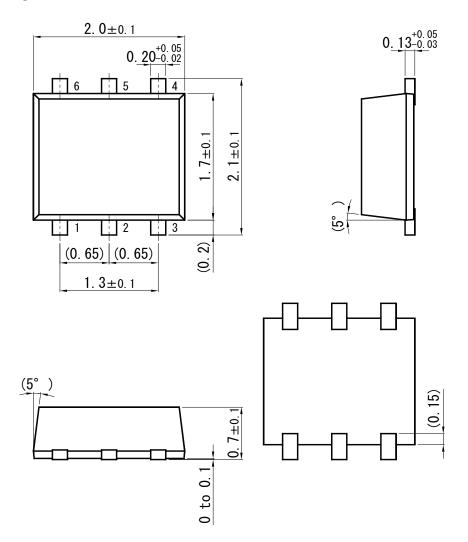
Established: 2007-11-07

MOS FET

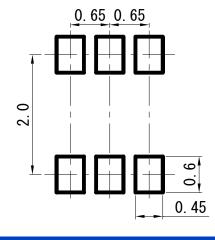
MTM761230LBF

WSMini6-F1-B

Unit: mm



■ Land Pattern (Reference) (Unit : mm)



Established: 2007-11-07 Revised: 2013-06-18

Request for your special attention and precautions in using the technical information and semiconductors described in this book

- (1) If any of the products or technical information described in this book is to be exported or provided to non-residents, the laws and regulations of the exporting country, especially, those with regard to security export control, must be observed.
- (2) The technical information described in this book is intended only to show the main characteristics and application circuit examples of the products. No license is granted in and to any intellectual property right or other right owned by Panasonic Corporation or any other company. Therefore, no responsibility is assumed by our company as to the infringement upon any such right owned by any other company which may arise as a result of the use of technical information described in this book.
- (3) The products described in this book are intended to be used for general applications (such as office equipment, communications equipment, measuring instruments and household appliances), or for specific applications as expressly stated in this book.

 Consult our sales staff in advance for information on the following applications:
 - Special applications (such as for airplanes, aerospace, automotive equipment, traffic signaling equipment, combustion equipment, life support systems and safety devices) in which exceptional quality and reliability are required, or if the failure or malfunction of the products may directly jeopardize life or harm the human body.
 - It is to be understood that our company shall not be held responsible for any damage incurred as a result of or in connection with your using the products described in this book for any special application, unless our company agrees to your using the products in this book for any special application.
- (4) The products and product specifications described in this book are subject to change without notice for modification and/or improvement. At the final stage of your design, purchasing, or use of the products, therefore, ask for the most up-to-date Product Standards in advance to make sure that the latest specifications satisfy your requirements.
- (5) When designing your equipment, comply with the range of absolute maximum rating and the guaranteed operating conditions (operating power supply voltage and operating environment etc.). Especially, please be careful not to exceed the range of absolute maximum rating on the transient state, such as power-on, power-off and mode-switching. Otherwise, we will not be liable for any defect which may arise later in your equipment.
 - Even when the products are used within the guaranteed values, take into the consideration of incidence of break down and failure mode, possible to occur to semiconductor products. Measures on the systems such as redundant design, arresting the spread of fire or preventing glitch are recommended in order to prevent physical injury, fire, social damages, for example, by using the products.
- (6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.
- (7) This book may be not reprinted or reproduced whether wholly or partially, without the prior written permission of our company.

20100202