Revision. 2

MOS FET

FC8J33040L

## **Panasonic**

## FC8J33040L

#### **Dual N-channel MOSFET**

For switching For DC-DC Converter

#### ■ Features

- Low drain-source On-state Resistance : RDS(on) typ = 48 m $\Omega$  (VGS = 4.5 V)
- High-speed switching : Qg = 2.8 nC
- Halogen-free / RoHS compliant (EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)
- Marking Symbol: 7A
- Basic Part Number: Dual Nch MOS 33V (Individual)

#### ■ Packaging

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

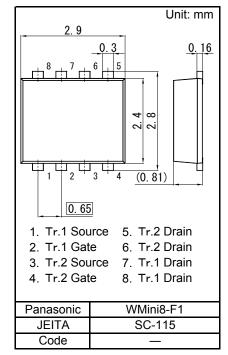
Absolute Maximum Ratings Ta = 25 °C Tr.1, Tr.2

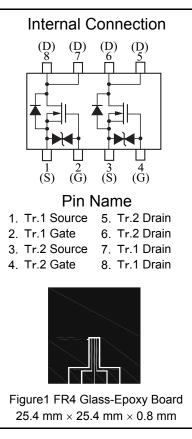
Parameter | Symbol |

Parameter	Symbol	Rating	Unit			
Drain-source Voltage	VDS	33	V			
Gate-source Voltage	VGS	±20	V			
Drain Current (Steady State) *1	ID	5				
Drain Current (t = 10 s) *1	ID	5.5				
Drain Current (Pulsed) *1,*2	IDp	20	Α			
Source Current (Pulsed)	ISp	5				
(Body Diode) *1,*2	(BD)	5				
Total Power Dissipation (Steady State) *1	PD	1	W			
Total Power Dissipation (t = 10 s) *1	FD	1.3				
Channel Temperature	Tch	150	°C			
Operating Ambient Temperature	Topr	-40 to + 85	°C			
Storage Temperature Range	Tstg	-55 to +150	°C			

Note) \*1 Device mounted on a glass-epoxy board (See Figure 1)

\*2 Pulse test: Ensure that the channel temperature does not exceed 150°C.





Doc No. TT4-EA-13030 Revision. 2

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### ■ Electrical Characteristics Ta = 25°C ± 3°C Tr.1, Tr.2

Static Characteristics

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Drain-source Breakdown Voltage	VDSS	ID = 1 mA, VGS = 0 V	33			V
Zero Gate Voltage Drain Current	IDSS	VDS = 33 V, VGS = 0 V			1	μΑ
Gate-source Leakage Current	IGSS	VGS = ±16 V, VDS = 0 V			±10	μΑ
Gate-source Threshold Voltage	Vth	ID = 0.26 mA, VDS = 10 V	1		2.5	V
Drain-cource On-state Resistance '	RDS(on)1	ID = 2.5 A, VGS = 10 V		32	38	mΩ
	RDS(on)2	ID = 2.5 A. VGS = 4.5 V		48	68	

**Dynamic Characteristics** 

Input Capacitance	Ciss	VDS = 10 V, VGS = 0 V	220		
Output Capacitance	Coss	f = 1 MHz	40	pF	F
Reverse Transfer Capacitance	Crss	1 - 1 1011 12	35		
Turn-on Delay Time *2	td(on)	VDD = 15 V, VGS = 0 to 10 V	7		
Rise Time *2	tr	ID = 2.5 A	3	ns	•
Turn-off Delay Time *2	td(off)	VDD = 15 V, VGS = 10 to 0 V	15	118	5
Fall Time *2	tf	ID = 2.5 A	9		
Total Gate Charge	Qg	VDD = 15 V, VGS = 0 to 4.5 V,	2.8		
Gate-source Charge	Qgs	ID = 5 A	1.1	nC	3
Gate-drain Charge	Qgd	ID - 3 A	1.2		

Diode Forward Voltage *1	VSD	IS = 2.5 A, VGS = 0 V	8.0	1.2	V

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

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<sup>2. \*1</sup> Pulse test: Ensure that the channel temperature does not exceed 150°C.

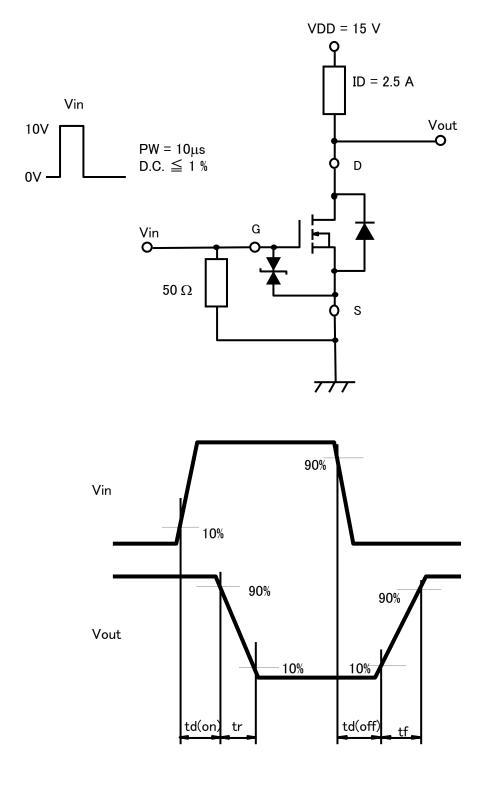
<sup>\*2</sup> Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time

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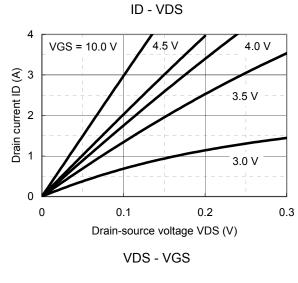
\*2 Measurement circuit for Turn-on Delay Time/Rise Time/Turn-off Delay Time/Fall Time

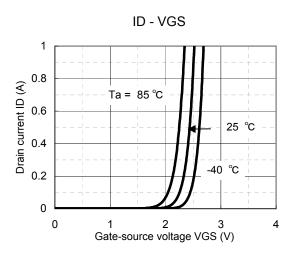


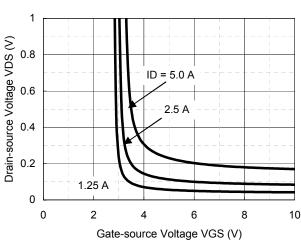
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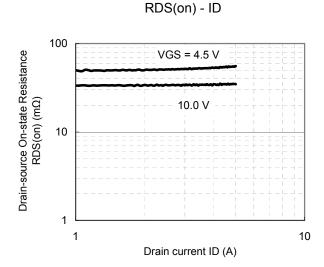
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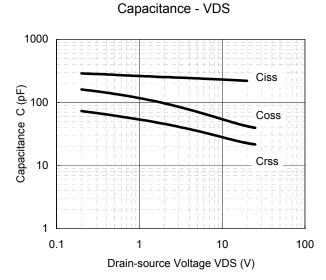


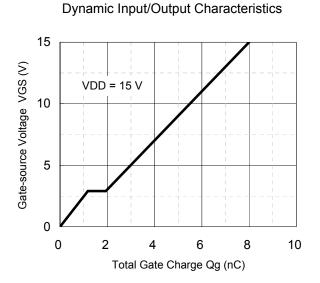












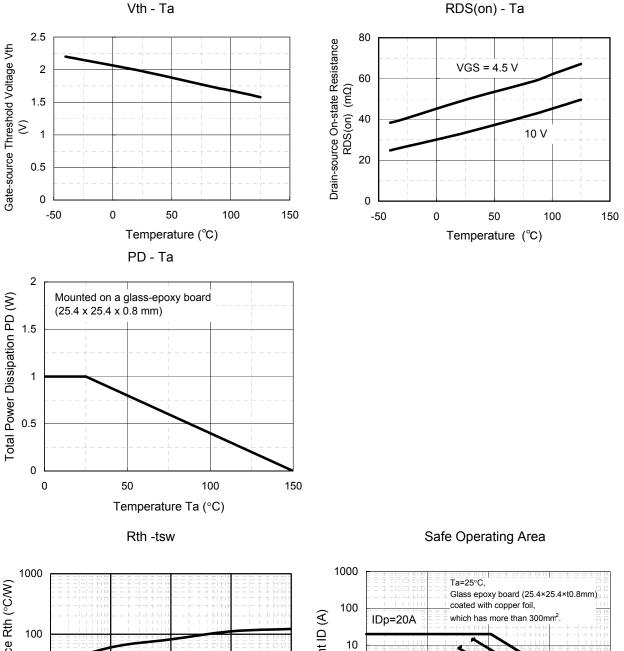
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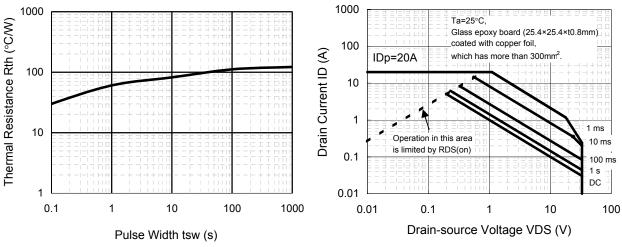
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Revised

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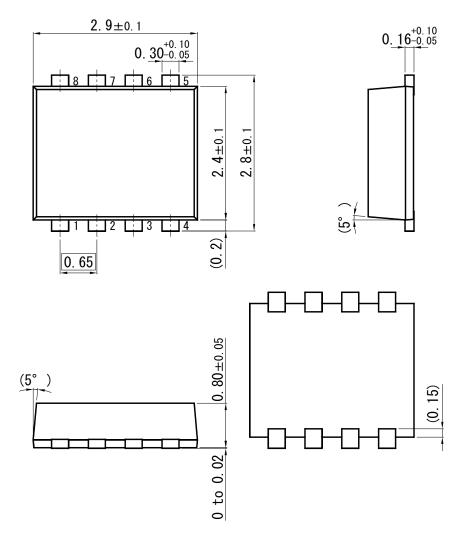
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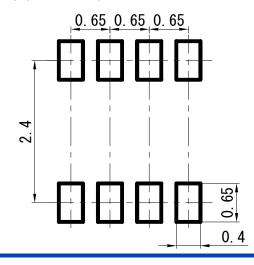
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WMini8-F1

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

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