

FC8J3304

Silicon N-channel MOS FET

For DC-DC converter circuits

■ Overview

FC8J3304 is N-channel dual type small signal MOS FET employed small size surface mounting package.

■ Features

- Low drain-source ON resistance: $R_{DS(on)}$ typ. = 32 m Ω ($V_{GS} = 10$ V)
- High-speed switching: $Q_g = 2.8$ nC
- Small size surface mounting package: WMini8-F1
- Contributes to miniaturization of sets, mount area reduction
- Eco-friendly Halogen-free package

■ Packaging

Embossed type (Thermo-compression sealing): 3000 pcs / reel (standard)

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	33	V
Gate-source surrender voltage	V_{GSS}	± 20	V
Drain current *1	I_D	5	A
		5.5	
Peak drain current *1, 2	I_{DP}	20	A
Source current (Body diode)	$I_{S(BD)}$	5	A
Power dissipation *1	P_D	1	W
		1.3	
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *1: Mounted on a glass epoxy PC board: 25.4 mm \times 25.4 mm \times 0.8 mm

*2: Pulse measurement: Channel temperature not to exceed 150 $^\circ\text{C}$

■ Package

• Code

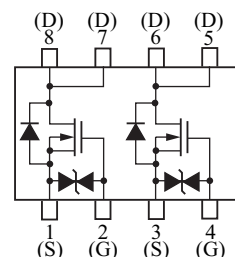
WMini8-F1

• Pin Name

1: Source	5: Drain
2: Gate	6: Drain
3: Source	7: Drain
4: Gate	8: Drain

■ Marking Symbol: 7A

■ Internal Connection



■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	$I_D = 1 \text{ mA}$, $V_{\text{GS}} = 0 \text{ V}$	33			V
Drain-source cutoff current	I_{DSS}	$V_{\text{DS}} = 33 \text{ V}$, $V_{\text{GS}} = 0 \text{ V}$			1	μA
Gate-source cutoff current	I_{GSS}	$V_{\text{GS}} = \pm 16 \text{ V}$, $V_{\text{DS}} = 0 \text{ V}$			± 10	μA
Gate threshold voltage	V_{TH}	$I_D = 0.26 \text{ mA}$, $V_{\text{DS}} = 10 \text{ V}$	1		2.5	V
Drain-source ON resistance *1	$R_{\text{DS(on)}}$	$I_D = 2.5 \text{ A}$, $V_{\text{GS}} = 10 \text{ V}$		32	38	$\text{m}\Omega$
		$I_D = 2.5 \text{ A}$, $V_{\text{GS}} = 4.5 \text{ V}$		48	68	
Short-circuit input capacitance (Common source)	C_{iss}	$V_{\text{DS}} = 10 \text{ V}$, $V_{\text{GS}} = 0 \text{ V}$, $f = 1 \text{ MHz}$		220		pF
Short-circuit output capacitance (Common source)	C_{oss}			40		pF
Reverse transfer capacitance (Common source)	C_{rss}			35		pF
Turn-on delay time *2	$t_{\text{d(on)}}$	$V_{\text{DD}} = 15 \text{ V}$, $V_{\text{GS}} = 0 \text{ V}$ to 10 V , $I_D = 2.5 \text{ A}$		7		ns
Rise time *2	t_r			3		ns
Turn-off delay time *2	$t_{\text{d(off)}}$	$V_{\text{DD}} = 15 \text{ V}$, $V_{\text{GS}} = 10 \text{ V}$ to 0 V , $I_D = 2.5 \text{ A}$		15		ns
Fall time *2	t_f			9		ns
Gate charge load	Q_g	$V_{\text{DD}} = 15 \text{ V}$, $V_{\text{GS}} = 0 \text{ V}$ to 4.5 V , $I_D = 5 \text{ A}$		2.8		nC
Gate-source charge	Q_{gs}			1.1		nC
Gate-drain charge	Q_{gd}			1.2		nC

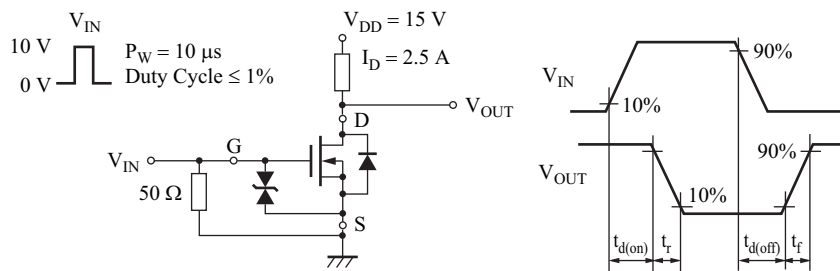
Body diode characteristics

Drain-source voltage *1	V_{SD}	$I_S = 2.5 \text{ A}$, $V_{\text{GS}} = 0 \text{ V}$		0.8	1.2	V
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Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

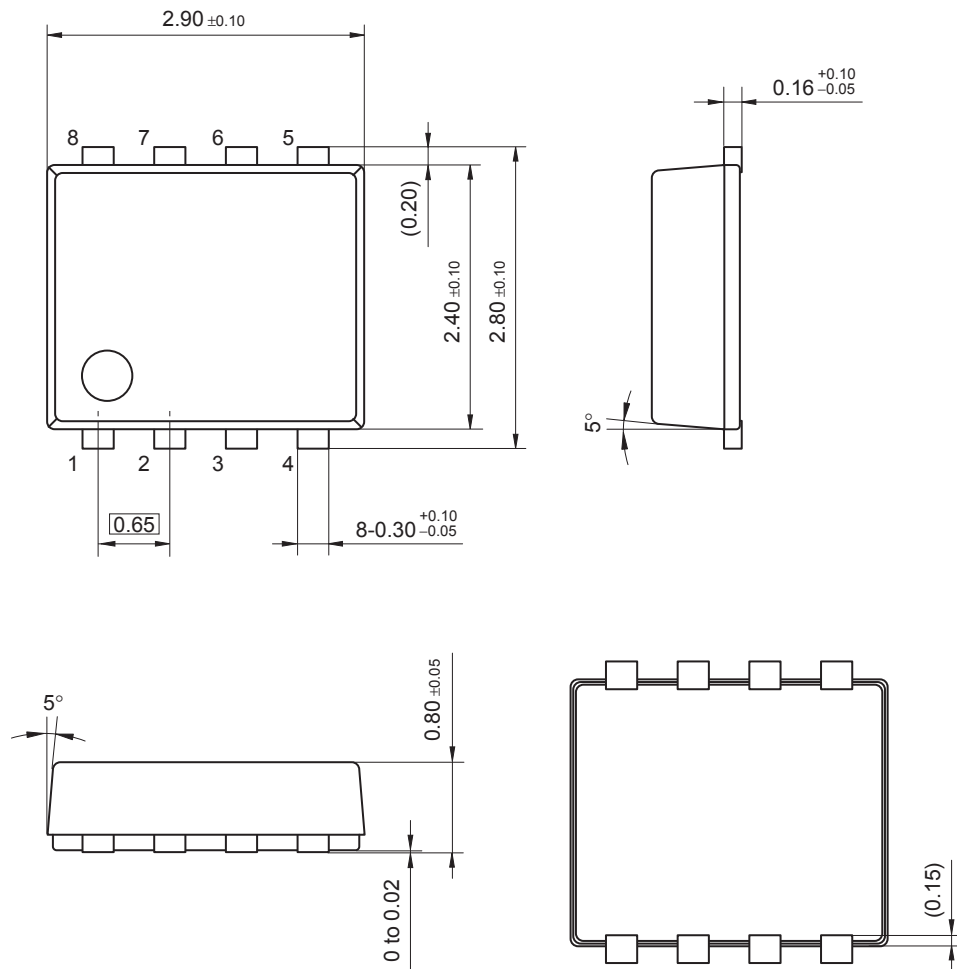
2. *1: Pulse measurement: Channel temperature not to exceed 150°C

*2: Measurement circuit



WMini8-F1

Unit: mm



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