MTM98240

Silicon N-channel MOS FET

For DC-DC converter circuits
For LCD back light inverter

■ Overview

The MTM98240 is suitable for DC-DC converter and LCD back light inverter, which features the industry's top-class low on-resistance and switching characteristics with fine process.

■ Features

- Low on-resistance: R_{on} = 16 mΩ typ. (V_{GS} = 10 V)
- High speed switching characteristic
- Halogen free
- Flat-lead package: SO8-F1-B

■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	40	V
Gate-source surrender voltage	V_{GSS}	±20	V
Drain current	I_D	7	A
Peak drain current	I_{DP}	28	A
Power dissipation *	P_D	2	W
Channel temperature	T_{ch}	150	°C
Storage temperature	T_{stg}	–55 to +150	°C

Note) *: Measuring on ceramic substrate at 50 mm × 50 mm × 1.0 mm

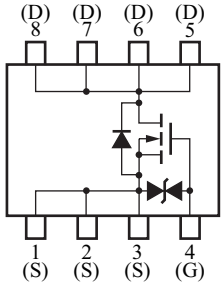
■ Package

- Code
  SO8-F1-B
- Pin Name

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

■ Marking Symbol: CA

■ Internal Connection



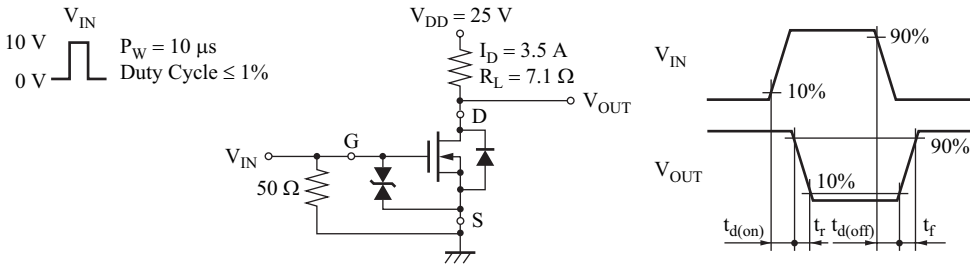
■ Electrical Characteristics T_a = 25°C±3°C

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	I_D = 1 mA, V_{GS} = 0	40			V
Drain-source cutoff current	I_{DSS}	V_{DS} = 40 V, V_{GS} = 0			10	μA
Gate-source cutoff current	I_{GSS}	V_{GS} = ±16 V, V_{DS} = 0			±10	μA
Gate threshold voltage	V_{TH}	I_D = 1.0 mA, V_{DS} = 10.0 V	1.0		2.5	V
Drain-source ON resistance *1	$R_{DS(on)}$	I_D = 7 A, V_{GS} = 10 V		16	23	mΩ
		I_D = 3.5 A, V_{GS} = 5.0 V		29	40	
Forward transfer conductance	$\|Y_{fs}\|$	I_D = 7 A, V_{DS} = 10 V	4			S
Short-circuit input capacitance (Common source)	C_{iss}	V_{DS} = 10 V, V_{GS} = 0, f = 1 MHz		1 750		pF
Short-circuit output capacitance (Common source)	C_{oss}			150		pF
Reverse transfer capacitance (Common source)	C_{rss}			90		pF
Turn-on delay time *1, *2	$t_{d(on)}$	V_{DD} = –25 V, V_{GS} = 0 V to –10 V, I_D = 3.5 A		17		ns
Rise time *1, *2	t_r			9		ns
Turn-off delay time *1, *2	$t_{d(off)}$	V_{DD} = –25 V, V_{GS} = –10 V to 0 V, I_D = 3.5 A		94		ns
Fall time *1, *2	t_f			33		ns

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

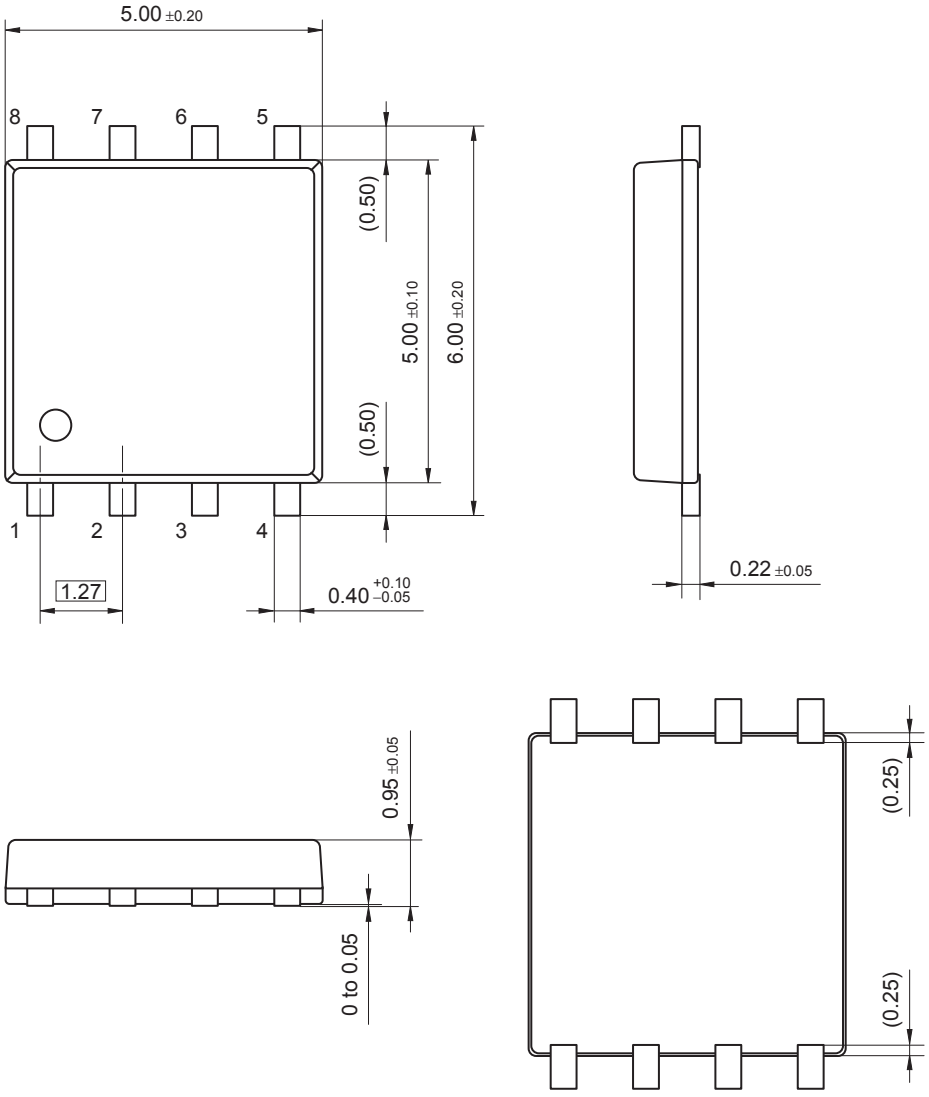
2. *1: Pulse measurement

*2: Measurement circuit



SO8-F1-B

Unit: mm



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