

# MTM76111

## Silicon P-channel MOS FET

For load switch circuits

### ■ Overview

MTM76111 is the low on-resistance P-channel MOS FET designed for load switch circuits.

### ■ Features

- Low drain-source ON resistance:  $R_{DS(on)}$  typ. = 26 m $\Omega$  ( $V_{GS} = -4.5$  V)
- Low drive voltage: 1.8 V drive
- Small size package: WSMINI6-F1-B
- Contributes to miniaturization of sets, reduction of component count.
- 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	$V_{DSS}$	-12	V
Gate-source surrender voltage	$V_{GSS}$	$\pm 8$	V
Drain current	$I_D$	-4.0	A
Peak drain current	$I_{DP}$	-20	A
Power dissipation *	$P_D$	700	mW
Channel temperature	$T_{ch}$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) \*: Measuring on ceramic substrate at 40 mm  $\times$  38 mm  $\times$  0.2 mm  
Absolute maximum rating without heat sink for  $P_D$  is 150 mW

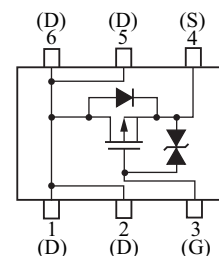
### ■ Package

- Code  
WSMini6-F1-B
- Pin Name
 

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

### ■ Marking Symbol: GS

### ■ Internal Connection

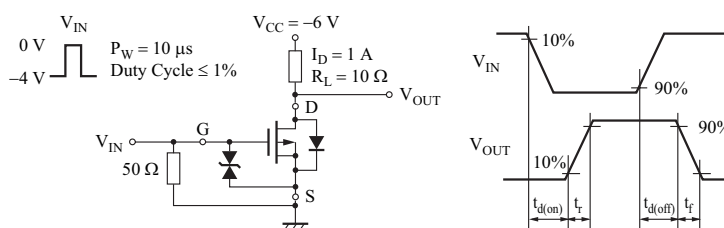


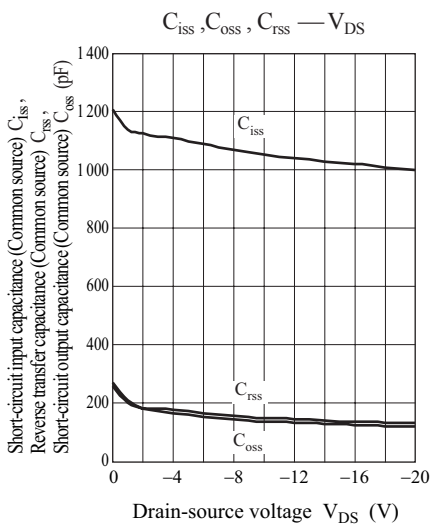
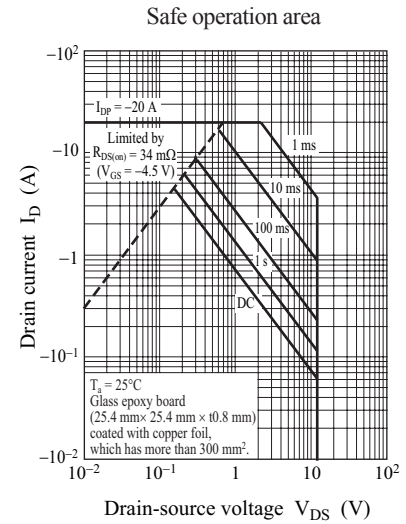
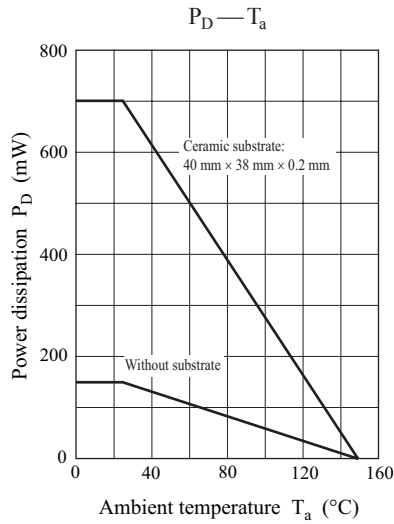
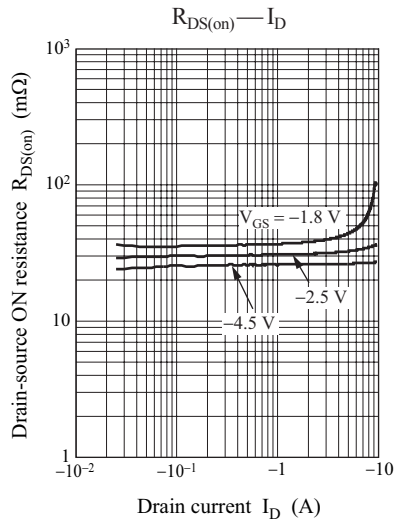
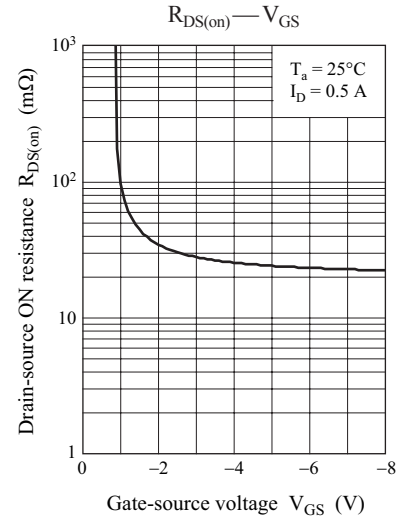
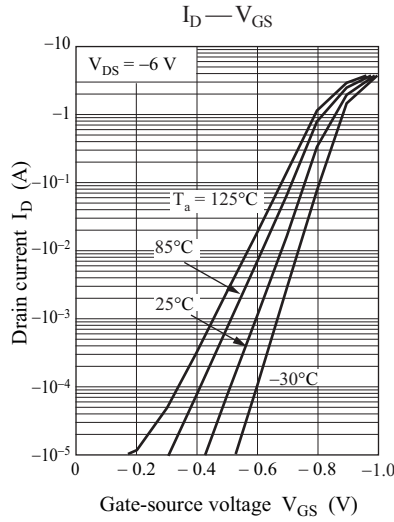
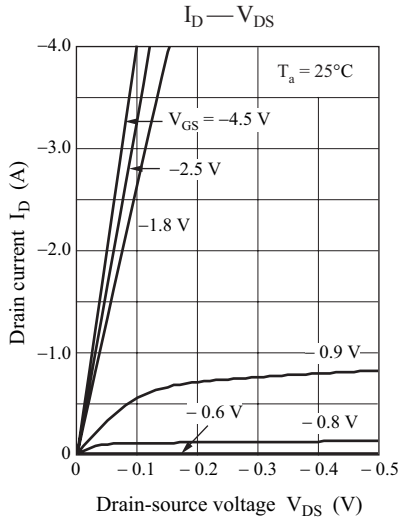
■ Electrical Characteristics  $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	$V_{DSS}$	$I_D = -1.0 \text{ mA}, V_{GS} = 0$	-12			V
Drain-source cutoff current	$I_{DSS}$	$V_{DS} = -10 \text{ V}, V_{GS} = 0$			-0.1	$\mu\text{A}$
Gate-source cutoff current	$I_{GSS}$	$V_{GS} = \pm 8 \text{ V}, V_{DS} = 0$			$\pm 10$	$\mu\text{A}$
Gate threshold voltage	$V_{TH}$	$I_D = -1.0 \text{ mA}, V_{DS} = -6.0 \text{ V}$	-0.3	-0.65	-1.0	V
Drain-source ON resistance	$R_{DS(on)}$	$I_D = -1.0 \text{ A}, V_{GS} = -4.5 \text{ V}$		26	34	m $\Omega$
		$I_D = -0.5 \text{ A}, V_{GS} = -2.5 \text{ V}$		30	41	
		$I_D = -0.5 \text{ A}, V_{GS} = -1.8 \text{ V}$		36	54	
Forward transfer admittance	$ Y_{fs} $	$I_D = -1.0 \text{ A}, V_{DS} = -10 \text{ V}$	4.0			S
Short-circuit input capacitance (Common source)	$C_{iss}$	$V_{DS} = -10 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$		1400		pF
Short-circuit output capacitance (Common source)	$C_{oss}$			135		pF
Reverse transfer capacitance (Common source)	$C_{rss}$			150		pF
Turn-on delay time *	$t_{d(on)}$	$V_{DD} = -6 \text{ V}, V_{GS} = 0 \text{ V to } -4 \text{ V},$ $I_D = -1.0 \text{ A}$		9		ns
Rise time	$t_r$			11		ns
Turn-off delay time *	$t_{d(off)}$	$V_{DD} = -6 \text{ V}, V_{GS} = -4 \text{ V to } 0 \text{ V},$ $I_D = -1.0 \text{ A}$		270		ns
Fall time	$t_f$			160		ns

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

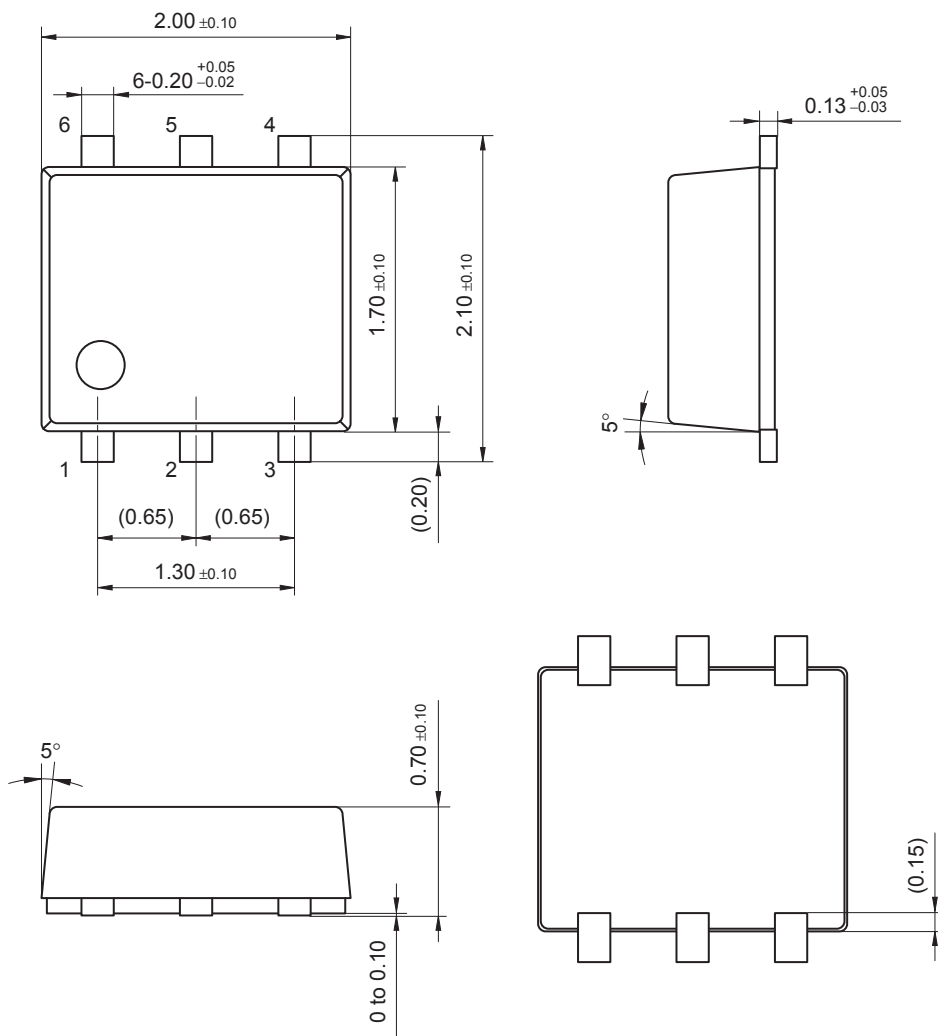
2. \*: Measurement circuit





WSMini6-F1-B

Unit: mm



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