

MTM13227

Silicon N-channel MOSFET

For switching

■ Features

- Low on-resistance: $R_{on} = 85 \text{ m}\Omega$ ($V_{GS} = -4.0 \text{ V}$)
- Small package: Mini3-G3-B
- Contributes to miniaturization of sets, reduction of component count.
- Eco-friendly Halogen-free package

■ Packaging

Embossed type (Thermo-compression sealing): 10000 pcs / reel (standard)

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

Parameter	Symbol	Rating	Unit
Drain-source surrender voltage	V_{DSS}	20	V
Gate-source surrender voltage	V_{GSS}	± 10	V
Drain current	I_D	2.0	A
Peak drain current *1	I_{DP}	8	A
Power dissipation *2	P_D	700	mW
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *1: Pulse width $\leq 10 \mu\text{s}$, Duty Cycle $\leq 1\%$

*2: Measuring on ceramic substrate at $40 \text{ mm} \times 38 \text{ mm} \times 0.2 \text{ mm}$
Absolute maximum rating without heat sink for P_D is 200 mW

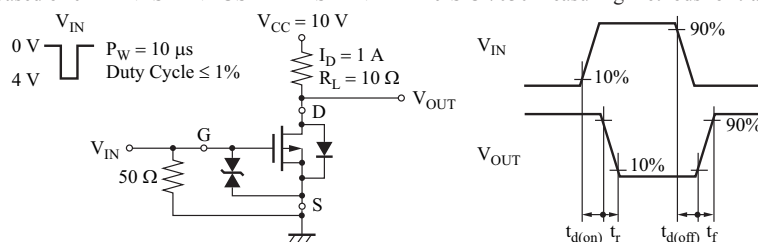
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	$I_D = 1 \text{ mA}$, $V_{GS} = 0$	20			V
Drain-source cutoff current	I_{DSS}	$V_{DS} = 20 \text{ V}$, $V_{GS} = 0$			1.0	μA
Gate-source cutoff current	I_{GSS}	$V_{GS} = \pm 8 \text{ V}$, $V_{DS} = 0$			± 10	μA
Gate threshold voltage	V_{TH}	$I_D = 1.0 \text{ mA}$, $V_{DS} = 10 \text{ V}$	0.4	0.85	1.3	V
Drain-source ON resistance *1	$R_{DS(on)}$	$I_D = 1 \text{ A}$, $V_{GS} = 4.0 \text{ V}$		85	110	m Ω
		$I_D = 0.5 \text{ A}$, $V_{GS} = 2.5 \text{ V}$		100	150	
Forward transfer admittance *1	$ Y_{fs} $	$I_D = 1 \text{ A}$, $V_{DS} = 10 \text{ V}$, $f = 1 \text{ kHz}$	3.0			S
Short-circuit forward transfer capacitance (Common source)	C_{iss}	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0$, $f = 1 \text{ MHz}$		290		pF
Short-circuit output capacitance (Common source)	C_{oss}				26	pF
Reverse transfer capacitance (Common source)	C_{rss}				20	pF
Turn-on time *2	t_{on}	$V_{DD} = 10 \text{ V}$, $V_{GS} = 0 \text{ V to } 4 \text{ V}$, $I_D = 1 \text{ A}$		12		ns
Turn-off time *2	t_{off}	$V_{DD} = 10 \text{ V}$, $V_{GS} = 4 \text{ V to } 0 \text{ V}$, $I_D = 1 \text{ A}$		60		ns

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

2. *1: Pulse measurement

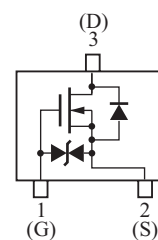
*2: Measurement circuit



■ Package

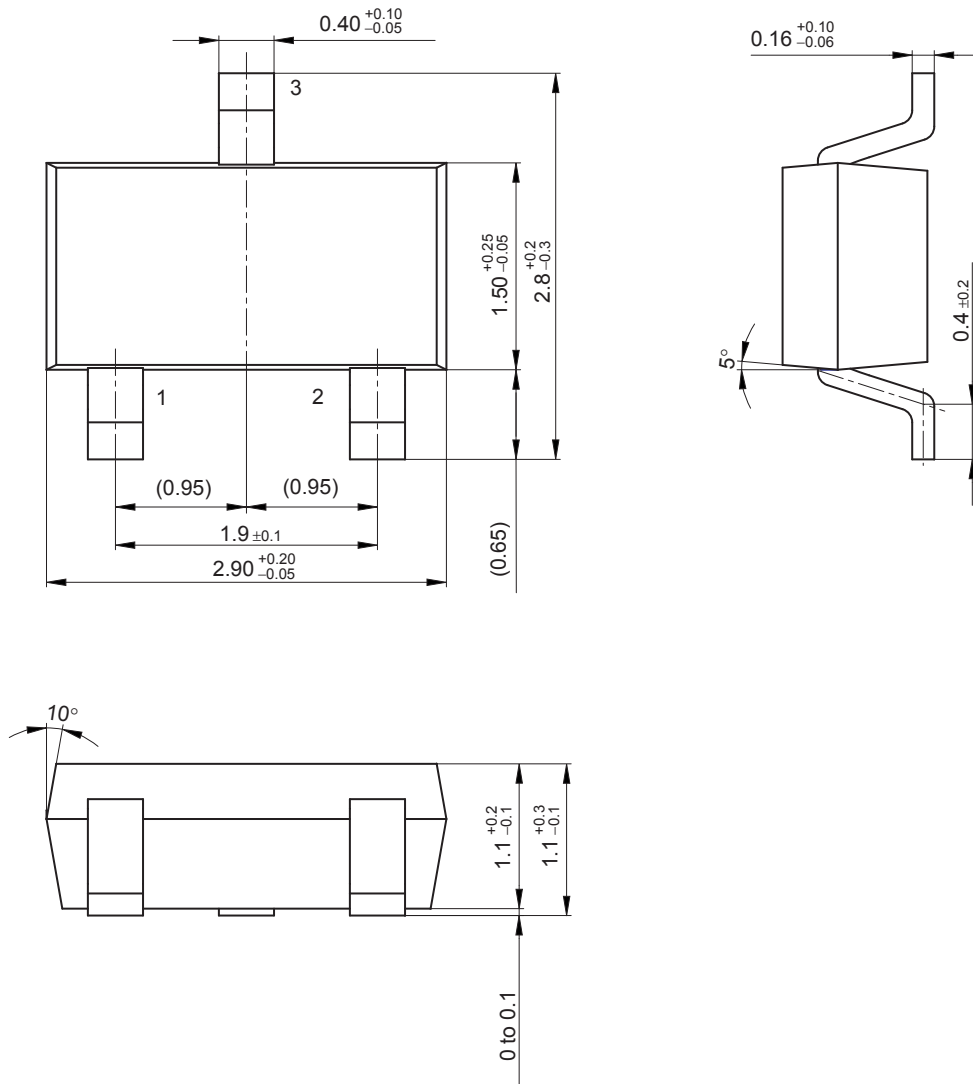
- Code
Mini3-G3-B
- Pin Name
1: Gate
2: Source
3: Drain

■ Marking Symbol: ET



Mini3-G3-B

Unit: mm



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