XN0NE92

Silicon P-channel MOSFET (FET)
Silicon epitaxial planar type (SBD)

For DC-DC converter

■ Features

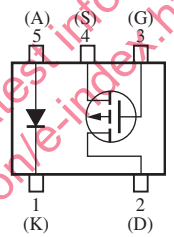
- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half
- High-speed switching, low on resistance

■ Package

- Code
  Mini5-G1 (Exclusive use for XN0NE92)
- Pin Name
  1: Cathode 4: Source
  2: Drain 5: Anode
  3: Gate

■ Marking Symbol: 3F

■ Internal Connection



■ Absolute Maximum Ratings $T_a = 25°C$

Parameter		Symbol	Rating	Unit
FET	Drain-source surrender voltage	V_{DSS}	−12	V
	Gate-source surrender voltage	V_{GSS}	±15	V
	Drain current	I_D	−1.2	A
	Peak drain current	I_{DP}	−3	A
	Total power dissipation *	P_T	600	mW
	Channel temperature	T_{ch}	125	°C
	Storage temperature	T_{stg}	−55 to +125	°C
SBD	Reverse voltage	V_R	20	V
	Repetitive peak reverse voltage	V_{RRM}	25	V
	Forward current (Average)	$I_{F(AV)}$	700	mA
	Non-repetitive peak forward surge current	I_{FSM}	2	A

Note) ∗: Measuring on ceramic substrate at 15 mm × 15 mm × 0.6 mm

■ Electrical Characteristics $T_a = 25°C \pm 3°C$

- FET

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Drain-source surrender voltage	V_{DSS}	$I_D = -1$ mA, $V_{GS} = 0$	−12			V
Drain-source cutoff current	I_{DSS}	$V_{DS} = -10$ V, $V_{GS} = 0$			−1	V
Gate-source cutoff current	I_{GSS}	$V_{GS} = \pm 8$ V, $V_{DS} = 0$			±10	V
Gate threshold voltage	V_{th}	$V_{DS} = -10$ V, $I_D = -1$ mA	− 0.4		−1.3	V
Forward transfer admittance *	$\|Yfs\|$	$V_{DS} = -10$ V, $I_D = -800$ mA	0.8	1.1		S
Drain-source ON resistance *	$R_{DS(on)}$	$V_{GS} = -4$ V, $I_D = -800$ mA		350	450	mΩ
Turn-on time	t_{on}	$V_{DD} = -10$ V, $R_L = 12.5\ \Omega$, $I_D = -800$ mA, $V_{GS} = 0$ V to −4 V		15		ns
Storage time	t_{stg}			10		ns
Turn-off time	t_{off}			10		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. Observe precautions for handling. Electrostatic sensitive devices.
3. ∗: Pulse measurement

■ Electrical Characteristics (continued) $T_a = 25°C \pm 3°C$

• SBD

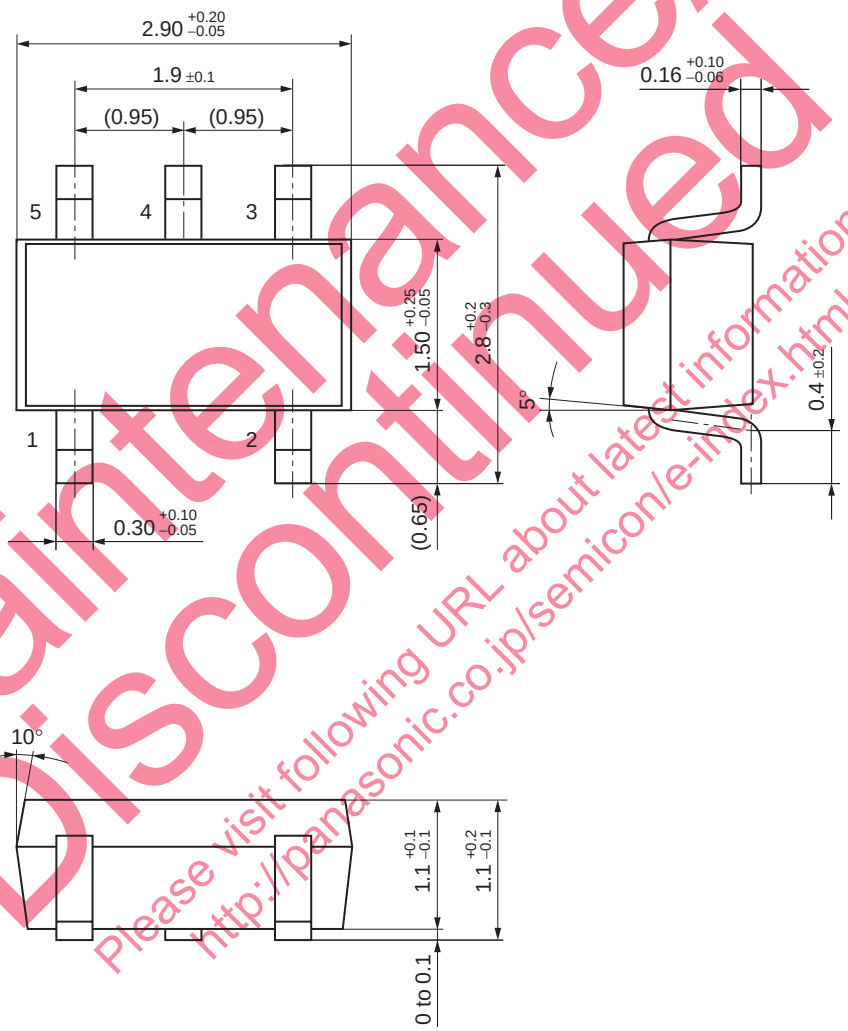
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	I_F = 700 mA			0.45	V
Reverse current	I_R	V_R = 20 V			200	µA
Terminal capacitance	C_t	V_R = 0, f = 1 MHz		100		pF
Reverse recovery time	t_{rr}	$I_F = I_R$ = 100 mA I_{rr} = 10 mA, R_L = 100 Ω		7		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 Measuring methods for diodes.
2. Schottky barrier diode is frail with static electricity, and it should be kept in safety from shock of static electricity and static electricity level.

Mini5-G1

(Exclusive use for XN0NE92)

Unit: mm



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(6) Comply with the instructions for use in order to prevent breakdown and characteristics change due to external factors (ESD, EOS, thermal stress and mechanical stress) at the time of handling, mounting or at customer's process. When using products for which damp-proof packing is required, satisfy the conditions, such as shelf life and the elapsed time since first opening the packages.

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