

# 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

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

	Parameter	Symbol	Rating	Unit
FET	Drain-source surrender voltage	$V_{DSS}$	-12	V
	Gate-source surrender voltage	$V_{GSS}$	$\pm 15$	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	$^\circ\text{C}$
	Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$
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 $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

### • FET

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

## ■ Package

### • Code

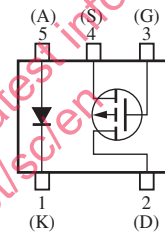
Mini5-G1 (Exclusive use for XN0NE92)

### • Pin Name

1: Cathode                      4: Source  
2: Drain                        5: Anode  
3: Gate

## ■ Marking Symbol: 3F

## ■ Internal Connection



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

## • SBD

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

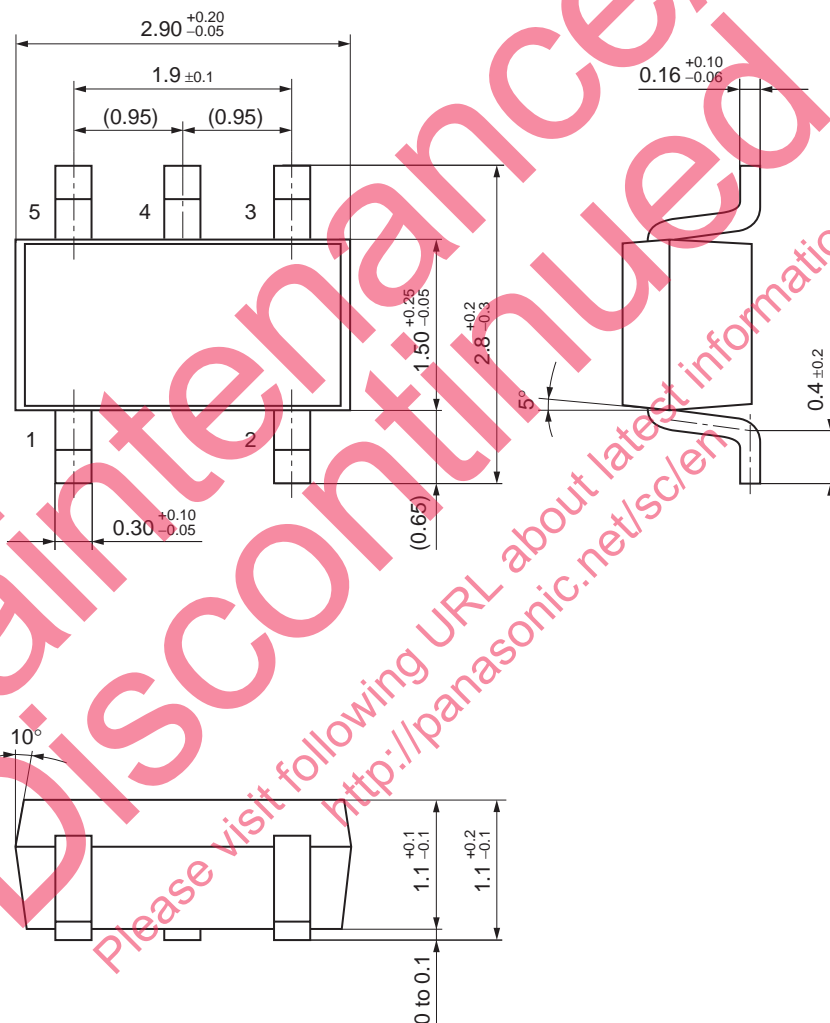
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# Mini5-G1

(Exclusive use for XN0NE92)

Unit: mm



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