

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

■ Basic Part Number

- DS1125 + MA2ZD12

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

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

Note) *: Measuring on ceramic substrate at 15 mm \times 15 mm \times 0.6 mm

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

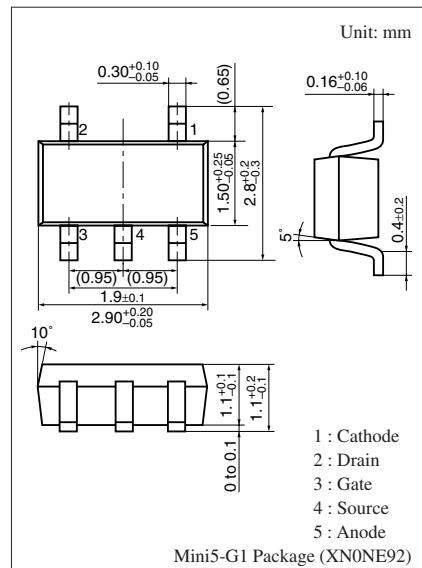
- FET

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}	$V_{GS} = \pm 8 \text{ V}$, $V_{DS} = 0$			± 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	$\text{m}\Omega$
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 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.

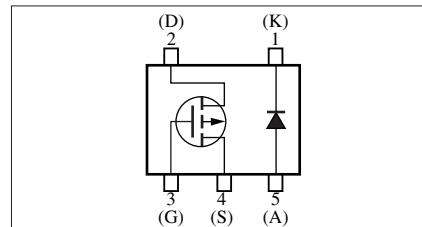
2. Observe precautions for handling. Electrostatic sensitive devices.

3. *: Pulse measurement



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	μA
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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