

SW9FN4448

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SW9FN4448

125mW Surface Mount Switching Diode

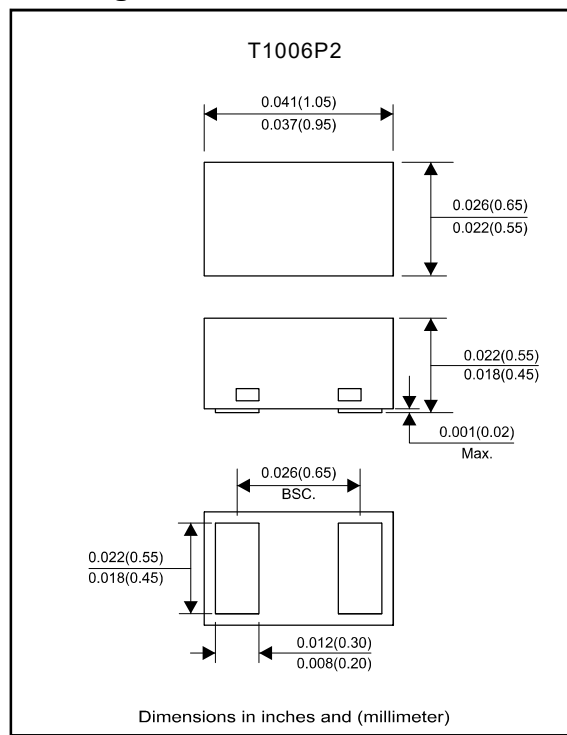
Features

- High speed.
- Fast switching speed.
- Designed for mounting on small surface.
- Extremely thin/ leadless package.
- Suffix "-H" indicates Halogen-free parts, ex. SW9FN4448-H

Mechanical data

- Case T1006P2 Standard package, molded plastic.
- Terminalis : Gold plated, solder able per MIL-STD-750, Method 2026.
- Mounting position : Any.
- Weight : 0.001grams (Approx).

Package outline



Maximum ratings (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	100	V
Reverse voltage	V_R	80	V
Average forward current	I_O	125	mA
Forward current, surge peak ($T_p=1\mu\text{s}$)	I_{FSM}	2	A
($T_p=8.3\text{ms}$)		1	A
Power dissipation	P_D	125	mW
Operating temperature range	T_J	125	$^\circ\text{C}$
Storage temperature	T_{STG}	-55 to +150	$^\circ\text{C}$

Electrical characteristics (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min.	Typ.	Max.	Unit
Forward voltage	$I_F=5\text{mA}$	VF	0.62		0.72	V
	$I_F=100\text{mA}$				1.0	
Reverse current	$V_R=20\text{V}$	I_R			25	nA
	$V_R=80\text{V}$				100	
Clamping voltage	$f=1\text{MHz}$, and $0.5 V_{DC}$ reverse voltage	C_T			9	pF
Reverse recovery time	$I_F = I_R = 10\text{mA}$, $I_{rr} = 0.1 \times I_{R1}$, $R_L = 100\Omega$	T_{rr}			9	ns

Rating and characteristic curves(SW9FN4448)

Fig.1 - Forward Characteristics

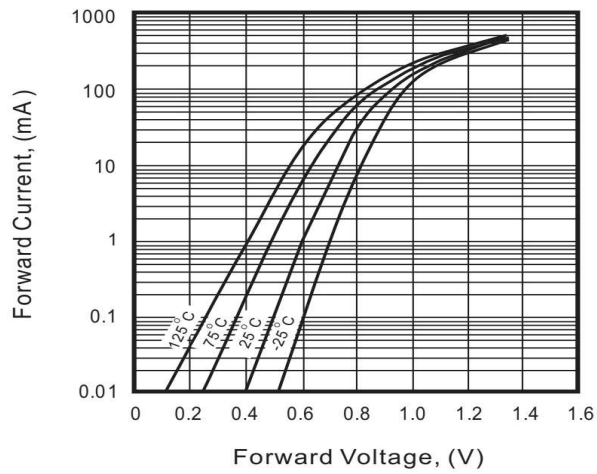


Fig.2 - Reverse Characteristics

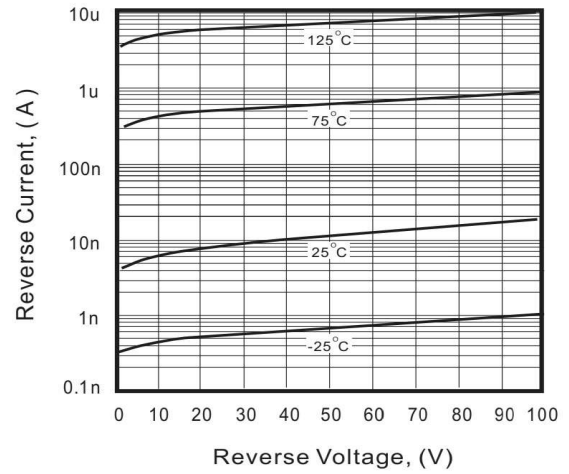


Fig.3 - Capacitance Between Terminals Characteristics

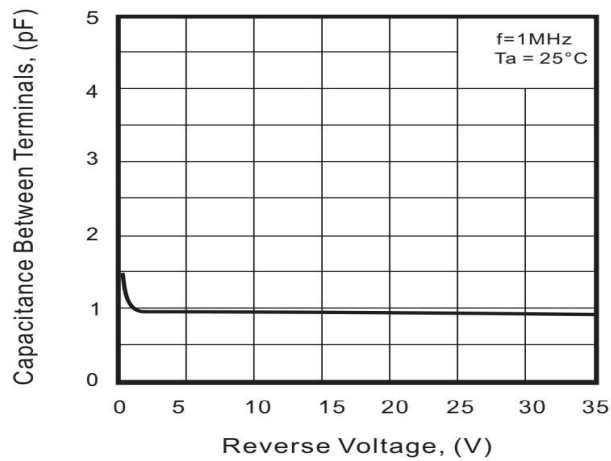
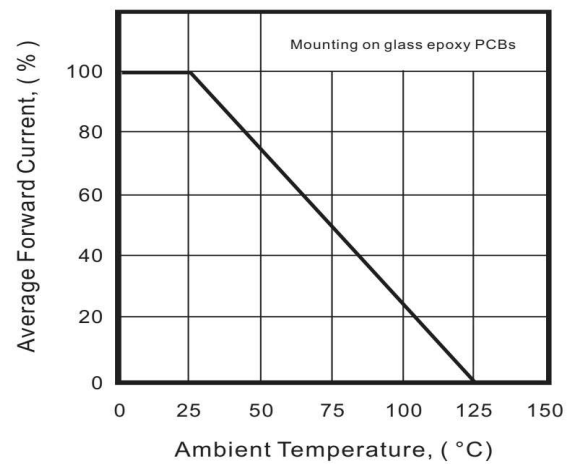
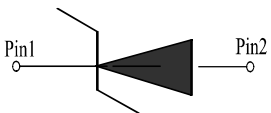


Fig.4 - Current Derating Curve



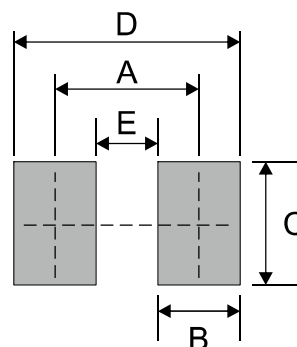
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Pinning information

Marking Code	Symbol
	

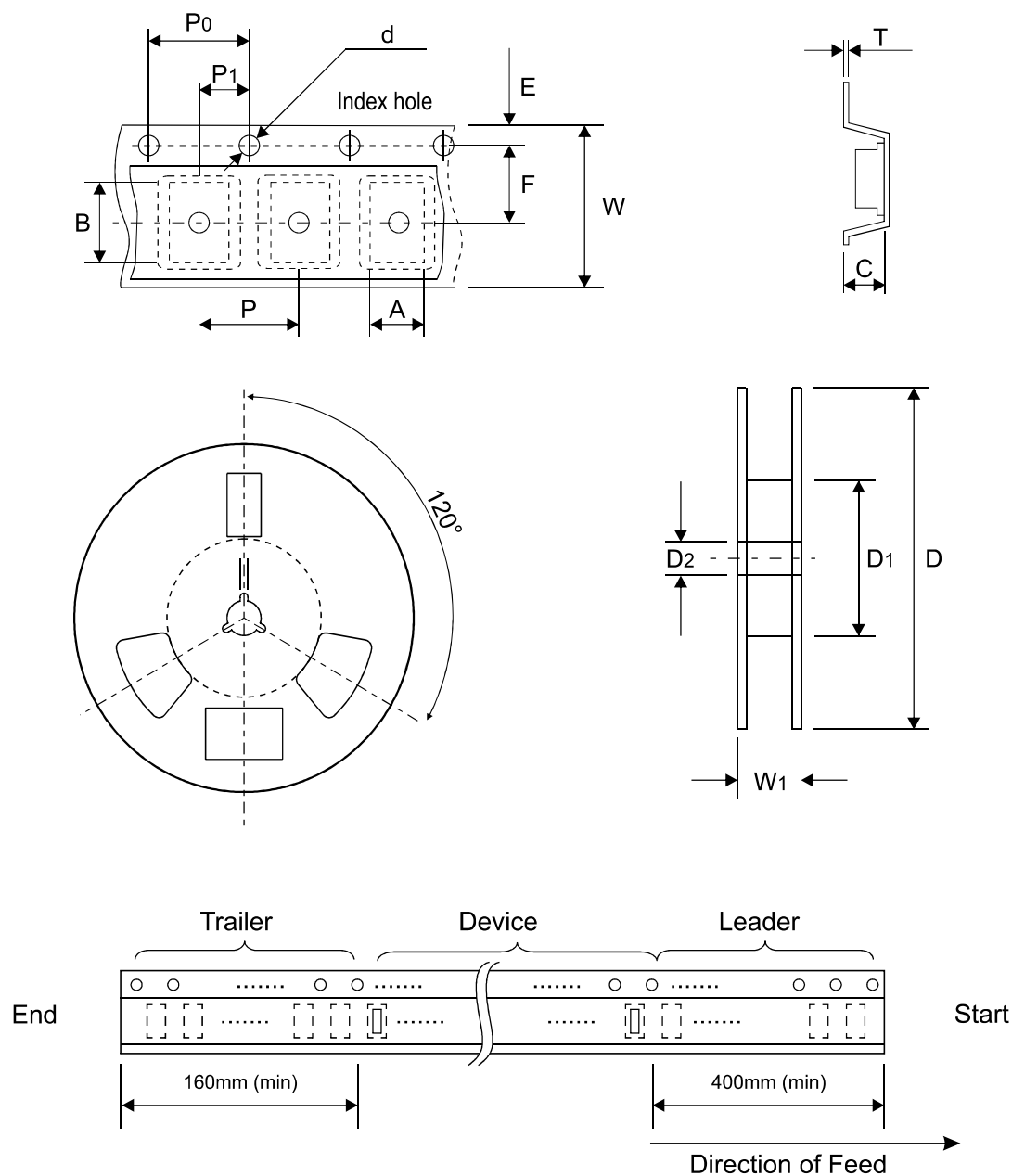
Suggested solder pad layout

SIZE	T1006P2	
	(mm)	(inch)
A	0.75	0.030
B	0.50	0.020
C	0.70	0.028
D	1.25	0.049
E	0.25	0.010



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Packing information



T1006P2	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	0.75 ± 0.05	1.17 ± 0.05	0.65 ± 0.05	$1.50 + 0.10$ $- 0.00$	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.030 ± 0.002	0.046 ± 0.002	0.026 ± 0.002	$0.059 + 0.004$ $- 0.000$	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

T1006P2	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	$0.20 + 0.02$ $- 0.05$	8.00 ± 0.20	$12.00 + 0.50$ $- 0.00$
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	$0.008 + 0.001$ $- 0.002$	0.315 ± 0.008	$0.472 + 0.020$ $- 0.000$

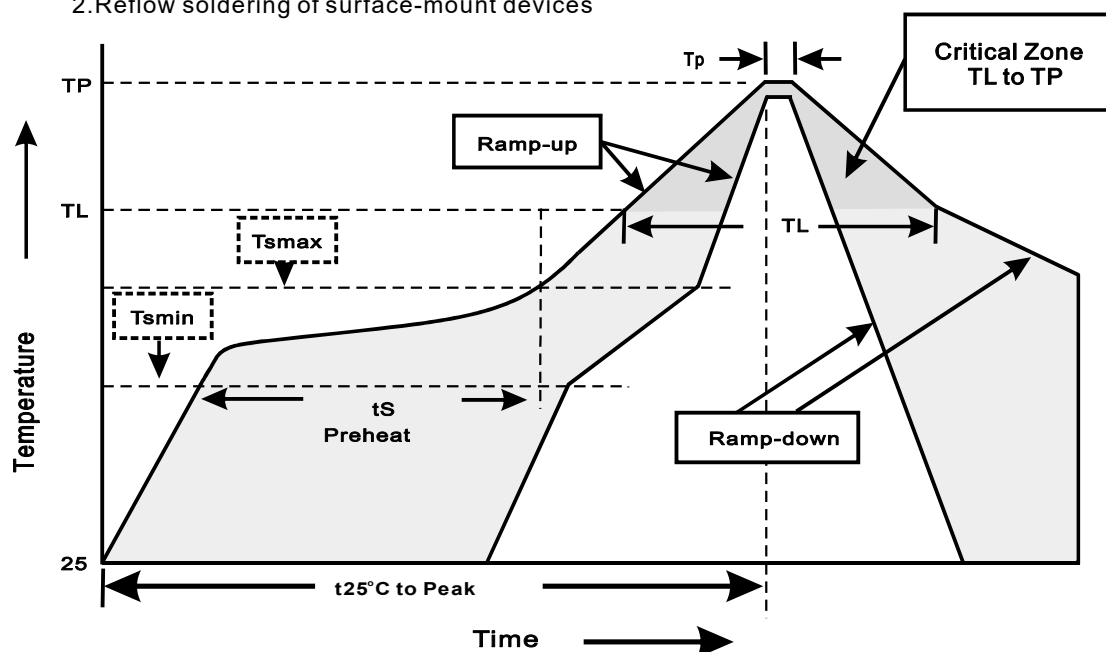
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Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
T1006P2	7"	5,000	4.0	50,000	183*123*183	178	382*257*387	400,000	13.0

Suggested thermal profiles for soldering processes

- 1.Storage environment: Temperature=5°C~40°C Humidity=55%±25%
- 2.Reflow soldering of surface-mount devices



3.Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(TL to TP)	<3°C/sec
Preheat -Temperature Min(Tsmin) -Temperature Max(Tsmax) -Time(min to max)(ts)	150°C 200°C 60~120sec
Tsmax to TL -Ramp-upRate	<3°C/sec
Time maintained above: -Temperature(TL) -Time(tL)	217°C 60~260sec
Peak Temperature(TP)	255°C-0/+5°C
Time within 5°C of actual Peak Temperature(tp)	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes