



## Chip Switching Diode

### Features

- 切換速度快
- 使用專利製程製造, Patent No. #125111, #148949, #137011, #173917 & #152795
- 尺寸更輕薄短小, 目前有 1206, 0805 and 0603 三種包裝可供選擇
- 產品價格具競爭性
- 已可提供符合無鉛規範的產品

### Applications


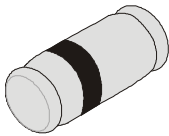
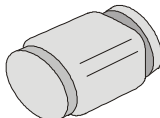
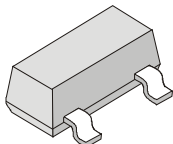
#### 機構優勢

1. 尺寸的厚度只有一般圓柱體小訊號 MINI MELF 的一半, 使得在應用的領域上更為寬廣, 讓機板在有限的尺寸空間上能植入更多的應用模組
2. 包裝 1206 可取代 Mini MELF & SOD-123; 包裝 0805 可取代 Micro MELF & SOD-323; 包裝 0603 可取代 SOD-523
3. 由於拋料率低而能有效的節省重工時間和費用, 進而使產品在市場上更具競爭性, 也因為節省重工的作業流程使得產量得以增加, 其次是陶瓷貼片二極體的在打件時也可和貼片式電阻電容自動組裝機組相容, 所以在設備方面也可達到一定成本的降低。
4. 結構上是以銀膏完全焊接方式, 可提高電氣特性的信賴度
5. 使用此專利製程製造依封入的 Die 不同, 可生產小訊號 Schottky, Zener and TVS 產品

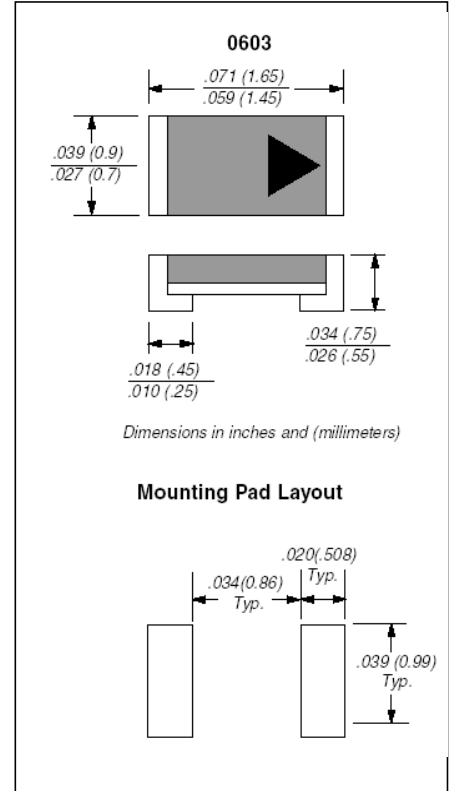
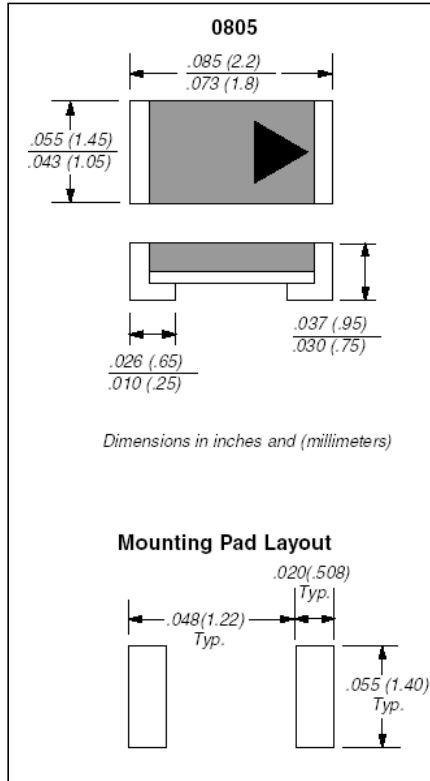
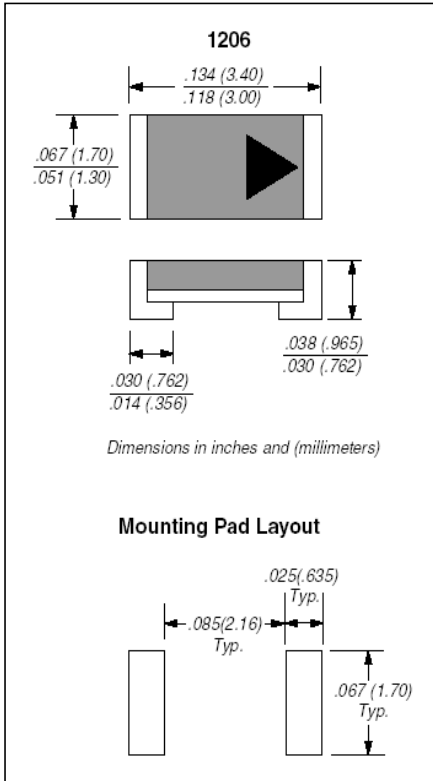
#### 電性優勢

1. 高速切換, 逆向回復時間約 2~4ns。

### Patent Product Advantage:

	Chip Diode	Mini MELF	Micro MELF	SOD/SOT
Outlook				
Placement	Best	Worst	Medium	Best
Thickness	Thinnest	Thick	Thick	Thin
Reliability	Best	Fair	Fair	Best
Price	Low	Low	High	Highest

## Dimension & Pad Layout:



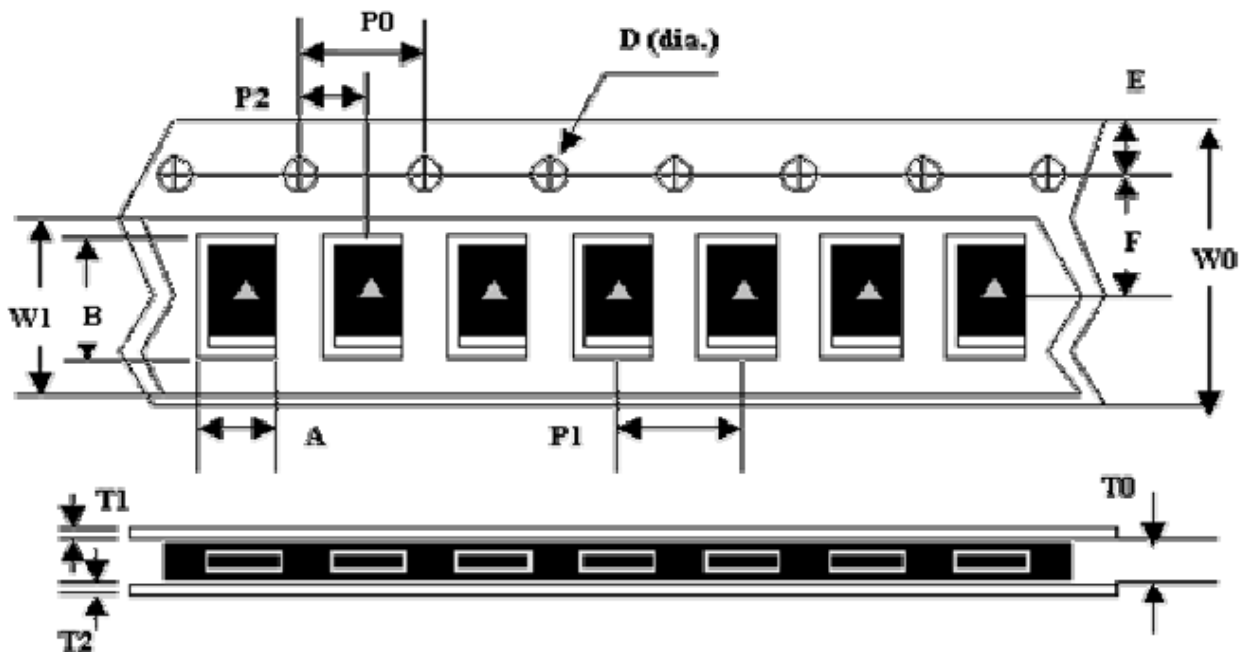
## Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Chip Diode
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	75~100 V
Reverse voltage	V <sub>R</sub>	75 V
Maximum average forward rectified current Resistive Load f ≥ 50Hz	I <sub>O</sub>	150mA
Power Dissipation	P <sub>D</sub>	200~500mW
Peak forward surge current, half sine-wave t < 1s and T <sub>j</sub> = 25°C	I <sub>FSM</sub>	500 mA
Maximum instantaneous forward voltage at I <sub>F</sub> = 10mA, T <sub>j</sub> = 25°C	V <sub>F</sub>	1.0 V
Maximum instantaneous reverse current at rated DC blocking voltage T <sub>j</sub> = 25°C, V <sub>R</sub> = 20V T <sub>j</sub> = 150°C, V <sub>R</sub> = 20V	I <sub>R</sub>	25 nA 50 uA
Reverse recovery time at I <sub>F</sub> = 10mA to I <sub>R</sub> = 1mA, V <sub>R</sub> = 6V, R <sub>L</sub> = 100 ohm	T <sub>rr</sub>	2~4 ns
Capacitance, V <sub>R</sub> = V <sub>F</sub> = 0V	C <sub>tot</sub>	2~4 pF
Thermal Resistance	R <sub>θJA</sub>	450 K/W

Note1: CD4148WP : 1206 ; CD4148WSP : 0805 ; CD4148WTP : 0603

## Tape Specification

Item	Symbol	Dimension
Punch hole width W (1206) WS (0805) WT (0603)	A	2.00 $\pm$ 0.10 (0.080 $\pm$ 0.004) 1.65 $\pm$ 0.10 (0.066 $\pm$ 0.004) 1.10 $\pm$ 0.10 (0.043 $\pm$ 0.004)
Punch hole length W (1206) WS (0805) WT (0603)	B	3.60 $\pm$ 0.10 (0.144 $\pm$ 0.004) 2.40 $\pm$ 0.10 (0.096 $\pm$ 0.004) 2.00 $\pm$ 0.10 (0.079 $\pm$ 0.004)
Sprocket hole	D	1.50 $\pm$ 0.05 (0.060 $\pm$ 0.002)
Sprocket hole position	E	1.75 $\pm$ 0.10 (0.070 $\pm$ 0.004)
Punch hole position	F	3.50 $\pm$ 0.05 (0.140 $\pm$ 0.002)
Sprocket hole pitch	P0	4.00 $\pm$ 0.10 (0.160 $\pm$ 0.004)
Punch hole pitch	P1	4.00 $\pm$ 0.10 (0.160 $\pm$ 0.004)
Punch hole center	P2	2.00 $\pm$ 0.05 (0.080 $\pm$ 0.002)
Base tape width	W0	8.00 $\pm$ 0.20 (0.320 $\pm$ 0.008)
Top/Bottom seal tape width	W1	5.25 $\pm$ 0.05 (0.210 $\pm$ 0.002)
Base tape thickness	T0	0.95 $\pm$ 0.02 (0.038 $\pm$ 0.0008)
Top seal tape thickness	T1	0.054 $\pm$ 0.005 (0.002 $\pm$ 0.0002)
Bottom seal tape thickness	T2	0.042 $\pm$ 0.005 (0.0016 $\pm$ 0.0002)



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