

■ Features

- Molding Inductor.
- Low Profile,Low Temp.
- Large Current.
- Customize For Different Need.
- Operating temperature:-40℃ ~ +125℃.

■ Applications

- General Electronic.
- Video Device,TV,TFT.
- Power Module for PC.
- NB/Lap Top Computer.
- Server,VGA Card/Module.

■ Product Identification

$$\frac{\text{YSMC}}{(1)} \quad \frac{\square\square\square\square\square}{(2)} - \frac{\square\square\square}{(3)} \quad \frac{\square}{(4)}$$

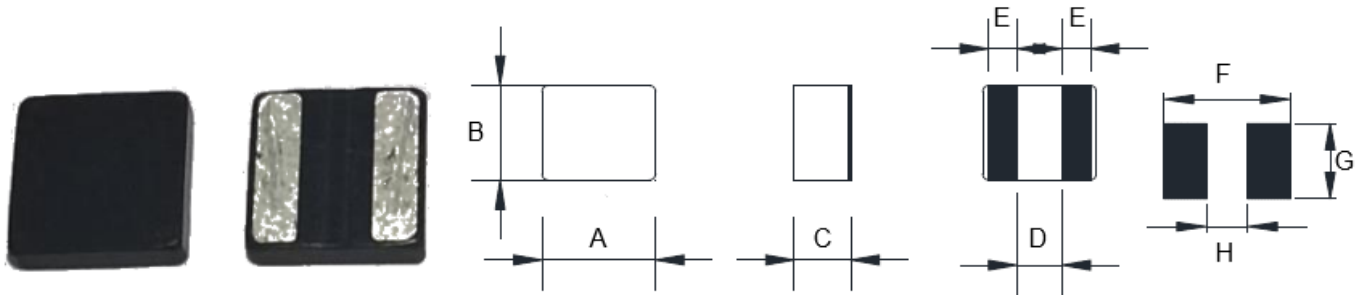
(1) : Type

(2) : Dimensions

(3) : Inductance value

(4) : Inductance Tolerance : N=±30%,M=±20% , K=±10%

■ Shapes and Dimensions (Unit: mm)



| TYPE | A | B | C Max. | D | E | F Ref. | G Ref. | H Ref. |
|-----------|---------|---------|--------|---------|---------|--------|--------|--------|
| YSMC2510S | 2.5±0.2 | 2.0±0.2 | 1.0 | 0.9 Typ | 0.7 Typ | 2.6 | 2.1 | 0.6 |

■ YSMC2510S Series

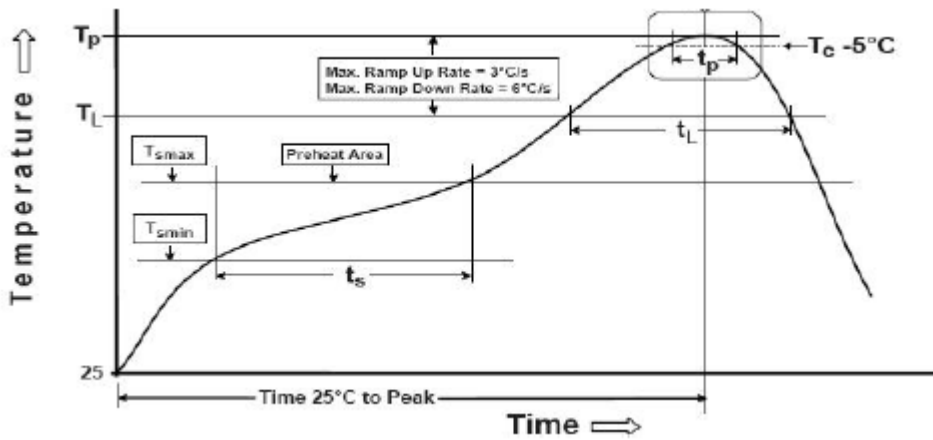
| Part Number | Inductance (uH) @100KHz | DC Resistance (mΩ) | | Saturation current(A) | | Heat Rating current(A) | |
|----------------|-------------------------------|-----------------------|------|--------------------------|------|---------------------------|------|
| | | Typ. | Max. | Typ. | Max. | Typ. | Max. |
| YSMC2510S-R47□ | 0.47 | 16 | 20 | 7.0 | 6.5 | 5.0 | 4.7 |
| YSMC2510S-1R0□ | 1.0 | 27 | 30 | 5.4 | 5.0 | 4.7 | 4.5 |
| YSMC2510S-1R5□ | 1.5 | 37 | 42 | 4.0 | 3.7 | 4.1 | 3.6 |
| YSMC2510S-2R2□ | 2.2 | 57 | 65 | 3.5 | 3.2 | 3.3 | 2.6 |

- ※ Saturation current: indicates the current when the inductance decrease to approximately 70% of initial value.(at 25°C)
- ※ The temperature rise current value is the DC current value having temperature increase up to approximately 40°C. (at 25°C)

■ Reliability Test

| NO. | ITEMS | CONDITIONS | SPECIFICATION |
|-----|--|---|--|
| 1 | OPERATION TEMPERATURE STORAGE TEMPERATURE | | -40 ~ +125 °C (INCLUDING COIL TEMPERATURE RISE) -40 ~ +125 °C |
| 2 | TEMPERATURE COEFFICIENT | -30 ~ +105 °C | 0 ~ 2000ppm/°C |
| 3 | FIXING STRENGTH | SAMPLE IS PUSHED IN THREE DIRECTIONS O,Y AND Z WITH FORCE OF 5. ON FOR 10±5 SECONDS.AFTER SOLDERING BETWEEN COPPER PLATE AND ELECTRODES. | NO ELECTRODE DETACHMENT. |
| 4 | RESISTANCE TO SOLDERING HEAT TEST | REFER TO THE SPEC "STD-001NP" | NO MECHANICAL BREAKAGE.DEVIATION RELATIVE TO INITIAL VALUE:L:WITHIN ±5.0% |
| 5 | SOLDERABILITY TEST | IMMERSE THE ELECTRODE IN FLUX FOR 5 SECONDS.THEN DIP THE ELECTRODE INTO A SOLDERING BATH OF 245±5 °C FOR 2±0.5 SECONDS. | OVER 95% OF THE SURFACE BEING IMMERSED SHALL BE COVERED WITH NEW SOLDER UNIFORMLY. |
| 6 | HUMIDITY TEST | TEMPERATURE:60°C±2°C HUMIDITY:90%~95%RH DURATION:96±4 HOURS. | DEVIATION RELATIVE TO INITIAL VALUE: L:WITHIN ±5.0% |
| 7 | THERMAL SHOCK TEST | 20 CYCLES OF +105°C FOR 30 MINUTES,-40°C FOR 30 MINUTES.CHARACTERISTICS ARE MEASURED AFTER THE AMBIENT AIR EXPOSURE OF 1 HOUR. | DEVIATION RELATIVE TO INITIAL VALUE: L:WITHIN ±5.0% |
| 8 | HIGH TEMPERATURE STORAGE TEST | TEMPERATURE:125°C±2°C DURATION:96±4 HOURS | |
| 9 | LOW TEMPERATURE STORAGE TEST | TEMPERATURE:-40°C±3°C DURATION:96±4 HOURS. | |

Reflow profile for SMT components

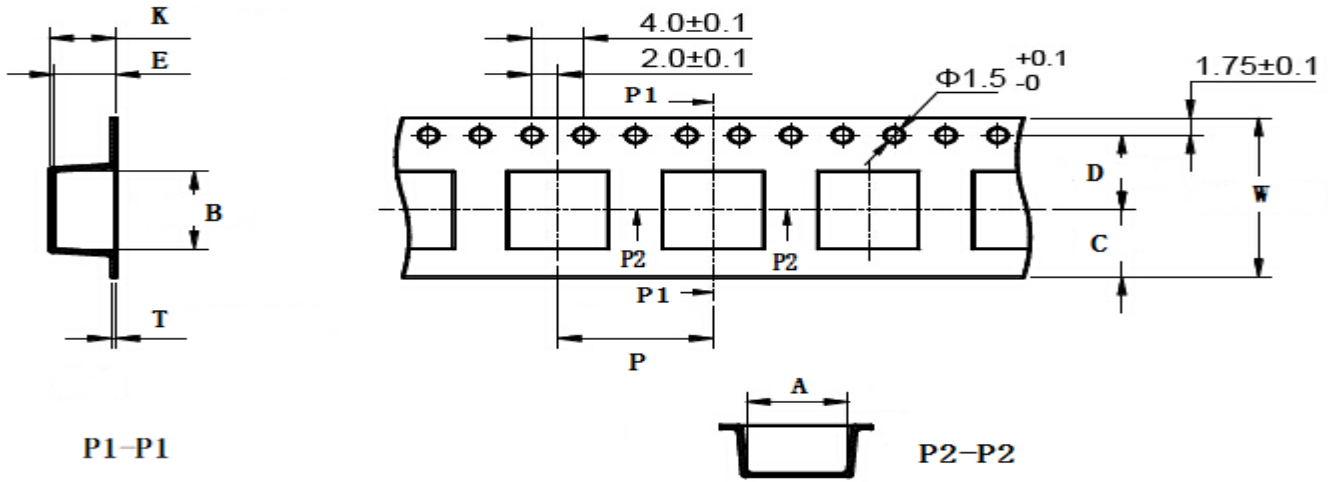


Reflow is referred to standard IPC/JEDEC J-STD-020D

| | | |
|---|----------------------------|----------------------|
| Profile Feature | | Lead(Pb) Free solder |
| Preheat and Soak | Temperature Min.(Tsmmin) | 150°C |
| | Temperature Max.(Tsmmax) | 200°C |
| | time(Tsmmin to Tsmmax)(ts) | 60-120 Seconds |
| Average ramp up rate Tsmmax to Tp | | 3°C/Second Max. |
| Liquidous temperature(TL) | | 217°C |
| Time(TL)maintained above TL | | 60-150 Seconds |
| Peak package body temperature(Tp) | | Table2 |
| Time(tp)*within 5°C of the specified classification | | 30*seconds |
| Temperature(Tc) | | |
| Average Ramp-down rate(Tp to TL) | | 6°C/second max |
| Time 25°C to peak temperature | | 8 minutes max. |

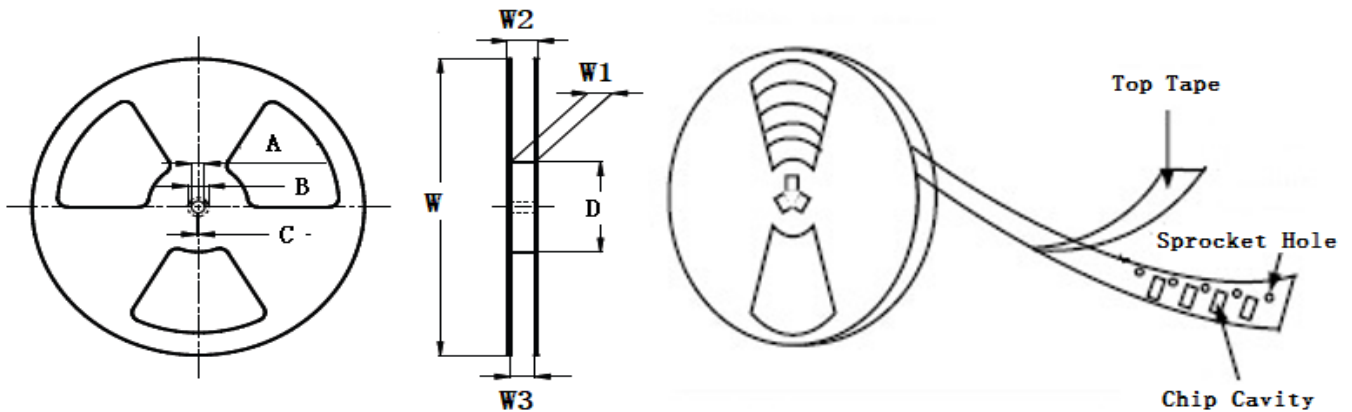
| Table2. Pb-Free Process-Classification Temperatures (Tc) | | | |
|--|-----------------------------|---------------------------------|------------------------------|
| Package Thickness | Volume mm ³ <350 | Volume mm ³ 350~2000 | Volume mm ³ >2000 |
| <1.6mm | 260°C | 260°C | 260°C |
| 1.6mm - 2.5mm | 260°C | 250°C | 245°C |
| >2.5mm | 250°C | 245°C | 245°C |

■ Taping Dimensions(Unit:mm)



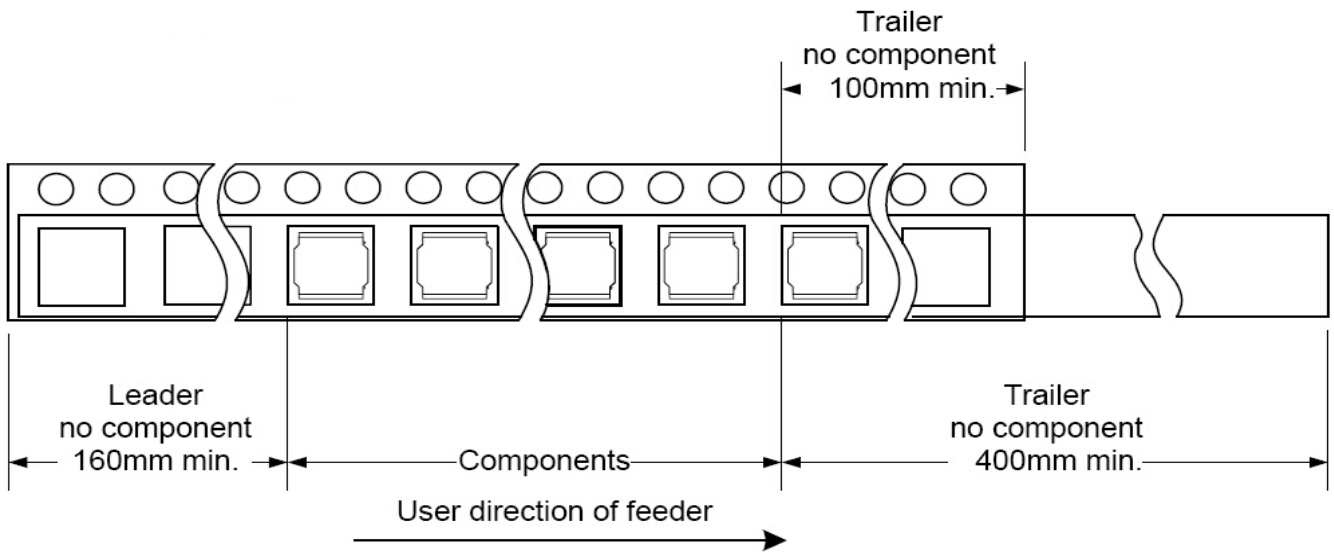
| TYPE | W | A | B | C | D | E | P | K Ref | T | MPQ |
|-----------|---------|-----------|----------|------|----------|-----------|---------|----------|-----------|------|
| YSMC2510S | 8.0±0.1 | 2.35±0.05 | 2.8±0.05 | 2.75 | 3.5±0.05 | 1.35±0.05 | 4.0±0.1 | 1.35 | 0.25±0.05 | 3000 |

■ Reel Dimensions(Unit:mm)

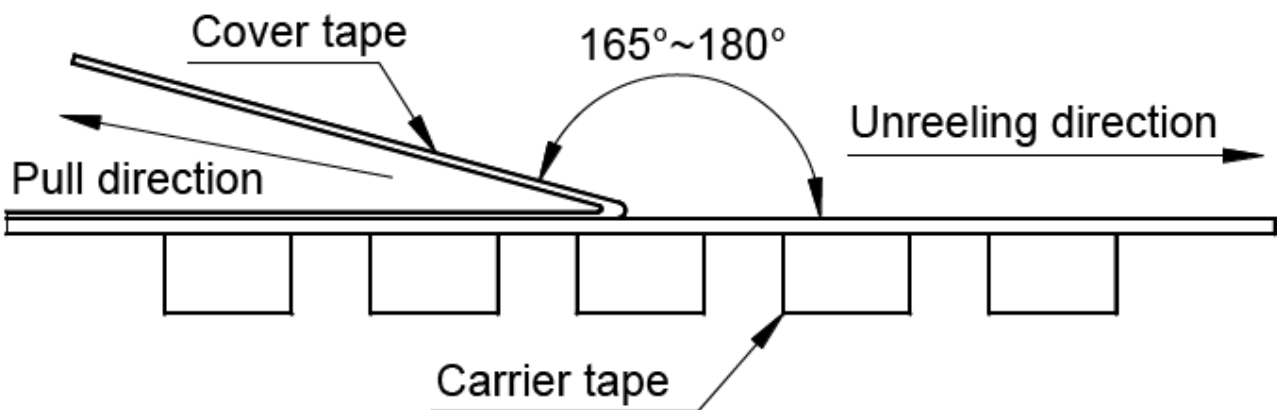


| TYPE | W | W1 | W2 | W3 | A | B | C | D |
|-----------|---------|-----------|---------|---------|-----------|-----------|----------|---------|
| YSMC2510S | 178±2.0 | 12.8±1.50 | 14.4MAX | 8.4 Min | 13.0±0.50 | 21.0±0.80 | 2.0±0.50 | 100 Min |

Direction of rolling



Cover tape peel off condition



Cover tape peel force shall be 0.1N to 1.3N.

Reference peel speed 300±10mm/min.