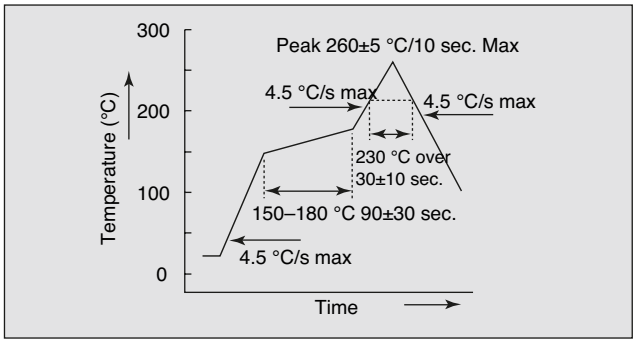
■ How to Handle NZ2016S Series

■ Example of Lead-free Soldering Conditions (Infrared Soldering)



- Soldering conditions
  The product' s characteristics may deteriorate, depending on soldering conditions. Use the product within the following limitations:
  * At 260 °C or less within 10 seconds or at 230 °C or less within 60 seconds
- Shock Resistance
  This product has been designed to be highly resistant to shock (it is guaranteed that it will not be damaged when dropped three times from a height of 75 cm onto a hard wooden board or at 29,400/s² in each of the half-wave sine-wave X, Y, and Z directions three times). However, if the unit is dropped by mistake, measure the performance (oscillation check) of the product again.
- Cleaning
  Ultrasonic cleaning of this product is possible, but depending on the cleaning conditions the product' s oscillator may suffer a resonance fracture. Before ultrasonic cleaning, make sure to check the conditions.
- Others
  - Because C-MOS is used for this product, pay great care to static electricity in the same way as for normal C-MOS IC.
  - The #2 terminal (GND) is a ground terminal. Therefore, if it is mistaken for the #4 terminal (V_{DD}) and a reverse voltage applied, it may suffer internal fractures. Make sure to connect the terminal correctly.

■ Guaranteed Items

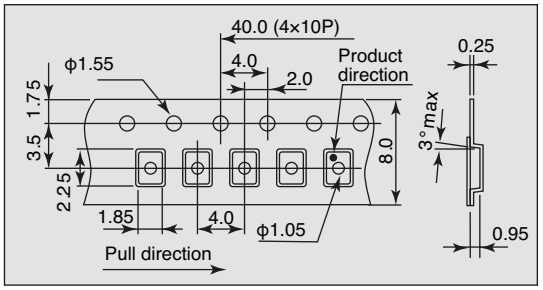
- The environmental and mechanical characteristics of NZ2016S Series are guaranteed by conducting the following tests:

No.	Test Items	Conditions	Specifications
1	Thermal shock resistance	100 cycles (one cycle is conducted for 30 minutes at –40 °C and for 30 minutes at + 85 °C.)	*1
2	High temperature and high humidity resistance	Subject to a temperature of +85 °C, in humidity of 80 to 85 %, and for 250 hours (nonactive)	*1
3	85 °C aging	85 °C (nonactive), for 500 hours Total amplitude:	*1
4	Vibration resistance	1.52 mm or 196 m/s², frequency: 10 to 2,000 Hz, and logarithmic frequency sweep for 20 minutes in each of the three orthogonal directions for four hours (12 hours in total)	*1
5	Shock resistance	Impact acceleration: 29,400 m/s², impact time: 0.3 ms, and Half-wave sine wave in each of the three orthogonal directions three times	*1
6	Drop impact resistance (with a jig)	Dropped 10 times from a jig, 1.5 m in height, onto a concrete plane with a dummy load of 200 g in each of six directions.	*1
7	Soldering property (reflow)	Heated at the warm-up temperature of 150±10 °C for 60 to 120 seconds, and for 30±1 seconds after the regular temperature of 215 °C has been reached, with a peak temperature of 240 °C.	Ninety percent or more of the soldered part must be covered with solder.
8	Soldering heat resistance (reflow)	Heated at the warm-up temperature of 180±10 °C for 120 seconds or more, and at the regular temperature of 225 °C or more for 70 seconds or less, with a peak temperature of 260 °C and three reflows.	*1

(*1) After the above tests have been conducted, the tested product must then meet the electric characteristic specifications.
In addition, the change amount of F before and after the above tests must follow $\Delta F/F \leq \pm 10 \times 10^{-6}$.
The electric characteristic specifications refer to the standard specifications of the following items:
(Current consumption, Tr/Tf, V_{OL}/V_{OH}, duty cycle, current consumption during standby, and standby function)

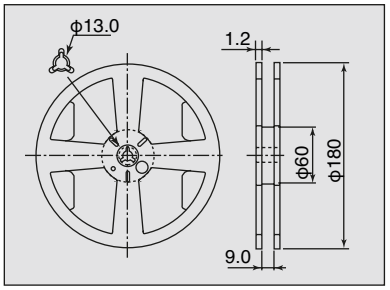
■ Packing

■ Tape



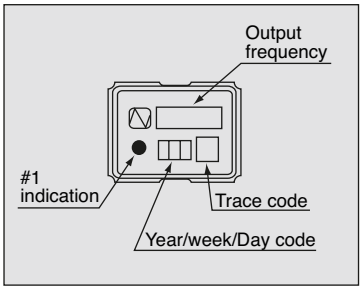
Up to 3,000 pieces per reel are boxed and shipped with the taping method shown above.

■ Reel



*Note: The packing shown above is a standard method for a large order. Packing and shipping of small orders, samples, etc. differs, depending on quantity.

■ Package Indications



- Because of space limitations, the output frequency is indicated as five digits including the decimal point.
  Therefore, 28.63636 MHz is indicated as 28.63.