

Features

- Frequency range : 12MHz to 66MHz
- Ceramic SMD package
- Seam sealing
- External dimensions (mm)
L : 2.5 x W : 2.0 x H : 0.55
- RoHS compliant & Pb free

Applications

- Bluetooth, Wireless LAN
- Microprocessor
- Mobile phone, Computer, Modem
- Audio, Video
- Consumer products

Electrical Characteristics

Item		8Z	Conditions
Frequency Range	F_0	12MHz ~ 66MHz	
Frequency Tolerance	F_{tol}	$\pm 30\text{ppm}$, $\pm 20\text{ppm}$, $\pm 10\text{ppm}$	at 25°C
Frequency Stability over Operating Temperature Range (refer to 25°C)	F_{stab}	$\pm 30\text{ ppm}$	-20°C ~ +70°C
		$\pm 20\text{ ppm}$	
		$\pm 10\text{ ppm}$	
		$\pm 10\text{ ppm}$	-30°C ~ +85°C
		$\pm 30\text{ ppm}$	-40°C ~ +85°C
		$\pm 20\text{ ppm}$	
		$\pm 60\text{ ppm}$	-40°C ~ +125°C
Operating Temperature Range	T_{OTR}	-20°C ~ +70°C	
		-40°C ~ +85°C	
		-40°C ~ +125°C	
Shunt Capacitance	C_0	3pF Max.	
Drive Level	D_L	1 ~ 200μW (100μW Typ.)	
Load Capacitance	C_L	6pF, 7pF, 8pF, 9pF, 10pF 12pF, 16pF, 18pF, 20pF	
Aging (at 25°C ± 3°C, first year)	F_{aging}	$\pm 3\text{ppm Max.}$	Note [1]
Storage Temperature Range	T_{STR}	-55°C ~ +125°C	

Notes:

[1] Please contact us for low aging +/-1ppm grade crystals.

Motional Resistance (ESR)

Fundamental	
12 ~ 13 MHz	150Ω Max.
14 ~ 30 MHz	100Ω Max.
30 ~ 66 MHz	60Ω Max.

Technical drawing of the 1000 Series 4-Pin Connector. The drawing includes a top view, a side view, and a bottom view. The top view shows a rectangular connector with dimensions: width 2.50 ± 0.10 , height 2.00 ± 0.10 , and pin spacing 0.80 ± 0.10 . The side view shows a height of 0.55 MAX . The bottom view shows a width of 0.9 ± 0.10 and a pin spacing of 0.70 ± 0.10 . The connector is labeled with 1, 2, 3, and 4 at the corners of the top view.

(Unit: mm)

Figure 1 consists of two diagrams. The top diagram is a perspective view of a rectangular test board. It has four pins labeled 1, 2, 3, and 4. Pins 1 and 2 are at the bottom, 3 and 4 are at the top. There are also labels for GND (Ground) connections. The bottom diagram is a top-down view of the board layout. It shows a central area with four rectangular pads arranged in a 2x2 grid. Dimensions are indicated: 0.85 and 1.00 for the horizontal spacing, and 0.90 and 0.65 for the vertical spacing.

Suggest Layout

8Z - 24.000M A H E - T

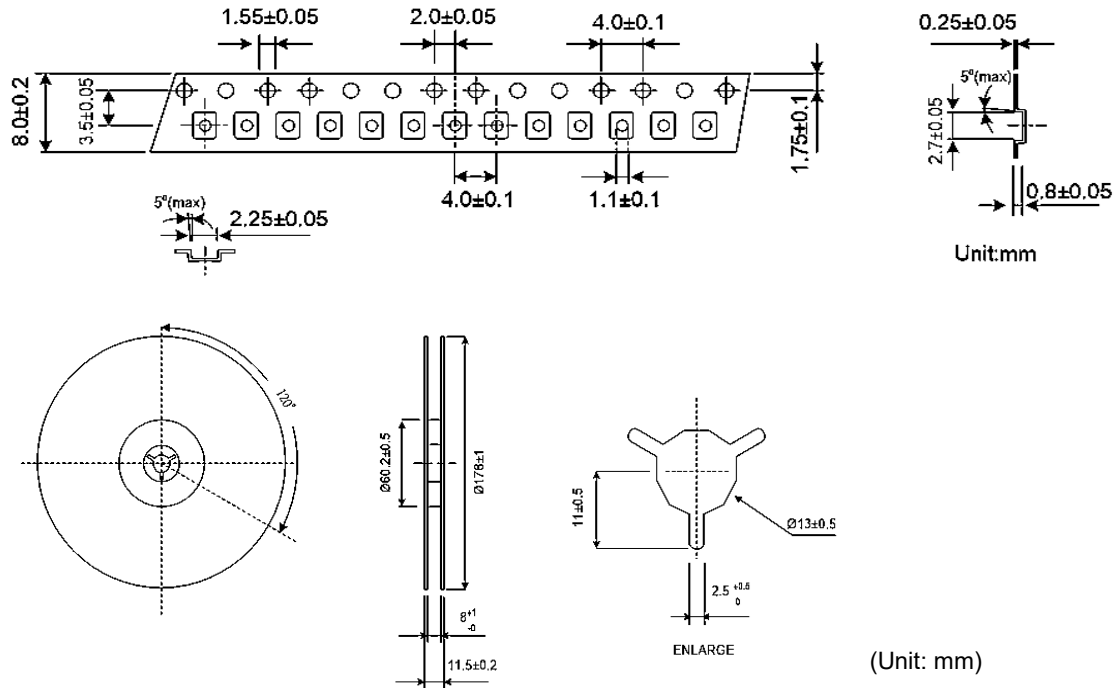
Packaging Method	
T	Tape & Reel

Load Capacitance	
B	6 pF
Y	7 pF
V	8 pF
C	9 pF
Q	10 pF
E	12 pF
I	16 pF
J	18 pF
K	20 pF

Frequency Stability (over Temp.)

A	±30 ppm (-20°C ~ +70°C)
D	±20 ppm (-20°C ~ +70°C)
E	±10 ppm (-20°C ~ +70°C)
T	±10 ppm (-30°C ~ +85°C)
H	±30 ppm (-40°C ~ +85°C)
I	±20 ppm (-40°C ~ +85°C)
K	±60 ppm (-40°C ~ +125°C)

Packing



Reflow Profile

Solder melting point : $220^\circ\text{C} \pm 10^\circ\text{C}$, 60 sec. Min.

Peak temperature : $260^\circ\text{C} \pm 10^\circ\text{C}$, 10 sec. Min.

