

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	

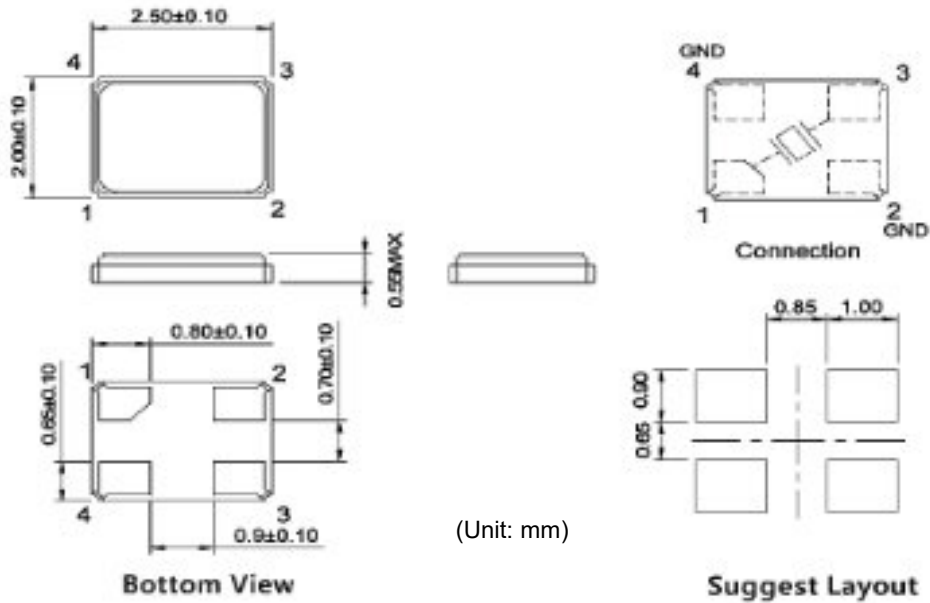
Notes:

[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.

Dimensions



Ordering Information

8Z - 24.000M A H E - T

Frequency in Hz

Please contact us for available frequencies

Frequency Tolerance (at 25°C)

A	±30 ppm
D	±20 ppm
E	±10 ppm

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)

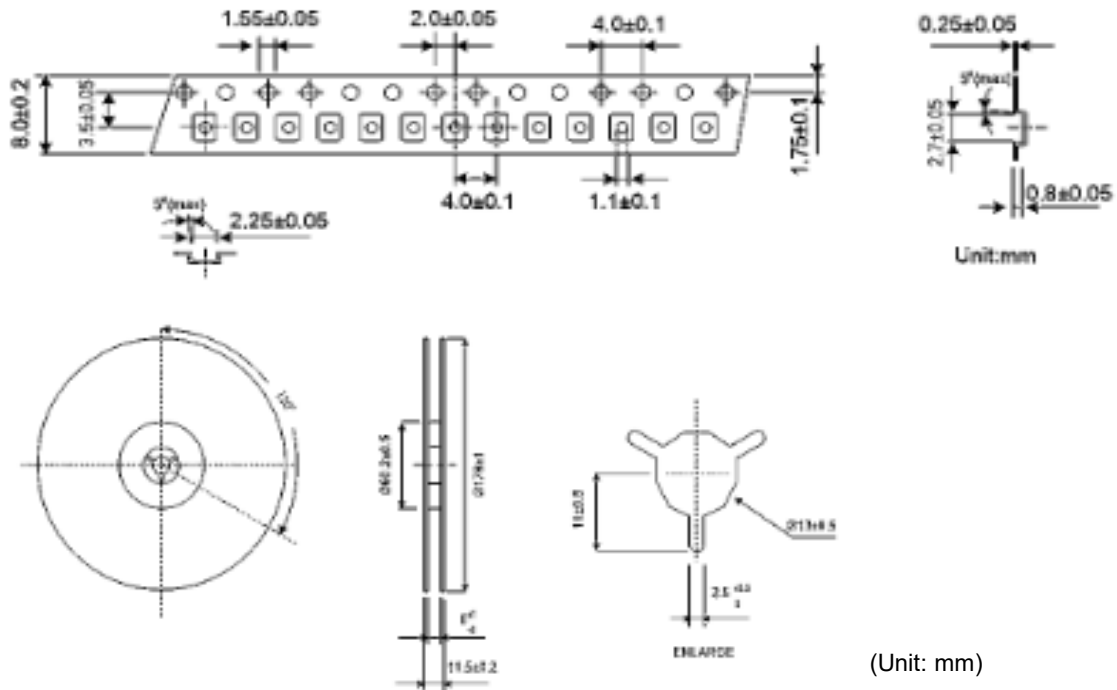
Packaging Method

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

Packing



(Unit: mm)

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.

