

Features

- Frequency range : 10MHz to 114MHz
- Ceramic SMD package
- Seam sealing
- External dimensions (mm)
L : 3.2 x W : 2.5 x H : 0.7
- RoHS compliant & Pb free

Applications

- Bluetooth, Wireless LAN
- Cellular phone, Pager, DSC
- Display, TV
- Computer peripherals
- Consumer products

Electrical Characteristics

Item		QT325S	Conditions
Frequency Range	F_0	10MHz ~ 114MHz	
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
		$\pm 20\text{ ppm}$	
		$\pm 15\text{ ppm}$	
		$\pm 60\text{ ppm}$	-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}	-40°C ~ +85°C	

Notes:

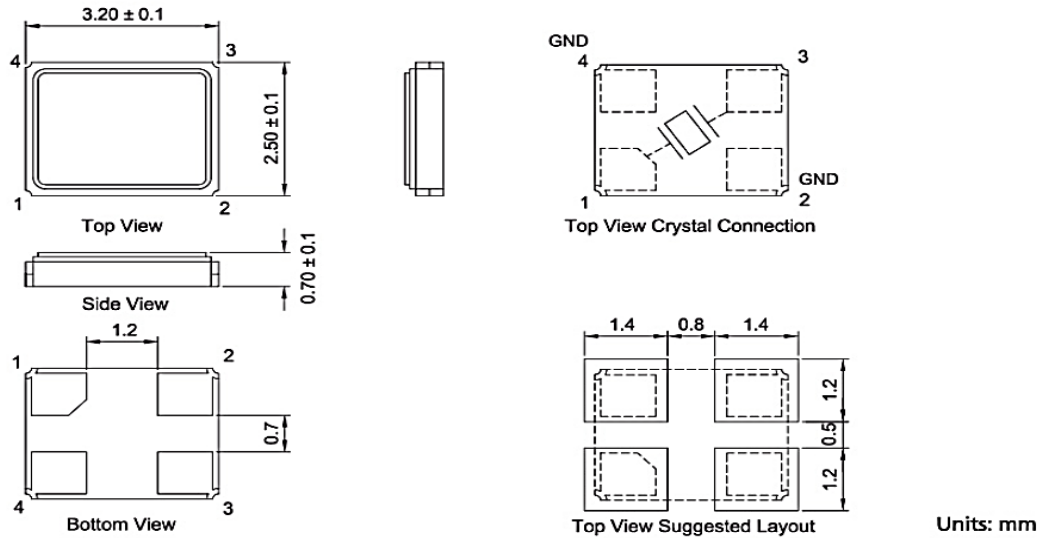
[1] Please contact us for low aging +/-1ppm grade crystals.

Motional Resistance (ESR)

Fundamental	
10 ~ 12 MHz	150Ω Max.
12 ~ 16 MHz	80Ω Max.
16 ~ 20 MHz	60Ω Max.
20 ~ 64 MHz	50Ω Max.

3rd Overtone	
60 ~ 80 MHz	80Ω Max.
80 ~ 114 MHz	60Ω Max.

Dimensions



Ordering Information

QT325S - 20.000M 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)
J	± 15 ppm (-40°C ~ +85°C)
K	± 60 ppm (-40°C ~ +125°C)

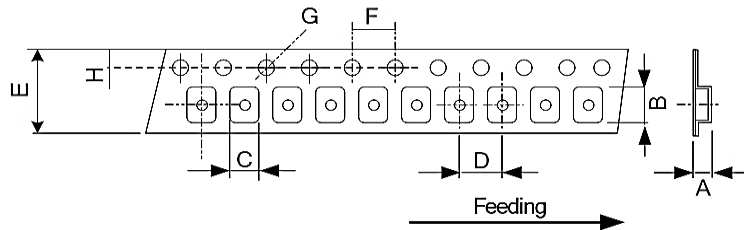
Packaging Method

T	Tape & Reel
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Load Capacitance

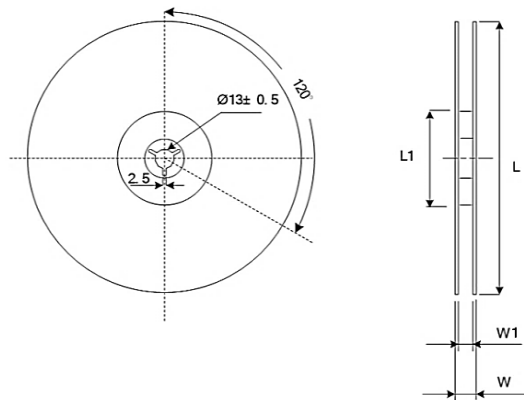
B	6 pF
Y	7 pF
V	8 pF
C	9 pF
Q	10 pF
E	12 pF
I	16 pF
J	18 pF
K	20 pF

Packing



DIMENSIONS	A	B	C	D	E	F	G	H
	1.65 ±0.10	3.40 ±0.10	2.70 ±0.10	4.00 ±0.10	8.00 ±0.20	4.00 ±0.10	1.55 ±0.05	1.75 ±0.10

(Unit: mm)



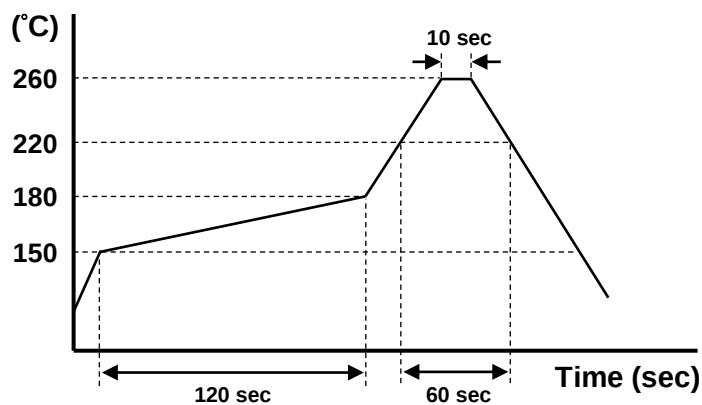
DIMENSIONS	L	L1	W	W1
	178 ±1.00	60.2 ±0.50	11.5 ±0.2	8 ±0.1

(Unit: mm)

Reflow Profile

Solder melting point : 220°C ± 10°C, 60 sec. Min.

Peak temperature : 260°C ± 10°C, 10 sec. Min.



Mouser Electronics

Authorized Distributor

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[QT325S-32.000MEJQ-T](#) [QT325S-32.768MAHE-T](#) [QT325S-10.000MAHE-T](#) [QT325S-10.000MAHJ-T](#) [QT325S-12.000MAHE-T](#) [QT325S-12.000MAHJ-T](#) [QT325S-12.000MEEK-T](#) [QT325S-12.000MEEQ-T](#) [QT325S-12.000MEIE-T](#) [QT325S-12.288MEEQ-T](#) [QT325S-13.000MAAE-T](#) [QT325S-13.000MAAJ-T](#) [QT325S-13.560MAHE-T](#) [QT325S-13.560MAHJ-T](#) [QT325S-13.560MEEJ-T](#) [QT325S-14.31818MAAE-T](#) [QT325S-14.31818MAHE-T](#) [QT325S-16.000MAHJ-T](#) [QT325S-16.000MAHV-T](#) [QT325S-16.000MDHJ-T](#) [QT325S-16.000MEEQ-T](#) [QT325S-16.000MEIE-T](#) [QT325S-16.384MAHE-T](#) [QT325S-16.66667MAHE-T](#) [QT325S-16.6670MAAE-T](#) [QT325S-16.6670MAHE-T](#) [QT325S-16.9344MAAJ-T](#) [QT325S-18.432MAAE-T](#) [QT325S-18.432MAHE-T](#) [QT325S-18.432MEEQ-T](#) [QT325S-19.200MAHV-T](#) [QT325S-19.200MEEQ-T](#) [QT325S-19.200MEIE-T](#) [QT325S-20.000MAHC-T](#) [QT325S-20.000MAHJ-T](#) [QT325S-20.000MEIC-T](#) [QT325S-20.000MEIV-T](#) [QT325S-24.000MAHJ-T](#) [QT325S-24.000MAKV-T](#) [QT325S-24.000MEEJ-T](#) [QT325S-24.000MEEQ-T](#) [QT325S-24.000MEHQ-T](#) [QT325S-24.000MEIE-T](#) [QT325S-24.000MEIJ-T](#) [QT325S-24.000MEIV-T](#) [QT325S-24.000METC-T](#) [QT325S-24.000METV-T](#) [QT325S-24.576MAHE-T](#) [QT325S-24.576MAHJ-T](#) [QT325S-25.000MAHE-T](#) [QT325S-25.000MAHJ-T](#) [QT325S-25.000MEEQ-T](#) [QT325S-25.000MEHQ-T](#) [QT325S-25.000MEIE-T](#) [QT325S-25.000MEIJ-T](#) [QT325S-25.000MEIV-T](#) [QT325S-25.000METE-T](#) [QT325S-26.000MAAE-T](#) [QT325S-26.000MAHE-T](#) [QT325S-26.000MAHJ-T](#) [QT325S-26.000MEIE-T](#) [QT325S-26.000MEIV-T](#) [QT325S-26.000METE-T](#) [QT325S-27.000MAHJ-T](#) [QT325S-27.000MAHV-T](#) [QT325S-27.000MAKV-T](#) [QT325S-27.000MEEQ-T](#) [QT325S-27.000MEIE-T](#) [QT325S-27.000MEIJ-T](#) [QT325S-27.120MAHE-T](#) [QT325S-27.120MAHJ-T](#) [QT325S-27.120MAHV-T](#) [QT325S-27.120MEEQ-T](#) [QT325S-30.000MAHE-T](#) [QT325S-30.000MAHJ-T](#) [QT325S-30.000MAHV-T](#) [QT325S-30.000MEEQ-T](#) [QT325S-31.250MAHE-T](#) [QT325S-32.000MAHJ-T](#) [QT325S-32.000MAHV-T](#) [QT325S-32.000MBBK-T](#) [QT325S-32.000MEEQ-T](#) [QT325S-32.000MEIE-T](#) [QT325S-32.000MEIV-T](#) [QT325S-32.000METE-T](#) [QT325S-32.000METQ-T](#) [QT325S-32.000METV-T](#) [QT325S-32.768MEEQ-T](#) [QT325S-36.000MAAE-T](#) [QT325S-36.000MEEQ-T](#) [QT325S-36.000MEIE-T](#) [QT325S-37.400MAHV-T](#) [QT325S-37.400MEEE-T](#) [QT325S-37.400MEEJ-T](#) [QT325S-38.400MAAJ-T](#) [QT325S-38.400MAHE-T](#) [QT325S-38.400MAHV-T](#) [QT325S-38.400MEEQ-T](#) [QT325S-40.000MAHJ-T](#) [QT325S-40.000MDIE-T](#)