

Features

- Frequency range : 32.768 kHz
- SMD seam sealing ceramic package
- Supply voltage : 1.8V ~ 3.3V
- CMOS output
- Tri-state function available
- External dimensions (mm)
L : 3.2 x W : 2.5 x H : 1.0
- RoHS compliant & Pb free

Applications

- Real-time clock (RTC)
- WLAN, NFC, SiP Modules
- PC, NB, Tablet, Computer peripherals
- Audio, Video, Gaming, DSC, STB
- Server, Switch, Router
- Security devices, Smart meters
- Consumer products
- Internet of Things (IoT)

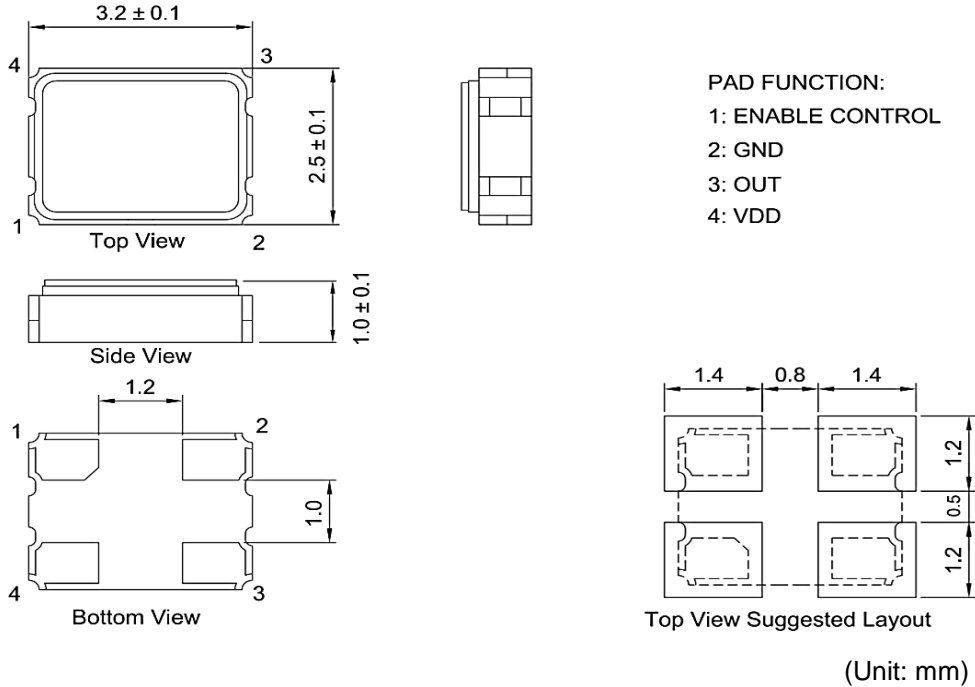
Electrical Characteristics

| Item | QTK325 | Conditions |
|---|----------------------------|-------------------------------------|
| Frequency Range (F_0) | 32.768 kHz | |
| Frequency Stability (F_{stab}) | ± 25 ppm | -10°C ~ +70°C |
| | ± 50 ppm, ± 25 ppm | -40°C ~ +85°C |
| Operating Temperature Range (T_{OTR}) | -10°C ~ +70°C | |
| | -40°C ~ +85°C | |
| Supply Voltage (V_{DD}) | 1.8V, 2.5V, 3.3V | $V_{DD} \pm 10\%$ |
| Current Consumption (I_{DD}) | 3 mA Max. | |
| Output Type | CMOS | |
| Output Load (C_L) | 15 pF | |
| Output Voltage High (V_{OH}) | 90% V_{DD} Min. | |
| Output Voltage Low (V_{OL}) | 10% V_{DD} Max. | |
| Rise & Fall Time (T_r / T_f) | 200 ns Max. | 10% ~ 90% of V_{DD} |
| Duty Cycle | 45% ~ 55% | |
| Start-up Time | 10 ms Max. | |
| Enable Voltage High, Logic "1" | 70% V_{DD} Min. | Input to Pin1 Note [1] |
| Enable Voltage Low, Logic "0" | 30% V_{DD} Max. | |
| Aging (F_{aging}) | ± 5 ppm Max. | at 25°C $\pm 3^\circ$ C, first year |
| Storage Temperature Range (T_{STR}) | -55°C ~ +125°C | |

Notes:

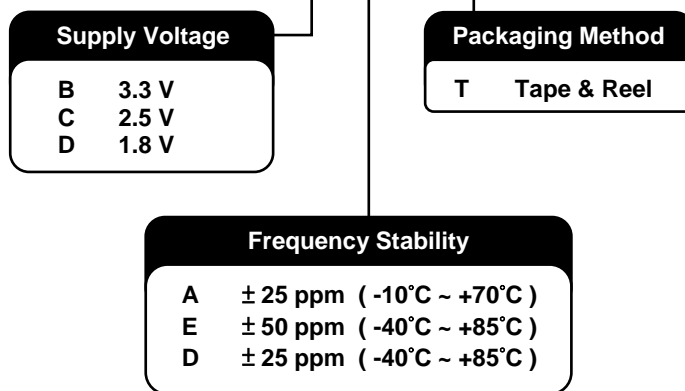
[1] Output will be enable if Pin1 is Logic "1" or Open; Output will be disable if Pin1 is Logic "0".

Dimensions

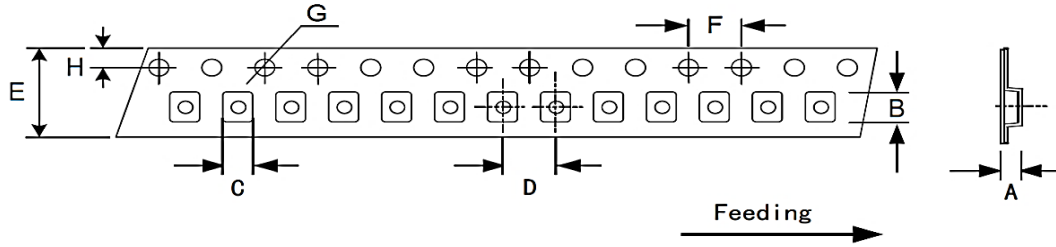


Ordering Information

QTK325 - 32.768K - B E - T

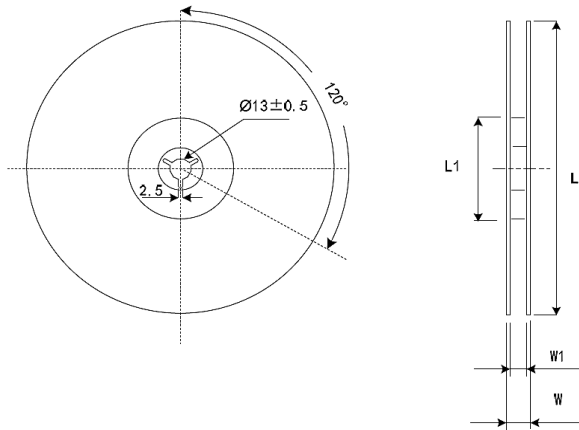


Packing



| 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 +1/-0 |

(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.

