

### Features

- Frequency range : 1MHz to 133MHz
- 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

- Networking, Server, Storage
- Wireless communications
- Fibre channel, Ethernet, SATA, SAS, PCI-E, USB, WLAN, xDSL, xPON
- PC mainboard, Notebook, HDD, SSD, Graphics card, Computer peripherals
- Audio, Video, Gaming, Printer, DSC, IP CAM, Consumer products

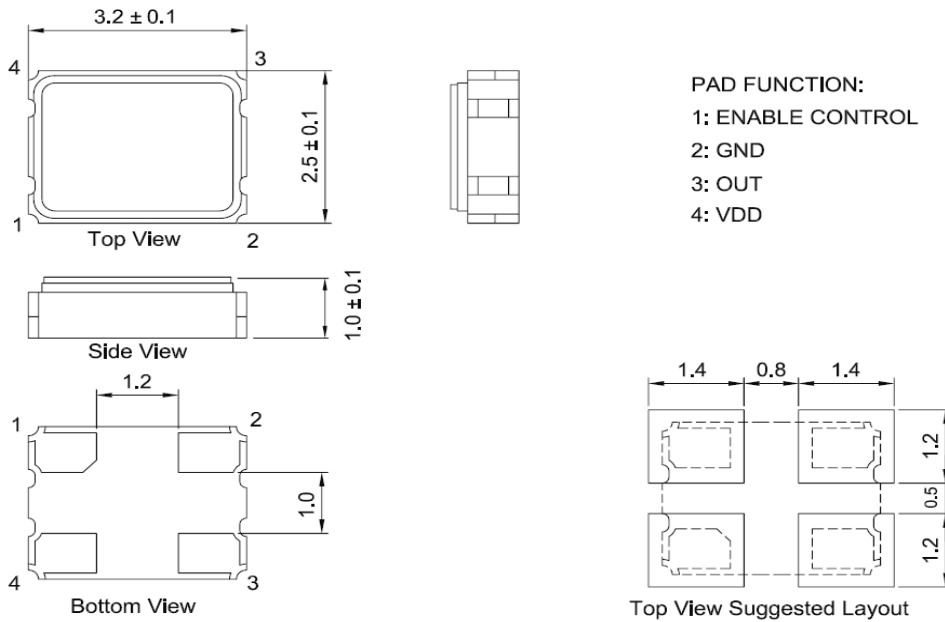
### Electrical Characteristics

Item	QTM325	Conditions
Frequency Range ( $F_0$ )	1MHz ~ 133MHz	
Frequency Stability ( $F_{stab}$ )	$\pm 50$ , $\pm 25$ ppm	-10°C ~ +70°C; Note [1]
	$\pm 50$ , $\pm 25$ , $\pm 20$ ppm	-40°C ~ +85°C; Note [1]
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 ( $I_{DD}$ )	10 mA Max.	1MHz ~ 75MHz
	15 mA Max.	75MHz ~ 133MHz
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 ( $T_r / T_f$ )	8 ns Max.	10% ~ 90% of $V_{DD}$
Duty Cycle	45% ~ 55%	
Start-up Time	5 ms Max.	
Enable Voltage High, Logic "1"	70% $V_{DD}$ Min.	Input to Pin1 Note [2]
Enable Voltage Low, Logic "0"	30% $V_{DD}$ Max.	
Phase Jitter, RMS	1 ps Max.	Note [3]
Aging ( $F_{aging}$ )	$\pm 3$ ppm Max.	at 25°C $\pm 3$ °C, first year
Storage Temperature Range ( $T_{STR}$ )	-55°C ~ +125°C	

#### Notes:

- [1] Inclusive of frequency tolerance at 25°C, 1st year aging at 25°C, and variations over operating temperature, supply voltage, and load.
- [2] Output will be enabled if Pin1 is Logic "1" or open; Output will be disabled if Pin1 is Logic "0".
- [3] Freq. 10MHz~40MHz, integrated 12kHz~5MHz; Freq. >40MHz, integrated 12kHz~20MHz.

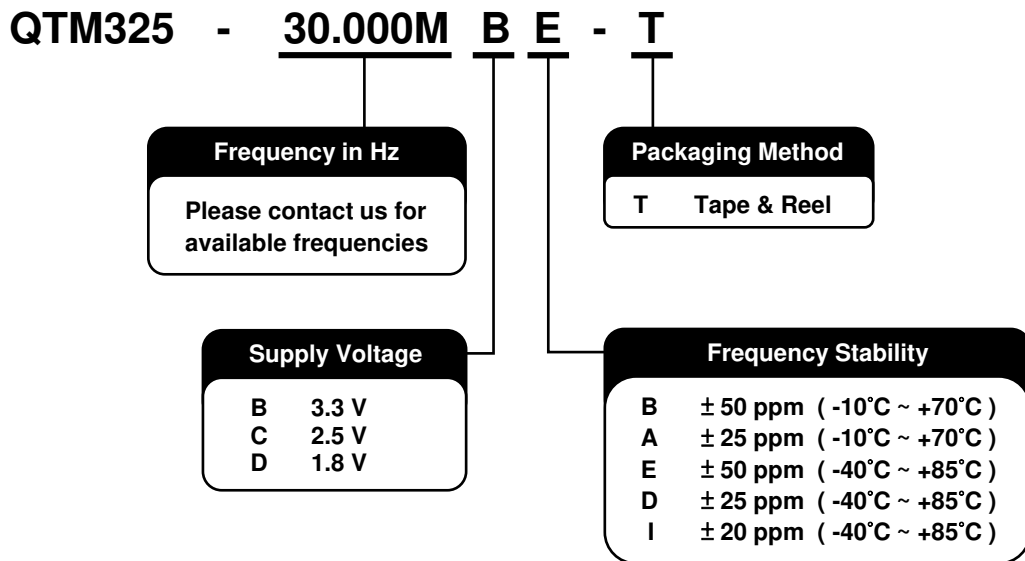
### Dimensions



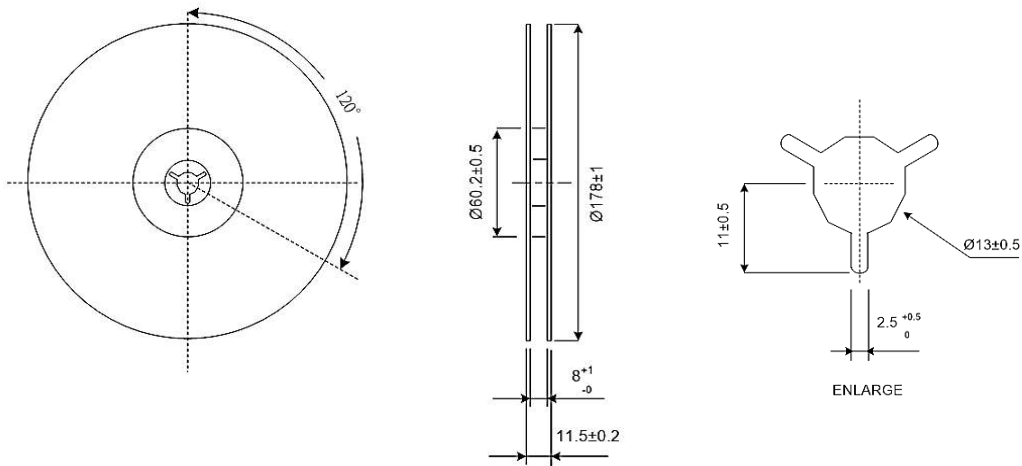
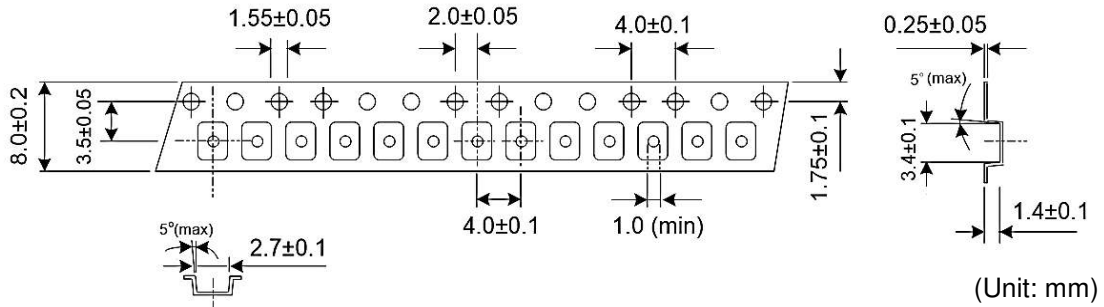
**PAD FUNCTION:**  
 1: ENABLE CONTROL  
 2: GND  
 3: OUT  
 4: VDD

(Unit: mm)

### Ordering Information



### 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.

