



### Features and Benefits

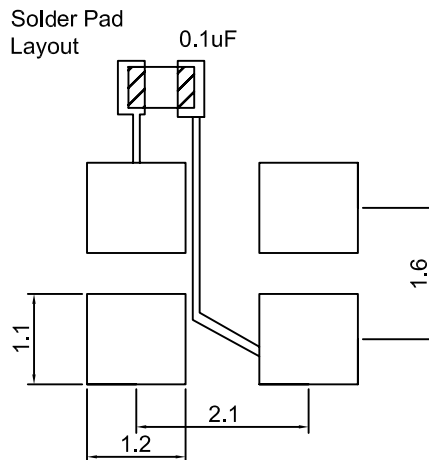
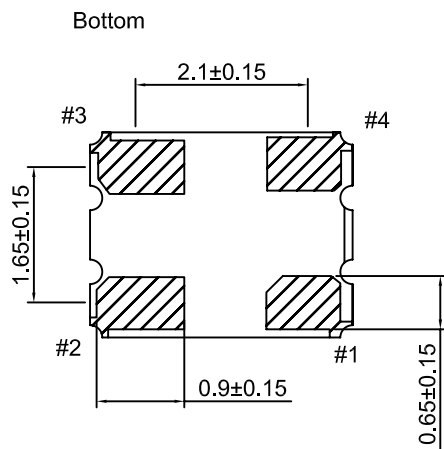
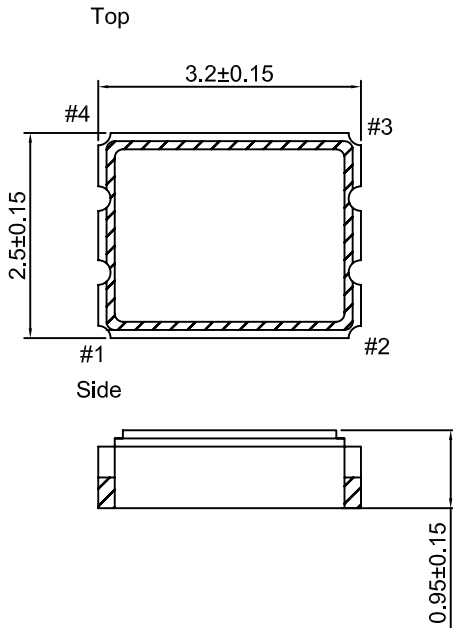
Typical 3.2x2.5x0.95 mm ceramic SMD package  
 Tight symmetry(45 to 55%) available  
 Operation voltage: 1.8V, 2.5V, 3.3V

### Typical Applications

WIFI/WiMAX, WLAN  
 DSC, Set-top Box, HDTV  
 Mobile phone

### Mechanical Drawing & Pin Connections

Drawing No: MD16002+-1



#### Pin Connection

Name	Connection
Pin 1	Tri-state
Pin 2	GND
Pin 3	OUTPUT
Pin 4	VDD

Unit in mm  
 1mm = 0.0394 inches

To ensure optimal oscillator performance, place a by-pass capacitor of 0.1uF as close to the part as possible between Vdd and GND pads.



## Specifications

Specification	Conditon	3.3V		2.5V		1.8V		Unit
		Min.	Max.	Min.	Max.	Min.	Max.	
Supply Voltage Variation	$V_{DD} \pm 10\%$	2.97	3.63	2.25	2.75	1.62	1.98	V
Frequency Range		1.25	125	1.25	125	1.25	125	MHz
Standard Frequency		24, 26, 32, 38.4, 40						MHz
Supply Current	$1.25\text{MHz} \leq F_o < 100\text{MHz}$	-	15	-	10	-	7	mA
	$100\text{MHz} \leq F_o \leq 125\text{MHz}$	-	25	-	20	-	12	
Duty Cycle		45	55	45	55	45	55	%
Output Level(CMOS)	Output High	2.97	-	2.25	-	1.62	-	V
	Output Low	-	0.33	-	0.25	-	0.18	
Transition Rise/Fall Time*	$1.25\text{MHz} \leq F_o < 20\text{MHz}$	-	4	-	4	-	5	nSec
	$20\text{MHz} \leq F_o < 80\text{MHz}$	-	3	-	3	-	4	
	$80\text{MHz} \leq F_o \leq 125\text{MHz}$	-	3	-	3	-	4	
Start Time		-	2	-	2	-	2	mSec
Tri-State(Input to Pin1)	Enable (High voltage or floating)	2.31	-	1.75	-	1.26	-	V
	Disable (Low voltage or GND)	-	0.99	-	0.75	-	0.54	
Period Jitter(Pk-Pk)		-	40	-	40	-	40	pSec
RMS Phase Jitter	Integrated 12KHz to 20MHz	-	1	-	1	-	1	pSec
Standby Current		-	10	-	10	-	10	uA
Aging	@25°C 1 <sup>st</sup> year	-	±3	-	±3	-	±3	ppm
Storage Temp. Range		-55°C to +125°C						°C

Note: \*Transition times are measured between 10% and 90% of  $V_{DD}$  with an output load of 15pF

## Frequency Stability vs. Temperature

	±20PPM	±25PPM	±50PPM
-10°C to +60°C	Available	Available	Available
-20°C to +70°C	Conditional	Available	Available
-40°C to +85°C	Not Available	Available	Available

Note: Inclusive of calibration @25°C, operating temperature range, input voltage variation, load variation, aging (1<sup>st</sup> year), shock and vibration.