

FEATURES

- Wide Frequency Range
- Resistance Weld
- Gull Wing With Configuration
- Tight Tolerance and Stability over Temperature
- Lead Free available
- Offer Fitted Insulators and 3 Pins

APPLICATIONS

- Microprocessor Systems
- Data Communications
- Consumer Electronics
- Automotive Electronics

SPECIFICATION *

Parameters	Product	Option Code	
	49U-SMD	CUMA	CUMB
Frequency Range:	1.8432~200MHz	△	Specify
Oscillation Mode:	AT Fund.(1.8432~40MHz)	△	A
	BT Fund.(20~40MHz)	△	B
	3rd OT (23~100MHz)	△	C
	5th OT (60~150MHz)	△	D
	7th OT (120~200MHz)	△	E
Frequency Tolerance:	±5ppm	△	5
	±10ppm	△	10
	±20ppm	△	20
	±30ppm	△	30
	±50ppm	▲	50
	Other Values	△	Specify
Load Capacitance:	12pF	△	12
	16pF	△	16
	18pF	△	18
	20pF	▲	20
	30pF	△	30
	Series Resonant Other Values	△	S Specify
Frequency Stability:	±10ppm	△	10
	±20ppm	△	20
	±30ppm	△	30
	±50ppm	▲	50
	Other Values	△	Specify
Operating Temp. Range:	0℃~+50℃	△	0
	-10℃~+60℃	▲	10
	-20℃~+70℃	△	20
	-40℃~+85℃	△	40
	Other Values	△	Specify
Storage Temp. Range:	-40℃~+85℃	▲	
Equivalent Series Resistance (ESR): See Table 1	△	Specify	
Drive Level:	1000 uW Max.	▲	
Shunt Capacitance (C 0):	7.0pF Max.	▲	
Aging:	±5ppm Max.	▲	
Package:	Bulk	△	B
	Tape/Reel	△	T
Other Values:	3 pins	△	3
	Fitted Insulating Washer	△	W
	Lead Free	△	LF

▲ Standard * Specifications Subject to Change Without Notice
△ Optional: please specify required code when inquiring or ordering

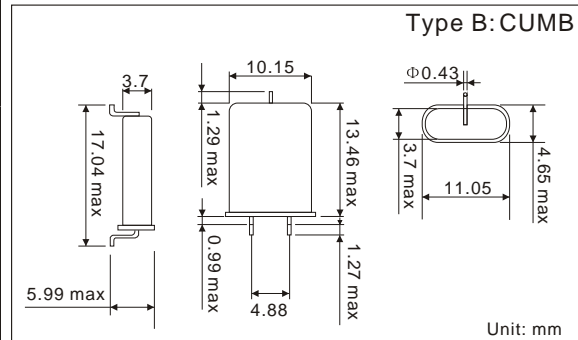
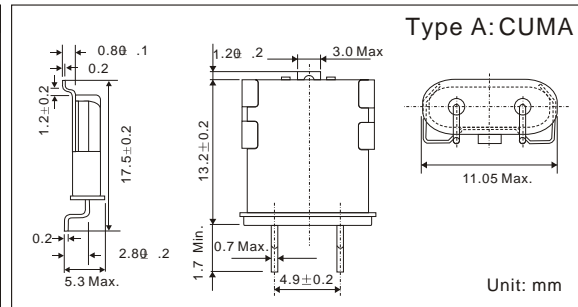
PARTNUMBER GUIDE

TGS	C	U	MB	4M0	A	50	- 20	- 50	- 10	- 100	- T	3
Mark	Quartz Crystals	U: 49U	Type A: MA Type B: MB	Freq. Range	Oscillation Mode	Freq. Tol.	Load Capa.	Freq. Stability	Operating Temp. Range	ESR	Package	Other Values

e.g. Full P/N.: TGS CUMB 4M0A50-20-50-10-100T 3
Short P/N.: CUMB 4M0A20T 3 (Others is standard Spec.)



DIMENSIONS



ESR VALUES

Frequency Range (MHz)	ESR Max (ohm)	Frequency Range (MHz)	ESR Max (ohm)
1.8432 ~ 2.3990	650	6.0000 ~ 7.9990	60
2.4000 ~ 2.9990	300	8.0000 ~ 12.999	40
3.0000 ~ 3.4990	250	13.0000 ~ 29.999	35
3.5000 ~ 3.9990	120	30.0000 ~ 89.999	60
4.0000 ~ 4.9990	100	90.0000 ~ 150.99	100
5.0000 ~ 5.9990	70	151.00 ~ 200.00	120

STANDARD FREQUENCIES

1.843200	5.000000	10.00000	15.36000	24.57600
2.000000	5.068800	10.24000	16.00000	25.00000
2.097152	6.000000	10.25000	16.38400	27.00000
2.457600	6.144000	10.24500	17.734475	32.00000
3.276800	7.000000	11.05920	18.43200	32.76800
3.579545	7.200000	11.28960	19.66080	36.00000
3.686400	7.372800	12.00000	20.00000	40.00000
4.000000	7.680000	12.28800	20.48000	48.00000
4.032000	8.000000	12.80000	20.94500	50.00000
4.096000	8.192000	13.50000	21.48000	60.00000
4.194304	9.216000	14.31818	22.11840	64.00000
4.433619	9.600000	14.74560	24.00000	
4.915200	9.830400	15.00000	24.00014	

PACKAGE

- Standard package in T/R : 500pcs per reel.
See page 84 for detail dimensions