



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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- ▶ Low Frequencies
- ▶ RoHS Compliant (Note 7 Exemption)
- ▶ Extended temperature range.

ZTB/ZTBF SERIES CERAMIC RESONATOR

The ZTB Series ceramic resonator offers low frequency and extended temperature range capabilities. The ZTBF option is a formed lead version for SMD applications.

OPERATING CONDITIONS / ELECTRICAL CHARACTERISTICS

PART NUMBER *	FREQUENCY RANGE (KHz)	FREQUENCY ACCURACY @ 25°C (%)	FREQUENCY STABILITY -20 ~ +80°C (%)	AGING FOR TEN YEARS (%)	ESR (Ω) MAX.	C1 (pF)	C2 (pF)
ZTB□□□D	190 ~ 249	± 1.0 KHz	± 0.3	± 0.5	20	330	470
ZTB□□□D	250 ~ 374	± 1.0 KHz	± 0.3	± 0.5	20	220	470
ZTB□□□P	375 ~ 429	± 2.0 KHz	± 0.3	± 0.5	20	120	470
ZTB□□□E	430 ~ 449	± 2.0 KHz	± 0.3	± 0.5	20	100	100
ZTB□□□E	450 ~ 509	± 2.0 KHz	± 0.3	± 0.5	20	100	100
ZTB□□□P	510 ~ 699	± 2.0 KHz	± 0.3	± 0.5	35	100	100
ZTB□□□J	700 ~ 999	± 0.5%	± 0.3	± 0.5	70	100	100
ZTB□□□MJ	1000 ~ 1230	± 0.5%	± 0.3	± 0.5	100	100	100

Complete part number to include frequency i.e. ZTB500E (500=500 KHz)

PACKAGE DIMENSIONS (mm)

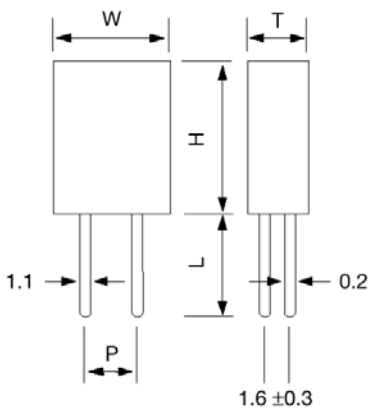


Figure 1) 190 ~ 249 KHz Front and Side Views

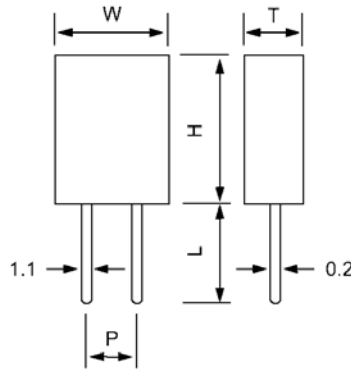


Figure 2) 250 ~ 1230 KHz, Front and Side Views

FREQUENCY RANGE (KHz)	DIMENSIONS (mm)				
	W	T	H	P	L
190-249	13.5	3.8	14.7	10.0	8.0

FREQUENCY RANGE (KHz)	DIMENSIONS (mm)				
	W	T	H	P	L
250-374	11.0	3.8	12.2	7.7	7.0
375-449	7.9	3.6	9.3	5.0	5.0
450-699	7.0	3.5	9.0	5.0	5.0
700-1230	5.0	2.2	6.0	2.5	3.5

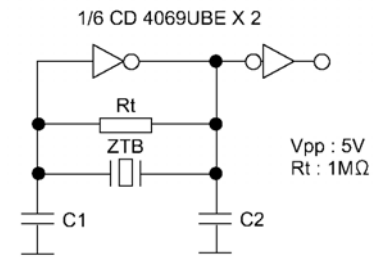


Figure 3) Test Circuit

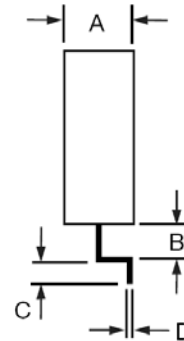
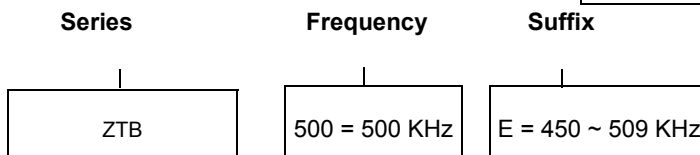


Figure 4) ZTBF (formed lead option) Land Pattern

PART NUMBERING GUIDE: "Example" ZTB500E



PART NUMBER	FREQ. RANGE	A	B	C	D
ZTBF□□□P	400-429	3.6±0.5	0.9±0.3	1.5±0.3	0.15±0.05
ZTBF□□□E	430-509	3.5±0.5	0.9±0.3	1.5±0.3	0.15±0.05
ZTBF□□□P	510-699	3.5±0.5	0.9±0.3	1.5±0.3	0.15±0.05
ZTBF□□□J	700-999	2.2±0.5	0.6±0.3	1.0±0.3	0.12±0.05
ZTBF□□□MJ	1000	2.2±0.5	0.6±0.3	1.0±0.3	0.12±0.05