

## Piezo Ceramic Element

Type	Resonant Frequency (KHz)	Resonant Impedance ( $\Omega$ max)	Capacitance (nF at 100Hz)	Input Voltage (Vp-p max)	D (mm)	T (mm)
FTBD-9T-15.0A1	15.0	1000	3.5	30	9	0.23
FTBD-9T-18.0A1	18.0	700	3.5	30	9	0.23
FTBD-11G-6.0A1	6.0	700	12	15	11	0.13
FTBD-11G-8.0A1	8.0	700	12	15	11	0.18
FTBD-11G-8.5A1	8.5	700	5.5	30	11	0.18
FTBD-11G-11.0A1	11.0	700	6	30	11	0.23
FTBD-12G-4.9A1	4.9	700	12	30	12	0.12
FTBD-12G-6.5A1	6.5	700	12	30	12	0.13
FTBD-12G-7.5A1	7.5	1000	6	30	12	0.18
FTBD-12T-4.9A1	4.9	1000	15	30	12	0.10
FTBD-12T-9.0A1	9.0	600	8	30	12	0.22
FTBD-12T-9.5A1	9.5	1300	8	30	12	0.22
FT-12T-11.0A1	11.0	1500	4.5	30	12	0.33
FT-12T-16.5A1	16.5	800	6	30	12	0.40
FT-12T-17.8A1	17.8	700	4.5	30	12	0.43
FTBD-15G-6.0A1	6.0	1000	11	30	15	0.23
FTBD-15T-7.7A1	7.7	700	7	30	15	0.32
FT-15T-10.0A1	10.0	600	9	30	15	0.40
FT-15T-12.0A1	12.0	600	8	30	15	0.40
FTBD-18T-3.6A1	3.6	1000	12	30	18	0.23
FTBD-18T-4.0A1	4.0	1000	12	30	18	0.25
FTBD-20T-2.0A1	2.0	200	85	30	20	0.12
FTBD-20G-2.0A1	2.0	200	85	30	20	0.12
FTBD-20G-2.0A1	2.0	300	50	30	20	0.12
FTBD-20G-2.2A1	2.2	300	85	30	20.1	0.10
FTBD-20G-2.5A1	2.5	200	50	30	20	0.12
FTBD-20T-2.8A1	2.8	300	40	30	20	0.18
FTBD-20T-3.3A1	3.3	600	23	30	20	0.23
FTBD-20T-3.6A1	3.6	300	28	30	20	0.22
FTBD-20G-3.6A1	3.6	300	28	30	20	0.22
FTBD-20T-3.8A1	3.8	200	25	30	20	0.26
FTBD-20T-3.9A1	3.9	200	35	30	20	0.22
FTBD-20T-3.9A1	3.9	300	25	30	20	0.24
FTBD-20T-4.0A1	4.0	300	24	30	20	0.25
FTBD-20T-4.5A1	4.5	300	18	30	20	0.26
FT-20T-6.3A1	6.3	300	10	30	20	0.43
FT-20T-6.5A1	6.5	500	14	30	20	0.45
FT-20T-6.6A1	6.6	300	10	30	20	0.45
FT-20T-6.8A1	6.8	300	12	30	20	0.46
FT-20T-6.8A1	6.8	500	19	30	20	0.43

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FTBD-21G-3.0A1	3.0	300	25	30	21	0.23
FTBD-21T-3.3A1	3.3	300	25	30	21	0.23
FT-22.5T-5.5A1	5.5	1000	12	30	22.5	0.43
FTBD-27T-1.8A1	1.8	1000	36	30	27	0.23
FTBD-27G-2.3A1	2.3	300	45	30	27	0.23
FTBD-27T-2.3A1	2.3	300	45	30	27	0.23
FTBD-27T-2.5A1	2.5	200	60	30	27	0.23
FTBD-27T-2.6A1	2.6	300	45	30	27	0.23
FT-27T-3.0A1	3.0	300	35	30	27	0.38
FT-27T-3.6A1	3.6	500	25	30	27	0.45
FT-27T-4.0A1	4.0	300	25	30	27	0.45
FT-27T-3.8A1	3.8	1000	11	30	27	0.53
FT-27T-4.0A1	4.0	300	24	30	27	0.48
FT-27G-4.0A1	4.0	500	25	30	27	0.45
FT-27T-4.2A1	4.2	500	20	30	27	0.53
FT-27T-4.3A1	4.3	300	20	30	27	0.50
FT-27T-4.5A1	4.5	300	18	30	27	0.50
FT-27T-4.6A1	4.6	300	20	30	27	0.50
FT-27G-4.6A1	4.6	300	20	30	27	0.50
FT-27G-4.6A1	4.6	500	25	30	27	0.45
FTBD-31T/G-1.3A1	1.3	800	56	30	31	0.23
FTBD-31G-1.4A1	1.4	1000	48	30	31	0.23
FTBD-31T-1.5A1	1.5	200	70	30	31	0.22
FTBD-31T-1.6A1	1.6	300	50	30	31	0.23
FTBD-31G-1.6A1	1.6	300	50	30	31	0.23
FTBD-31T-1.8A1	1.8	200	75	30	31	0.23
FTBD-31G-1.8A1	1.8	200	75	30	31	0.23
FTBD-31T-2.0A1	2.0	150	130	30	31	0.23
FTBD-32G-1.6A1	1.6	200	65	30	32	0.23
FTBD-32G-2.5A1	2.5	200	65	30	32	0.23
FT-32T-2.8A1	2.8	300	30	30	32	0.43
FT-32T-2.9A1	2.9	300	30	30	32	0.40
FTBD-35T-1.3A1	1.3	200	75	30	35	0.23
FTBD-35G-1.6A1	1.6	300	80	30	34.7	0.23
FT-35T-1.8A1	1.8	250	45	30	35	0.38
FT-35T-2.3A1	2.3	200	33	30	35	0.43
FT-35T-2.6A1	2.6	200	30	30	35	0.47
FT-35G-2.9A1	2.9	200	35	30	35	0.53
FT-35G-2.9A1	2.9	200	30	30	35	0.53
FT-35T-3.2A1	3.2	300	17	30	35	0.63



FT.FTBD-xxT.G-x.xA1

## Piezo Ceramic Element

Type	Resonant Frequency (KHz)	Resonant Impedance ( $\Omega$ max)	Capacitance (nF at 100Hz)	Input Voltage (Vp-p max)	D (mm)	T (mm)
FT-35T-3.2A1	3.2	300	25	30	35	0.63
FT-35G-3.2A1	3.2	300	30	30	35	0.52
FT-35T-3.6A1	3.6	300	16	30	35	0.72
FT-38T-2.3A1	2.3	300	25	30	38	0.60
FT-38T-2.3A1	2.3	300	60	30	38	0.54
FTBD-41T-0.7A1	0.7	1500	77	30	41	0.23
FTBD-41T-0.7A1	0.7	1500	75	30	41	0.23
FTBD-41G-0.7A1	0.7	1200	95	30	41	0.23
FTBD-41T-1.0A1	1.0	1000	75	30	41	0.23
FTBD-41G-1.0A1	1.0	1000	75	30	41	0.23
FT-41T -1.5A1	1.5	1000	55	30	41	0.44
FTBD-41T-2.5A1	2.5	400	75	30	41	0.23
FTBD-41G-2.5A1	2.5	400	75	30	41	0.23
FTBD-43T-0.8A1	0.8	1000	75	30	43	0.23
FTBD-43G-1.3A1	1.3	300	80	30	43	0.34
FTBD-43T-1.3A1	1.3	300	80	30	43	0.34
FTBD-43T-2.0A1	2.0	300	80	30	43	0.22
FT-43T-3.4A1	3.4	300	30	30	43	0.45
FT-50T-1.0A1	1.0	500	50	30	50	0.43
FTBD-50T-1.8A1	1.8	300	75	30	50	0.23
FT-50T-3.0A1	3.0	400	40	30	50	0.43
FT-50T-3.9A1	3.9	300	17	30	50	0.63
FT-12T-11.0A1	11.0	1500	3.3	30	12	0.33
FTBD-15T-6.0A1	6.0	700	12	30	15	0.23

## Piezo Ceramic Element

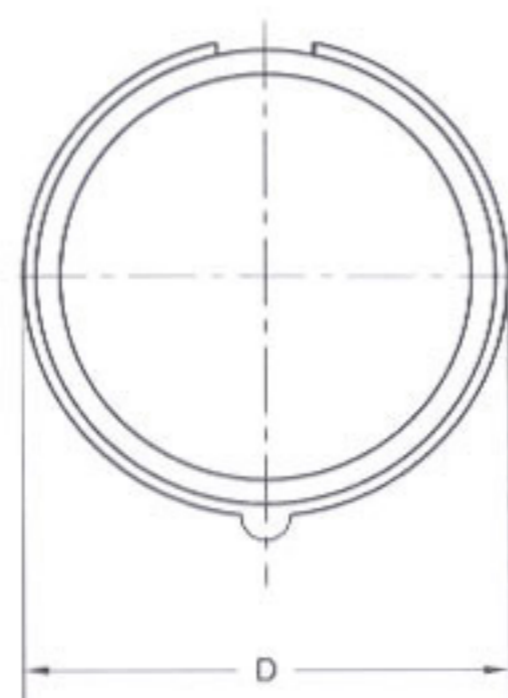
Type	Resonant Frequency (KHz)	Resonant Impedance ( $\Omega$ max)	Capacitance (nF at 100Hz)	Input Voltage (Vp-p max)	D (mm)	T (mm)
FTBD-12G-4.5B1	4.5	1000	10	30	12	0.12
FTBD-12G-4.5B1	4.5	700	10	30	12	0.12
FTBD-12G-4.9B1	4.2~5.8	700	8~20	30	12	0.12
FTBD-12G-6.5B1	6.5	700	12	20	12	0.13
FTBD-12T-7.5B1	7.5	1000	10	30	12	0.18
FTBD-12G-7.5B1	7.5	1000	6	30	12	0.18
FTBD-12T-7.5B1	7.5	1000	6	30	12	0.18
FTBD-15G-3.5B1	3.5	1000	19	15	15	0.13
FTBD-15T-5.5B1	5.5	1500	12	30	15	0.23
FTBD-15T-6.6B1	6.6	500	15	30	15	0.22
FTBD-18T-3.5B1	3.5	1000	12	30	18	0.23
FTBD-18T-3.6B1	3.6	1000	11	30	18	0.23
FTBD-18T-3.8B1	3.8	1000	11	30	18	0.23
FTBD-20G-3.3B1	3.3	600	19	30	20	0.23
FTBD-20T-3.5B1	3.5	300	24	30	20	0.23
FTBD-20T-3.6B1	3.6	300	24	30	20	0.23
FTBD-20G-3.6B1	3.6	300	24	30	20	0.23
FTBD-20T-3.8B1	3.8	350	17	30	20	0.23
FTBD-20T-4.0B1	4.0	300	20	30	20	0.24
FTBD-20T-4.5B1	4.5	300	17	30	20	0.26
FT-20T-6.5B1	6.5	500	12	30	20	0.42
FTBD-21G-4.0B1	4.0	400	15	30	21	0.25
FTBD-27T-2.3B1	2.3	300	40	30	27	0.23
FTBD-27T-2.3B1	2.3	300	43	30	27	0.23
FTBD-27T-2.5B1	2.5	300	30	30	27	0.23
FTBD-27T-2.6B1	2.6	1200	36	30	27	0.33
FT-27T-3.0B1	3.0	300	27	30	27	0.37
FT-27T-3.6B1	3.6	500	20	30	27	0.41
FT-27G-4.1B1	4.1	300	18	30	27	0.45
FT-27T-4.2B1	4.2	500	18	30	27	0.48
FT-27T-4.6B1	4.6	500	20	30	27	0.53
FT-32T-2.8B1	2.8	300	45	30	32	0.35
FTBD-35T-1.3B1	1.3	300	75	30	35	0.23
FT-35T-2.0B1	2.0	500	35	30	35	0.43
FT-35T-2.0B1	2.0	500	35	30	35	0.45
FT-35G-2.0B1	2.0	300	55	30	34.7	0.32
FT-35T-2.3B1	2.3	200	30	30	35	0.43
FT-35T-2.6B1	2.6	300	25	30	35	0.45
FT-35G-2.9B1	2.9	200	28	30	35	0.53
FT-35T-3.0B1	3.0	500	28	30	35	0.60



FT,FTBD-xxT.G-x.xB1

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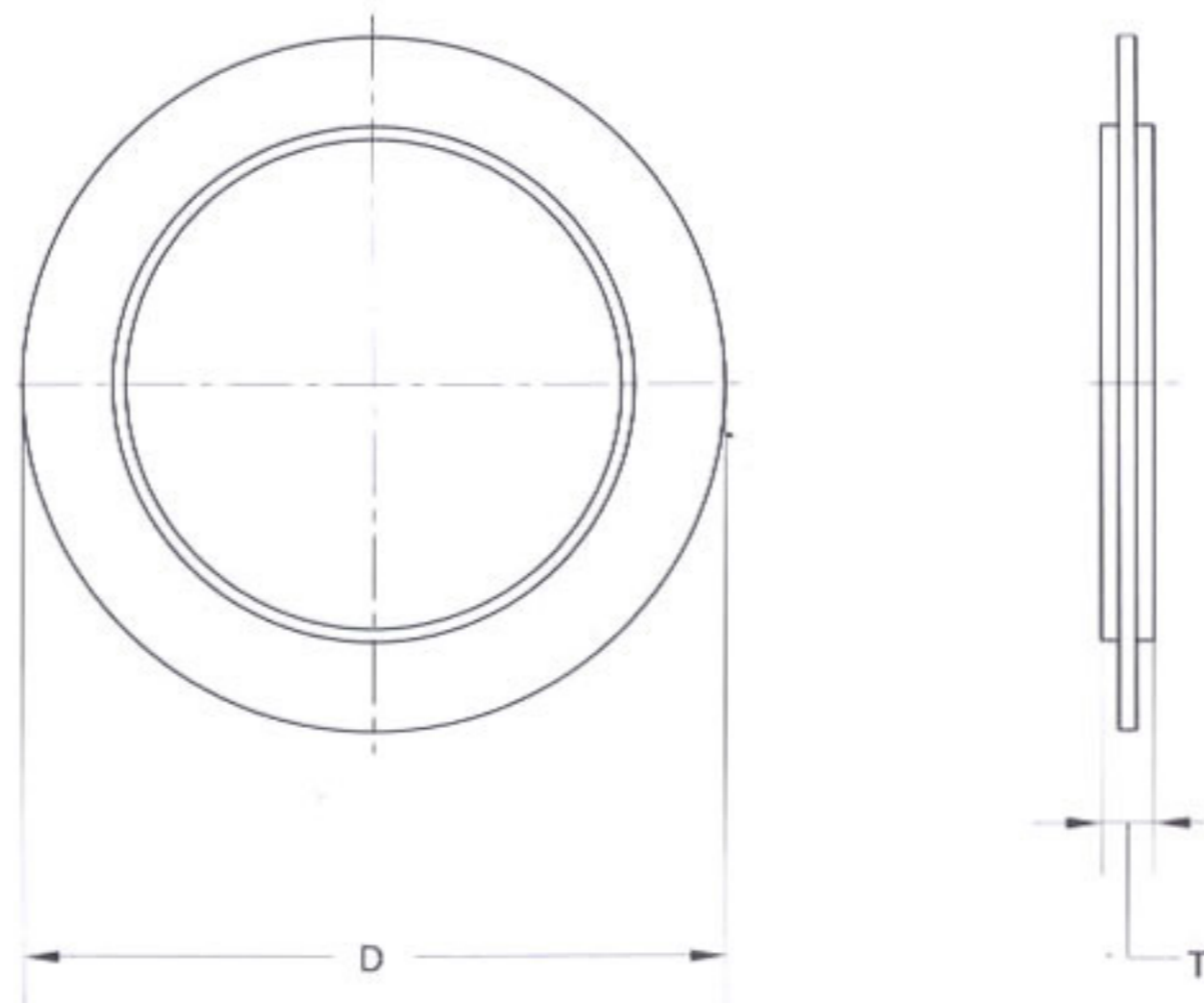
Type	Resonant Frequency (KHz)	Resonant Impedance ( $\Omega$ max)	Capacitance (nF at 100Hz)	Input Voltage (Vp-p max)	D (mm)	T (mm)
FTBS-13TY-9.0A1	9.0	200	32	30	13X13	0.39
FTBS-13TY-10.0A1	10.0	100	35	30	13X13	0.40
FTBS-14TY-9.0A1	9.0	200	35	30	14X14	0.45
FTBS-20G-2.8A1	2.8	150	85	15	20	0.18
FTBS-21TY-3.8A1	3.8	150	80	30	21	0.28
FTBS-21TY-4.0A1	4.0	150	80	30	21	0.33
FTBS-21TY-5.5A1	5.5	300	70	30	21	0.50
FTBS-23T-3.8A1	3.8	150	80	30	23	0.33
FTBS-23TY-4.2A1	4.2	150	125	30	23	0.43
FTBS-24TY-3.8A1	3.8	150	110	30	24	0.33
FTBS-24TY-3.3A1	3.3	150	110	30	24	0.33
FTBS-27T-2.8A1	2.8	150	80	30	27	0.33
FTBS-27TY-2.8A1	2.8	150	130	30	27	0.33
FTBS-29T-2.8A1	2.8	100	130	30	29	0.33
FTBS-30TY-2.3A1	2.3	150	150	30	30X32	0.35
FTBS-31T-1.6A1	1.6	150	100	30	31	0.33
FTBS-31T-2.2A1	2.2	100	160	30	31	0.35
FTBS-31T-2.5A1	2.5	100	130	30	31	0.33
FTBS-31TY-2.5A1	2.5	150	150	30	30X30.4	0.33
FTBS-32TY-2.8A1	2.8	150	125	30	32	0.50
FTBS-33T-2.0A1	2.0	150	130	30	33	0.33
FTBS-35T-3.2A1	3.2	100	130	30	35	0.35
FTBS-37T-2.0A1	2.0	100	125	30	37	0.53
FTBS-37T-2.3A1	2.3	150	150	30	37	0.50
FTBS-37.6T-1.6A1	1.6	150	150	30	37.6	0.40
FTBS-37.6T-2.8A1	2.8	150	150	30	37.6	0.35
FTBS-37.6T-3.0A1	3.0	100	130	30	37.6	0.35
FTBS-40T-3.0A1	3.0	100	130	30	40	0.33
FTBS-41T-1.3A1	1.3	150	150	30	41	0.40



FTBS-xxTY-x.xA1

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FT-35T-3.0B1	3.0	300	25	30	35	0.60
FT-35G-3.2B1	3.2	200	25	30	35	0.53
FT-35G-3.3A1	3.3	200	40	30	35	0.55
FTBD-41T-1.0B1	1.0	1000	70	30	41	0.23
FTBD-41T-2.6B1	2.6	300	70	30	41	0.23
FTBD-50T-0.8B1	0.8	200	160	30	50	0.23
FTBD-14GF-4.0A1	4.0	600	14	30	14X14	0.23
FTBD-21T-3.8C1	3.8	300	14	30	21	0.28
FT-32T-3.0C1	3.0	300	30	30	32	0.43
FT-35G-3.2C1	3.2	150	30	30	35	0.53
BZ710	9.0	1500	7(at 1KHz)	30	12.5X24	0.38
FTBD-15T-4.8A1 With Spring	4.8	1000	8	30	15	0.22
FTBD-20T-4.0A1 With Spring	4.0	500	25	30	20	0.23



FTBS-xxT-x.xA1