



TUBE RESISTORS

Tubular Resistors are available in a wide assortment of diameters and lengths to meet your application needs. Standard applications include high power loads, snubber circuit RF power amplifiers, impulse voltage generators, high voltage circuits and power supplies, X-ray equipment, and dummy loads. The ceramic composition tubes perform well where high peak power or high energy pulses are required to be handled. These non-inductive resistors are able to dissipate the energy uniformly through the entire resistor body. An Anti-track coating is available for on the OD and ID of the resistor tubes between the contact surfaces.

ZIRCONIA Material Code – 83	Thick Wall 0.750" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ZIRCONIA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		83-TD01A	0.75	0.25	1	2.5	10000	4.5	1,800	5,000
		83-TD02A	0.75	0.25	2	4.2	20,300	9.4	3,770	10,000
		83-TD03A	0.75	0.25	3	6.2	30,500	14	5,600	15,000
		83-TD04A	0.75	0.25	4	8.2	40,700	18.8	7,540	20,000
		83-TD05A	0.75	0.25	5	10.5	50,900	22	9,400	30,000
		83-TD06A	0.75	0.25	6	12.4	61,100	28.3	11,310	40,000
		83-TD07A	0.75	0.25	7	14.5	71,000	32.5	13,100	50,000
		83-TD08A	0.75	0.25	8	16.5	81,400	37.7	15,080	60,000
		83-TD09A	0.75	0.25	9	18.5	91,600	42	16,900	70,000
		83-TD10A	0.75	0.25	10	20.5	101,800	47.1	18,850	80,000
		83-TD11A	0.75	0.25	11	23	111,000	51.5	20,700	90,000
83-TD12A	0.75	0.25	12	24.6	122,200	56.5	22,620	100,000		

ZIRCONIA Material Code – 83	Thick Wall 1.000" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ZIRCONIA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		83-TE01C	1	0.50	1	2	6,000	7	2,800	5,000
		83-TE02C	1	0.50	2	3	13,500	14	5,600	10,000
		83-TE03C	1	0.50	3	4	19,800	21	8,400	15,000
		83-TE04C	1	0.50	4	6	27,000	28	11,300	20,000
		83-TE05C	1	0.50	5	7	33,000	35.0	14,100	30,000
		83-TE06C	1	0.50	6	9	40,000	42	16,900	40,000
		83-TE07C	1	0.50	7	9.5	46,000	49.0	19,700	50,000
		83-TE08C	1	0.50	8	11	54,000	56	22,600	60,000
		83-TE09C	1	0.50	9	12	59,000	63	25,400	70,000
		83-TE10C	1	0.50	10	14	67,000	70	28,200	80,000
		83-TE11C	1	0.50	11	15	72,000	77	31,000	90,000
		83-TE12C	1	0.50	12	17	81,000	84	33,900	100,000
		83-TE13C	1	0.50	13	18	86,000	91	36,700	110,000
		83-TE14C	1	0.50	14	20	95,000	99	39,500	120,000
		83-TE05C	1	0.50	15	20	99,000	106	42,300	130,000
		83-TE16C	1	0.50	16	22	108,000	113	45,200	140,000
		83-TE17C	1	0.50	17	23	112,000	119	48,000	150,000
83-TE18C	1	0.50	18	25	122,000	127	50,800	160,000		

ZIRCONIA Material Code – 83	Thick Wall 1.500" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ZIRCONIA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		83-TF01D	1.5	0.75	1	1	2,500	18	7,000	5,000
		83-TF02D	1.5	0.75	2	2	5,000	36	14,000	10,000
		83-TF03D	1.5	0.75	3	2.5	7,500	54	21,000	15,000
		83-TF04D	1.5	0.75	4	3	10,000	75	28,000	20,000
		83-TF05D	1.5	0.75	5	3.5	12,500	90	35,000	30,000
		83-TF06D	1.5	0.75	6	4	15,000	110	42,000	40,000
		83-TF07D	1.5	0.75	7	4.5	17,500	130	49,000	50,000
		83-TF08D	1.5	0.75	8	5	20,000	150	56,000	60,000
		83-TF09D	1.5	0.75	9	5.5	22,500	165	63,000	70,000
		83-TF10D	1.5	0.75	10	6	25,000	180	70,000	80,000
		83-TF11D	1.5	0.75	11	6.5	27,500	200	77,000	90,000
		83-TF12D	1.5	0.75	12	7	30,000	220	85,000	100,000
		83-TF13D	1.5	0.75	13	7.5	32,500	240	92,000	110,000
		83-TF14D	1.5	0.75	14	8	35,000	260	100,000	120,000
		83-TF15D	1.5	0.75	15	8.5	37,500	280	107,000	130,000
		83-TF16D	1.5	0.75	16	9	40,000	300	114,000	140,000
		83-TF17D	1.5	0.75	17	9.5	42,500	315	121,000	150,000
83-TF18D	1.5	0.75	18	10	45,000	330	128,000	160,000		

ZIRCONIA Material Code – 83	Thick Wall 1.625" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ZIRCONIA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		83-TG01D	1.625	0.75	1	0.5	2,100	19	7,800	5,000
		83-TG02D	1.625	0.75	2	1	4,200	39	15,600	10,000
		83-TG03D	1.625	0.75	3	1.5	6,300	58	23,000	15,000
		83-TG04D	1.625	0.75	4	2	8,500	78	31,000	20,000
		83-TG05D	1.625	0.75	5	2.5	10,600	97	39,000	30,000
		83-TG06D	1.625	0.75	6	3	12,000	117	47,000	40,000
		83-TG07D	1.625	0.75	7	3.5	14,500	137	54,500	50,000
		83-TG08D	1.625	0.75	8	4	17,000	156	62,500	60,000
		83-TG09D	1.625	0.75	9	4.5	19,000	176	70,000	70,000
		83-TG10D	1.625	0.75	10	5	21,000	195	78,000	80,000
		83-TG11D	1.625	0.75	11	5.5	23,000	215	86,000	90,000
		83-TG12D	1.625	0.75	12	6	25,000	235	94,000	100,000
		83-TG13D	1.625	0.75	13	6.5	27,000	254	101,500	110,000
		83-TG14D	1.625	0.75	14	7	29,000	274	109,000	120,000
		83-TG15D	1.625	0.75	15	7.5	31,500	293	117,000	130,000
		83-TG16D	1.625	0.75	16	8	34,000	313	125,000	140,000
		83-TG17D	1.625	0.75	17	8.5	36,000	332	133,000	150,000
83-TG18D	1.625	0.75	18	9	38,000	351	141,000	160,000		

ZIRCONIA Material Code – 83	Thin Wall 0.505” Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		ZIRCONIA	Inches	Inches	Inches	Ohms	Ohms	Watts	joules	Maximum
		83-TC01A	0.505	0.25	1	5	24,000	6	700	2,500
		83-TC02A	0.505	0.25	2	9.9	49,000	12	1,400	5,000
		83-TC03A	0.505	0.25	3	15	73,900	18	2,100	10,000
		83-TC04A	0.505	0.25	4	19.7	98,000	24	2,800	20,000
		83-TC05A	0.505	0.25	5	24.8	123,000	30	3,500	30,000
		83-TC06A	0.505	0.25	6	29.6	147,000	36	4,200	40,000
		83-TC07A	0.505	0.25	7	34.8	172,000	42	4,900	50,000
		83-TC08A	0.505	0.25	8	39.4	197,000	48	5,600	60,000
		83-TC09A	0.505	0.25	9	44.8	221,000	54	6,300	70,000
		83-TC10A	0.505	0.25	10	49.3	246,000	60	7,000	80,000
		83-TC11A	0.505	0.25	11	54.5	271,000	66	7,700	90,000
		83-TC12A	0.505	0.25	12	59.2	295,000	72	8,400	100,000

ZIRCONIA Material Code – 83	Thin Wall 0.750” Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		ZIRCONIA	Inches	Inches	Inches	Ohms	Ohms	Watts	joules	Maximum
		83-TD01C	0.75	0.5	1	3.5	16,000	6	1,000	2,500
		83-TD02C	0.75	0.5	2	6.5	32,000	12	2,000	5,000
		83-TD03C	0.75	0.5	3	10	48,000	18	3,000	10,000
		83-TD04C	0.75	0.5	4	14	64,000	24	4,000	20,000
		83-TD05C	0.75	0.5	5	17	81,000	30	5,000	30,000
		83-TD06C	0.75	0.5	6	20	97,000	36	6,000	40,000
		83-TD07C	0.75	0.5	7	23	112,000	42	7,000	50,000
		83-TD08C	0.75	0.5	8	27	130,000	48	8,000	60,000
		83-TD09C	0.75	0.5	9	30	146,000	54	9,000	70,000
		83-TD10C	0.75	0.5	10	33	162,000	60	10,000	80,000
		83-TD11C	0.75	0.5	11	36	179,000	66	11,000	90,000
		83-TD12C	0.75	0.5	12	40	195,000	72	12,000	100,000

ZIRCONIA Material Code – 83	Thin Wall 1.000” Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		ZIRCONIA	Inches	Inches	Inches	Ohms	Ohms	Watts	joules	Maximum
		83-TE01D	1	0.75	1	3	11,000	7.5	2,000	2,500
		83-TE02D	1	0.75	2	5	23,000	15	4,000	5,000
		83-TE03D	1	0.75	3	7	34,000	22	6,000	15,000
		83-TE04D	1	0.75	4	10	46,000	30	8,500	25,000
		83-TE05D	1	0.75	5	12	58,000	40	10,000	35,000
		83-TE06D	1	0.75	6	14	69,000	50	13,000	45,000
		83-TE07D	1	0.75	7	17	81,000	62	14,000	55,000
		83-TE08D	1	0.75	8	19	92,000	75	16,500	65,000
		83-TE09D	1	0.75	9	22	104,000	80	19,000	75,000
		83-TE10D	1	0.75	10	24	116,000	85	22,000	85,000
		83-TE11D	1	0.75	11	26	127,000	92	24,000	95,000
		83-TE12D	1	0.75	12	28	139,000	100	27,000	105,000
		83-TE13D	1	0.75	13	31	151,000	107	30,000	115,000
		83-TE14D	1	0.75	14	33	162,000	115	33,000	125,000
		83-TE15D	1	0.75	15	36	174,000	122	35,000	135,000
		83-TE16D	1	0.75	16	38	186,000	130	38,000	145,000
		83-TE17D	1	0.75	17	40	196,000	140	40,000	155,000
83-TE18D	1	0.75	18	42	209,000	150	43,000	165,000		

ZIRCONIA Material Code – 83	Thin Wall 1.500" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ZIRCONIA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		83-TF02E	1.5	1	2	1.7	8,100	24	10,000	5,000
		83-TF04E	1.5	1	4	3.3	16,200	48	20,000	25,000
		83-TF06E	1.5	1	6	5	24,400	70	30,000	45,000
		83-TF08E	1.5	1	8	6.6	32,500	100	46,000	65,000
		83-TF10E	1.5	1	10	8.2	40,700	120	60,000	85,000
		83-TF12E	1.5	1	12	9.8	48,800	150	75,000	95,000
		83-TF14E	1.5	1	14	11.5	57,000	175	85,000	110,000
		83-TF16E	1.5	1	16	13.1	65,100	200	100,000	130,000
83-TF18E	1.5	1	18	14.7	73,338	225	119,000	150,000		

ZIRCONIA Material Code – 83	Thin Wall 1.625" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ZIRCONIA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		83-TG02E	1.625	1	2	2	6,000	30	12,000	5,000
		83-TG04E	1.625	1	4	3	12,000	61	24,000	25,000
		83-TG06E	1.625	1	6	4	18,000	92	37,000	45,000
		83-TG08E	1.625	1	8	6	24,000	123	49,000	65,000
		83-TG10E	1.625	1	10	7	31,000	154	61,000	85,000
		83-TG12E	1.625	1	12	8	37,000	185	74,000	95,000
		83-TG14E	1.625	1	14	9	43,000	216	86,000	110,000
		83-TG16E	1.625	1	16	11	49,000	247	98,000	130,000
83-TG18E	1.625	1	18	12	55,000	278	111,000	150,000		

ALUMINA Material Code – 85	Thick Wall 0.775" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TD02A	0.775	0.26	2	10	19,000	9.4	3,770	10,000
		85-TD04A	0.775	0.26	4	20	38,000	18.8	7,540	20,000
		85-TD06A	0.775	0.26	6	30	57,000	28.3	11,310	40,000
		85-TD08A	0.775	0.26	8	40	76,000	37.7	15,080	60,000
		85-TD10A	0.775	0.26	10	50	95,000	47.1	18,850	80,000
		85-TD12A	0.775	0.26	12	60	114,000	56.5	22,620	100,000

ALUMINA Material Code – 85	Thick Wall 1.000" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TE02C	1	0.51	2	7	13,500	14	5,600	10,000
		85-TE04C	1	0.51	4	14	27,000	28	11,300	20,000
		85-TE06C	1	0.51	6	21	40,000	42	16,900	40,000
		85-TE08C	1	0.51	8	28	54,000	56	22,600	60,000
		85-TE10C	1	0.51	10	35	68,000	70	28,200	80,000
		85-TE12C	1	0.51	12	42	82,000	84	33,900	100,000
		85-TE14C	1	0.51	14	49	96,000	99	39,500	120,000
		85-TE16C	1	0.51	16	56	109,000	113	45,200	140,000
85-TE18C	1	0.51	18	62	123,000	127	50,800	160,000		

ALUMINA Material Code – 85	Thick Wall 1.500” Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TF02D	1.5	0.78	2	3	5,000	36	14,000	10,000
		85-TF04D	1.5	0.78	4	5	10,000	75	28,000	20,000
		85-TF06D	1.5	0.78	6	8	15,000	110	42,000	40,000
		85-TF08D	1.5	0.78	8	11	20,000	150	56,000	60,000
		85-TF10D	1.5	0.78	10	13	25,000	180	70,000	80,000
		85-TF12D	1.5	0.78	12	16	30,000	220	85,000	100,000
		85-TF14D	1.5	0.78	14	19	35,000	260	100,000	120,000
		85-TF16D	1.5	0.78	16	21	40,000	300	114,000	140,000
85-TF18D	1.5	0.78	18	24	46,000	330	128,000	160,000		

ALUMINA Material Code – 85	Thick Wall 1.640” Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TG02D	1.64	0.78	2	2.5	4,000	39	15,000	10,000
		85-TG04D	1.64	0.78	4	5	8,000	78	31,000	20,000
		85-TG06D	1.64	0.78	6	7	14,000	118	47,000	40,000
		85-TG08D	1.64	0.78	8	10	19,000	157	62,000	60,000
		85-TG10D	1.64	0.78	10	12	24,000	196	78,000	80,000
		85-TG12D	1.64	0.78	12	15	29,000	235	94,000	100,000
		85-TG14D	1.64	0.78	14	17	34,000	275	109,000	120,000
		85-TG16D	1.64	0.78	16	20	39,000	314	125,000	140,000
85-TG18D	1.64	0.78	18	22	44,000	353	141,000	160,000		

ALUMINA Material Code – 05	Thin Wall 0.525”	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TC02A	0.525	0.26	2	26	50,000	12	1,400	5,000
		85-TC04A	0.525	0.26	4	51	101,000	24	2,800	20,000
		85-TC06A	0.525	0.26	6	78	152,000	36	4,200	40,000
		85-TC08A	0.525	0.26	8	102	200,000	48	5,600	60,000
		85-TC10A	0.525	0.26	10	128	254,000	60	7,000	80,000
		85-TC12A	0.525	0.26	12	154	305,000	72	8,400	100,000

ALUMINA Material Code – 05	Thin Wall 0.775”	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TD02C	0.775	0.51	2	15	29,000	12	2,000	5,000
		85-TD04C	0.775	0.51	4	30	59,000	24	4,000	20,000
		85-TD06C	0.775	0.51	6	45	89,000	36	6,000	40,000
		85-TD08C	0.775	0.51	8	60	119,000	48	8,000	60,000
		85-TD10C	0.775	0.51	10	75	149,000	60	10,000	80,000
		85-TD12C	0.775	0.51	12	90	179,000	72	12,000	100,000

ALUMINA Material Code – 85	Thin Wall 1.000" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TE02D	1	0.76	2	14	25,000	15	4,000	5,000
		85-TE04D	1	0.76	4	27	51,000	30	8,500	25,000
		85-TE06D	1	0.76	6	40	77,000	50	13,000	45,000
		85-TE08D	1	0.76	8	53	103,000	75	16,500	65,000
		85-TE10D	1	0.76	10	64	129,000	85	22,000	85,000
		85-TE12D	1	0.76	12	77	155,000	100	27,000	105,000
		85-TE14D	1	0.76	14	90	181,000	115	33,000	125,000
		85-TE16D	1	0.76	16	105	207,000	130	38,000	145,000
85-TE18D	1	0.76	18	118	233,000	150	43,000	165,000		

ALUMINA Material Code – 85	Thin Wall 1.500" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TF02E	1.5	1.10	2	5	8,000	24	10,000	5,000
		85-TF04E	1.5	1.10	4	8.5	16,000	48	20,000	25,000
		85-TF06E	1.5	1.10	6	12	24,000	70	30,000	45,000
		85-TF08E	1.5	1.10	8	17	32,000	100	46,000	65,000
		85-TF10E	1.5	1.10	10	21	40,000	120	60,000	85,000
		85-TF12E	1.5	1.10	12	25	48,000	150	75,000	95,000
		85-TF14E	1.5	1.10	14	29	56,000	175	85,000	110,000
		85-TF16E	1.5	1.10	16	33	64,000	200	100,000	130,000
85-TF18E	1.5	1.10	18	37	73,000	225	119,000	150,000		

ALUMINA Material Code – 85	Thin Wall 1.640" Diameter	Part Number	Diameter	I.D.	Length*	Low	High	Power	Energy	Voltage
		<i>ALUMINA</i>	<i>Inches</i>	<i>Inches</i>	<i>Inches</i>	<i>Ohms</i>	<i>Ohms</i>	<i>Watts</i>	<i>joules</i>	<i>Maximum</i>
		85-TG02E	1.64	1.10	2	4	6,000	30	12,000	5,000
		85-TG04E	1.64	1.10	4	6.5	12,000	61	24,000	25,000
		85-TG06E	1.64	1.10	6	9.5	18,000	92	37,000	45,000
		85-TG08E	1.64	1.10	8	13	24,000	123	49,000	65,000
		85-TG10E	1.64	1.10	10	16	30,000	154	61,000	85,000
		85-TG12E	1.64	1.10	12	19	36,000	185	74,000	95,000
		85-TG14E	1.64	1.10	14	22	42,000	216	86,000	110,000
		85-TG16E	1.64	1.10	16	25	48,000	247	98,000	130,000
85-TG18E	1.64	1.10	18	28	54,000	278	111,000	150,000		

* Other length's available upon request

Part Number plus the Resistance Code is used for specifying a particular part.

- The Resistance code is defined by the first two numbers of the resistance value, followed by a single number multiplier.
- The resistance tolerance (20% is L, 10% is K, 5% is J). When the resistance is less than 10 ohms, the multiplier is not used and replaced by an "R".

For example, the following would be qualified as:

- 1.00" x 0.50" x 6.0" Ceramic Zirconia Resistor Tube at 150 ohms +/- 10%
- 1.00" x 0.75" x 16.0" Ceramic Zirconia Resistor Tube at 5,000 ohms +/- 20%

83-TE06C-151K
83-TE16D-502L

