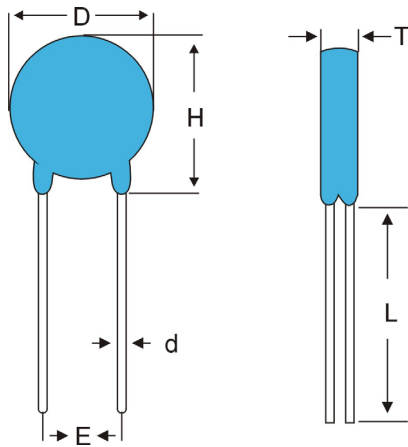


TSV



DIMENSION



L:20mm min

SIZE	D MAX	H MAX	d	E
D05	7.5	10.5	0.6	5±0.8
D07	9	12	0.6	5±0.8
		14		5.5±0.8
D09	11.5	14	0.6	5±0.8
		16		5.5±0.8
D10	14	17	0.8	7.5±0.8
		19		8±0.8
D14	17	20	0.8	7.5±0.8
		22		8±0.8
				15±1.0
D18	22	25	0.8	7.5±0.8
		27		8±0.8
				15±1.0
D20	25	28	0.8	7.5±0.8
		30		8±0.8
				15±1.0

T Thickness(max.)

Part Code	D05	D07	D09	D10	D14	D18	D20
182K	--	--	--	--	14.4	14.8	14.8
152K	--	--	--	--	12.0	12.4	12.4
112K	--	--	9.6	9.7	9.7	10.1	10.1
102K	--	--	9.0	9.1	9.1	9.5	9.5
911K	--	--	8.4	8.6	8.6	9.0	9.0
821K	--	7.9	7.9	8.1	8.1	8.5	8.5
781K	--	7.7	7.7	7.9	7.9	8.3	8.3
751K	7.3	7.5	7.5	7.8	7.8	8.2	8.2
681K	7.1	7.3	7.3	7.4	7.4	7.8	7.8
621K	7.1	7.1	7.1	7.1	7.1	7.5	7.5
561K	6.2	6.4	6.4	6.5	6.5	7.0	7.0
511K	6.2	6.4	6.4	6.5	6.5	7.0	7.0
471K	6.0	6.0	6.2	6.5	6.5	7.0	7.0
431K	5.7	5.7	6.0	6.2	6.2	6.7	6.7
391K	5.4	5.4	5.6	5.8	5.8	6.4	6.4
361K	5.2	5.2	5.5	5.7	5.7	6.2	6.2
331K	5.1	5.1	5.3	5.6	5.6	6.0	6.0
301K	5.0	5.0	5.1	5.3	5.3	5.7	5.7
271K	4.9	4.9	5.1	5.2	5.2	5.6	5.6
241K	4.6	4.6	4.9	5.0	5.0	5.4	5.4
221K	4.5	4.5	4.8	4.9	4.9	5.3	5.3
201K	4.4	4.4	4.7	4.8	4.8	5.2	5.2
181K	4.3	4.3	4.6	4.8	4.8	--	5.2
151K	4.8	4.8	5.0	5.2	5.2	--	5.6
121K	4.5	4.5	4.7	4.9	4.7	--	5.3
101K	4.3	4.3	4.5	4.7	4.9	--	5.1
820K	4.1	4.1	4.3	4.5	4.5	--	4.9
680K	4.5	5.2	5.2	5.3	5.3	--	5.8
560K	4.5	5.0	5.1	5.1	5.1	--	5.7
470K	4.5	4.9	5.0	5.0	5.0	--	5.6
390K	4.5	4.8	4.9	4.9	4.9	--	5.5
330K	4.5	4.9	4.9	5.0	5.0	--	--
270K	4.5	4.7	4.7	4.8	4.8	--	--
220K	4.5	4.6	4.6	4.7	4.7	--	--
180L	4.5	4.5	4.5	4.6	4.6	--	--

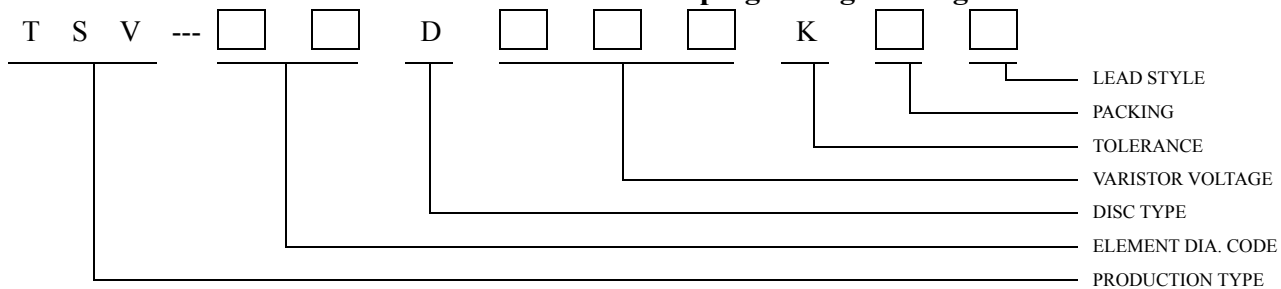
TSV

ZINC OXIDE VARISTOR 5D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV05D751K	460	651	22.4	16.0	400	200	0.1	750(675-825)	1240	30
TSV05D681K	420	560	21.0	15.0				680(621-748)	1120	35
TSV05D621K	385	505	21.0	15.0				620(558-682)	1025	40
TSV05D561K	350	460	19.6	14.0				560(504-616)	920	45
TSV05D511K	320	415	19.6	14.0				510(459-561)	845	50
TSV05D471K	300	385	18.2	13.0				470(423-517)	810	55
TSV05D431K	275	350	16.8	12.0				430(387-473)	745	60
TSV05D391K	250	320	15.4	11.0				390(351-429)	675	65
TSV05D361K	230	300	14.0	10.0				360(324-396)	620	70
TSV05D331K	210	275	14.0	10.0				330(297-363)	600	75
TSV05D301K	190	250	11.8	8.4				300(270-330)	505	85
TSV05D271K	175	225	10.2	7.3				270(243-297)	475	95
TSV05D241K	150	200	9.9	7.1				240(216-264)	415	100
TSV05D221K	140	180	8.8	6.3				220(198-242)	380	110
TSV05D201K	130	170	7.7	5.5				200(185-225)	355	125
TSV05D181K	115	150	5.6	4.0				180(162-198)	325	140
TSV05D151K	95	125	4.2	3.0				150(135-165)	265	165
TSV05D121K	75	100	4.2	3.0				120(108-132)	210	210
TSV05D101K	60	85	2.8	2.0				100(90-110)	175	250
TSV05D820K	50	65	2.8	2.0				82(74-90)	145	300
TSV05D680K	40	56	1.8	1.3	68(61-75)	#150	370			
TSV05D560K	35	45	1.5	1.1	56(50-62)	#123	450			
TSV05D470K	30	38	1.4	1.0	47(42-52)	#104	530			
TSV05D390K	25	31	1.1	0.8	39(35-43)	#86	640			
TSV05D330K	20	26	0.8	0.6	33(30-36)	#73	760			
TSV05D270K	17	22	0.7	0.5	27(24-30)	#60	930			
TSV05D220K	14	18	0.6	0.4	22(18.7-26)	#48	1150			
TSV05D180L	11	14	0.4	0.3	18(14.4-21.6)	#40	1400			

#680K—180L Max. Clamping Voltage testing current 1A.



DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	180LD05	4.5	7.5	10.5	0.6	5	20
	680KD05						
	820KD05	4.1	7.5	10.5	0.6	5	20
	471KD05						
	511KD05	6.2	7.5	10.5	0.6	5	20
	751KD05						

TSV

ZINC OXIDE VARISTOR 7D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV07D821K	510	670	67.2	48.0	1200	600	0.25	820(738-902)	1355	60
TSV07D781K	485	640	67.2	48.0				780(702-858)	1290	65
TSV07D751K	460	615	67.2	48.0				750(675-825)	1240	65
TSV07D681K	420	560	61.6	44.0				680(612-748)	1120	75
TSV07D621K	385	505	61.6	44.0				620(558-682)	1025	80
TSV07D561K	350	460	56.0	40.0				560(504-616)	920	90
TSV07D511K	320	415	56.0	40.0				510(459-561)	845	100
TSV07D471K	300	385	56.0	40.0				470(423-517)	775	105
TSV07D431K	275	350	50.4	36.0				430(387-473)	710	115
TSV07D391K	250	320	46.2	33.0				390(351-429)	650	130
TSV07D361K	230	300	42.0	30.0				360(324-396)	595	140
TSV07D331K	210	275	37.8	27.0				330(297-363)	550	150
TSV07D301K	190	250	35.0	25.0				300(270-330)	500	165
TSV07D271K	175	225	32.2	23.0				270(243-297)	455	185
TSV07D241K	150	200	28.0	20.0				240(216-264)	395	210
TSV07D221K	140	180	28.0	20.0				220(198-242)	360	230
TSV07D201K	130	170	25.2	18.0				200(185-225)	340	250
TSV07D181K	115	150	18.2	13.0				180(162-198)	300	280
TSV07D151K	95	125	16.8	12.0				150(135-165)	250	330
TSV07D121K	75	100	14.0	10.0				120(108-132)	200	420
TSV07D101K	60	85	11.6	8.3	100(90-110)	165	500			
TSV07D820K	50	65	9.8	7.0	82(74-90)	135	600			
TSV07D680K	40	56	7.3	5.2	68(61-75)	#135	740			
TSV07D560K	35	45	6.2	4.4	56(50-62)	#110	890			
TSV07D470K	30	38	5.0	3.6	47(42-52)	#93	1100			
TSV07D390K	25	31	4.2	3.0	39(35-43)	#77	1300			
TSV07D330K	20	26	3.5	2.5	33(30-36)	#65	1500			
TSV07D270K	17	22	2.8	2.0	27(24-30)	#53	1800			
TSV07D220K	14	18	2.4	1.7	22(18.7-26)	#43	2300			
TSV07D180L	11	14	2.1	1.5	18(14.4-21.6)	#36	2800			

#680K—180L Max. Clamping Voltage testing current 2.5A.

DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	180LD07	4.5	9	12	0.6	5	20
	680KD07						
	820KD07	4.1	9	12	0.6	5	20
	471KD07	6.0					
	511KD07	6.4	9	12	0.6	5	20
751KD07	7.9						

TSV

ZINC OXIDE VARISTOR 9D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV09D112K	680	895	98.0	70.0	2500	1250	0.4	1100(990-1210)	1815	90
TSV09D102K	625	825	91.0	65.0				1000(900-1100)	1650	100
TSV09D911K	550	745	84.0	60.0				910(819-1001)	1500	110
TSV09D821K	510	670	77.0	55.0				820(738-902)	1355	120
TSV09D781K	485	640	70.0	50.0				780(702-858)	1290	130
TSV09D751K	460	615	70.0	50.0				750(675-825)	1240	130
TSV09D681K	420	560	63.0	45.0				680(612-748)	1120	150
TSV09D621K	385	505	63.0	45.0				620(558-682)	1025	160
TSV09D561K	350	460	63.0	45.0				560(504-616)	920	180
TSV09D511K	320	415	63.0	45.0				510(459-561)	845	200
TSV09D471K	300	385	63.0	45.0				470(423-517)	775	210
TSV09D431K	275	350	63.0	45.0				430(387-473)	710	230
TSV09D391K	250	320	56.0	40.0				390(351-429)	650	260
TSV09D361K	230	300	49.0	35.0				360(324-396)	595	280
TSV09D331K	210	275	49.0	35.0				330(297-363)	550	300
TSV09D301K	190	250	42.0	30.0				300(270-330)	500	330
TSV09D271K	175	225	42.0	30.0				270(243-297)	455	370
TSV09D241K	150	200	35.0	25.0				240(216-264)	395	420
TSV09D221K	140	180	32.2	23.0				220(198-242)	360	450
TSV09D201K	130	170	28.0	20.0				200(185-225)	340	500
TSV09D181K	115	150	25.2	18.0	180(162-198)	300	560			
TSV09D151K	95	125	22.4	16.0	150(135-165)	250	670			
TSV09D121K	75	100	16.8	12.0	120(108-132)	200	830			
TSV09D101K	60	85	14.0	10.0	100(90-110)	165	1000			
TSV09D820K	50	65	11.2	8.0	82(74-90)	135	1200			
TSV09D680K	40	56	9.1	6.5	68(61-75)	#135	1500			
TSV09D560K	35	45	7.7	5.5	56(50-62)	#110	1800			
TSV09D470K	30	38	6.3	4.5	47(42-52)	#93	2100			
TSV09D390K	25	31	4.9	3.5	39(35-43)	#77	2600			
TSV09D330K	20	26	4.2	3.0	33(30-36)	#65	3000			
TSV09D270K	17	22	3.5	2.5	27(24-30)	#53	3700			
TSV09D220K	14	18	2.8	2.0	22(18.7-26)	#43	4500			
TSV09D180L	11	14	2.1	1.5	18(14.4-21.6)	#36	5600			

#680K—180L Max. Clamping Voltage testing current 5A.

DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	180LD09	4.6	11.5	14	0.6	5	20
	680KD09	5.2					
	820KD09	4.3	11.5	14	0.6	5	20
	471KD09	6.2					
	511KD09	6.4	11.5	14	0.6	5.5	20
	112KD09	9.6					

TSV

ZINC OXIDE VARISTOR 10D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV10D112K	680	895	133.0	95.0	2500	1250	0.4	1120(1008-1232)	1815	90
TSV10D102K	625	825	133.0	95.0				1000(900-1100)	1650	100
TSV10D911K	550	745	133.0	95.0				910(819-1001)	1500	110
TSV10D821K	510	670	124.6	89.0				820(738-902)	1355	120
TSV10D781K	485	640	124.6	89.0				780(702-858)	1290	130
TSV10D751K	460	615	124.6	89.0				750(675-825)	1240	130
TSV10D681K	420	560	102.2	73.0				680(612-748)	1120	150
TSV10D621K	385	505	102.2	73.0				620(558-682)	1025	160
TSV10D561K	350	460	99.4	71.0				560(504-616)	920	180
TSV10D511K	320	415	99.4	71.0				510(459-561)	845	200
TSV10D471K	300	385	99.4	71.0				470(423-517)	775	210
TSV10D431K	275	350	88.2	63.0				430(387-473)	710	230
TSV10D391K	250	320	81.2	58.0				390(351-429)	650	260
TSV10D361K	230	300	74.2	53.0				360(324-396)	595	280
TSV10D331K	210	275	68.6	49.0				330(297-363)	550	300
TSV10D301K	190	250	63.0	45.0				300(270-330)	500	330
TSV10D271K	175	225	57.4	41.0				270(243-297)	455	370
TSV10D241K	150	200	50.4	36.0				240(216-264)	395	420
TSV10D221K	140	180	46.2	33.0				220(198-242)	360	450
TSV10D201K	130	170	42.0	30.0				200(185-225)	340	500
TSV10D181K	115	150	30.8	22.0	180(162-198)	300	560			
TSV10D151K	95	125	25.2	18.0	150(135-165)	250	670			
TSV10D121K	75	100	21.0	15.0	120(108-132)	200	830			
TSV10D101K	60	85	18.2	13.0	100(90-110)	165	1000			
TSV10D820K	50	65	16.8	12.0	82(74-90)	135	1200			
TSV10D680K	40	56	15.4	11.0	68(61-75)	#135	1500			
TSV10D560K	35	45	12.9	9.2	56(50-62)	#110	1800			
TSV10D470K	30	38	10.8	7.7	47(42-52)	#93	2100			
TSV10D390K	25	31	9.1	6.5	39(35-43)	#77	2600			
TSV10D330K	20	26	7.4	5.3	33(30-36)	#65	3000			
TSV10D270K	17	22	6.0	4.3	27(24-30)	#53	3700			
TSV10D220K	14	18	4.5	3.2	22(18.7-26)	#43	4500			
TSV10D180L	11	14	2.8	2.0	18(14.4-21.6)	#36	5600			

#680K—180L Max. Clamping Voltage testing current 5A.

DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	180LD10	4.6	14	17	0.8	7.5	20
	680KD10	5.3	14	17	0.8	7.5	20
	820KD10	4.5	14	17	0.8	7.5	20
	471KD10	6.5	14	17	0.8	7.5	20
	511KD10	6.5	14	19	0.8	7.5	20
	112KD10	9.7	14	19	0.8	7.5	20

TSV

ZINC OXIDE VARISTOR 14D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV14D182K	1000	1465	336.0	240.0	4500	2500	0.6	1800	2970	110
TSV14D152K	750	1300	266.0	190.0				1500	2475	130
TSV14D112K	680	895	217.0	155.0				1100	1815	180
TSV14D102K	625	825	217.0	155.0				1000	1650	200
TSV14D911K	550	745	217.0	155.0				910	1500	220
TSV14D821K	510	670	203.0	145.0				820	1355	240
TSV14D781K	485	640	203.0	145.0				780	1290	260
TSV14D751K	460	615	203.0	145.0				750	1240	270
TSV14D681K	420	560	168.0	120.0				680	1120	290
TSV14D621K	385	505	168.0	120.0				620	1025	320
TSV14D561K	350	460	149.8	107.0				560	920	360
TSV14D511K	320	415	149.8	107.0				510	845	390
TSV14D471K	300	385	149.8	107.0				470	775	430
TSV14D431K	275	350	145.6	104.0				430	710	460
TSV14D391K	250	320	134.4	96.0				390	650	510
TSV14D361K	230	300	123.2	88.0				360	595	560
TSV14D331K	210	275	112.0	80.0				330	550	610
TSV14D301K	190	250	103.6	74.0				300	500	670
TSV14D271K	175	225	93.8	67.0				270	455	740
TSV14D241K	150	200	82.6	59.0				240	395	830
TSV14D221K	140	180	79.8	57.0				220	360	900
TSV14D201K	130	170	79.8	57.0				200	340	1000
TSV14D181K	115	150	58.8	42.0				180	300	1100
TSV14D151K	95	125	51.8	37.0				150	250	1300
TSV14D121K	75	100	40.6	29.0				120	200	1700
TSV14D101K	60	85	33.6	24.0				100	165	2000
TSV14D820K	50	65	29.4	21.0	82	135	2400			
TSV14D680K	40	56	23.8	17.0	68	#135	2900			
TSV14D560K	35	45	19.6	14.0	56	#110	3600			
TSV14D470K	30	38	16.8	12.0	47	#93	4300			
TSV14D390K	25	31	13.2	9.4	39	#77	5100			
TSV14D330K	20	26	12.3	8.8	33	#65	6100			
TSV14D270K	17	22	9.7	6.9	27	#53	7400			
TSV14D220K	14	18	7.6	5.4	22	#43	9100			
TSV14D180L	11	14	6.6	4.7	18	#36	11100			

#680K—180L Max. Clamping Voltage testing current 5A.

DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	180LD14	4.6	17	20	0.8	7.5	20
	680KD14	5.3	17	20	0.8	7.5	20
	820KD14	4.5	17	20	0.8	7.5	20
	471KD14	6.5	17	20	0.8	7.5	20
	511KD14	6.5	17	20	0.8	7.5	20
	152KD14	9.7	17	20	0.8	7.5	20
	182KD14	14.4	17	22	0.8	7.5	20

TSV

ZINC OXIDE VARISTOR 18D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV18D182K	1000	1465	392.0	280.0	5500	3000	0.8	1800(1620-1980)	2970	180
TSV18D152K	750	1300	308.0	220.0				1500(1350-1650)	2475	200
TSV18D112K	680	895	252.0	180.0				1100(990-1210)	1815	290
TSV18D102K	625	825	252.0	180.0				1000(900-1100)	1650	320
TSV18D911K	550	745	252.0	180.0				910(819-1001)	1500	350
TSV18D821K	510	670	238.0	170.0				820(738-902)	1355	400
TSV18D781K	485	640	238.0	170.0				780(702-858)	1290	410
TSV18D751K	460	615	238.0	170.0				750(675-825)	1240	420
TSV18D681K	420	560	203.0	145.0				680(612-748)	1120	480
TSV18D621K	385	505	203.0	145.0				620(558-682)	1025	520
TSV18D561K	350	460	182.0	130.0				560(504-616)	920	570
TSV18D511K	320	415	182.0	130.0				510(459-561)	845	620
TSV18D471K	300	385	182.0	130.0				470(423-517)	775	680
TSV18D431K	275	350	175.0	125.0				430(387-473)	710	740
TSV18D391K	250	320	161.0	115.0				390(351-429)	650	800
TSV18D361K	230	300	151.2	108.0				360(324-396)	595	880
TSV18D331K	210	275	128.8	92.0				330(297-363)	550	960
TSV18D301K	190	250	121.8	87.0				300(270-330)	500	1040
TSV18D271K	175	225	113.4	81.0				270(243-297)	455	1200
TSV18D241K	150	200	100.8	72.0				240(216-264)	395	1320
TSV18D221K	140	180	95.2	68.0	220(198-242)	360	1440			
TSV18D201K	130	170	91.0	65.0	200(185-225)	340	1600			

DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	201LD18	5.2	22	25	0.8	7.5	20
	471KD18	7.0					
	511KD18	7.0	27	8.0		20	
	152KD18	10.1					
	182KD18	14.8	22	27	1.0	15(±1.0)	20

TSV

ZINC OXIDE VARISTOR 20D

SPECIFICATION

Part No	Maximum allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V5A (V)	Typical Capacitance (reference) @1KHz (pF)
	ACrms (V)	DC (V)	(10/1000us) (J)	(2ms) (J)	1 time	2 times				
					(A)					
TSV20D182K	1000	1465	560.0	400.0	6500	4000	1.0	1800(1620-1980)	2970	220
TSV20D152K	750	1300	420.0	300.0				1500(1350-1650)	2475	260
TSV20D112K	680	895	280.0	200.0				1100(990-1210)	1815	360
TSV20D102K	625	825	280.0	200.0				1000(819-1001)	1650	400
TSV20D911K	550	745	280.0	200.0				910(819-1001)	1500	440
TSV20D821K	510	670	266.0	190.0				820(738-902)	1355	500
TSV20D781K	485	640	266.0	190.0				780(702-858)	1290	510
TSV20D751K	460	615	266.0	190.0				750(675-825)	1240	530
TSV20D681K	420	560	224.0	160.0				680(612-748)	1120	600
TSV20D621K	385	505	224.0	160.0				620(558-682)	1025	650
TSV20D561K	350	460	210.0	150.0				560(504-616)	920	710
TSV20D511K	320	415	210.0	150.0				510(459-561)	845	780
TSV20D471K	300	385	210.0	150.0				470(423-517)	775	850
TSV20D431K	275	350	196.0	140.0				430(387-473)	710	930
TSV20D391K	250	320	182.0	130.0				390(351-429)	650	100
TSV20D361K	235	300	168.0	120.0				360(324-396)	595	1100
TSV20D331K	210	275	140.0	100.0				330(297-363)	550	1200
TSV20D301K	190	250	133.0	95.0				300(270-330)	500	1300
TSV20D271K	175	225	126.0	90.0				270(243-297)	455	1500
TSV20D241K	150	200	112.0	80.0				240(216-264)	395	1650
TSV20D221K	140	180	105.0	75.0				220(198-242)	360	1800
TSV20D201K	130	170	98.0	70.0				200(185-225)	340	2000
TSV20D181K	115	150	84.0	60.0				180(162-198)	300	2200
TSV20D151K	95	125	70.0	50.0				150(135-165)	250	2700
TSV20D121K	75	100	56.0	40.0				120(108-132)	200	3300
TSV20D101K	60	85	42.0	30.0				100(90-110)	165	4000
TSV20D820K	50	65	37.8	27.0	82(74-90)	135	4900			
TSV20D680K	40	56	23.8	17.0	68(61-75)	#135	5800			
TSV20D560K	35	45	19.6	14.0	56(50-62)	#110	6500			
TSV20D470K	30	38	16.8	12.0	47(42-52)	#93	7400			
TSV20D390K	25	31	13.2	9.4	39(35-43)	#77	8500			
TSV20D330K	20	26	11.2	7.9	33(30-36)	#65	10000			

#680K—330K Max. Clamping Voltage testing current 25A.

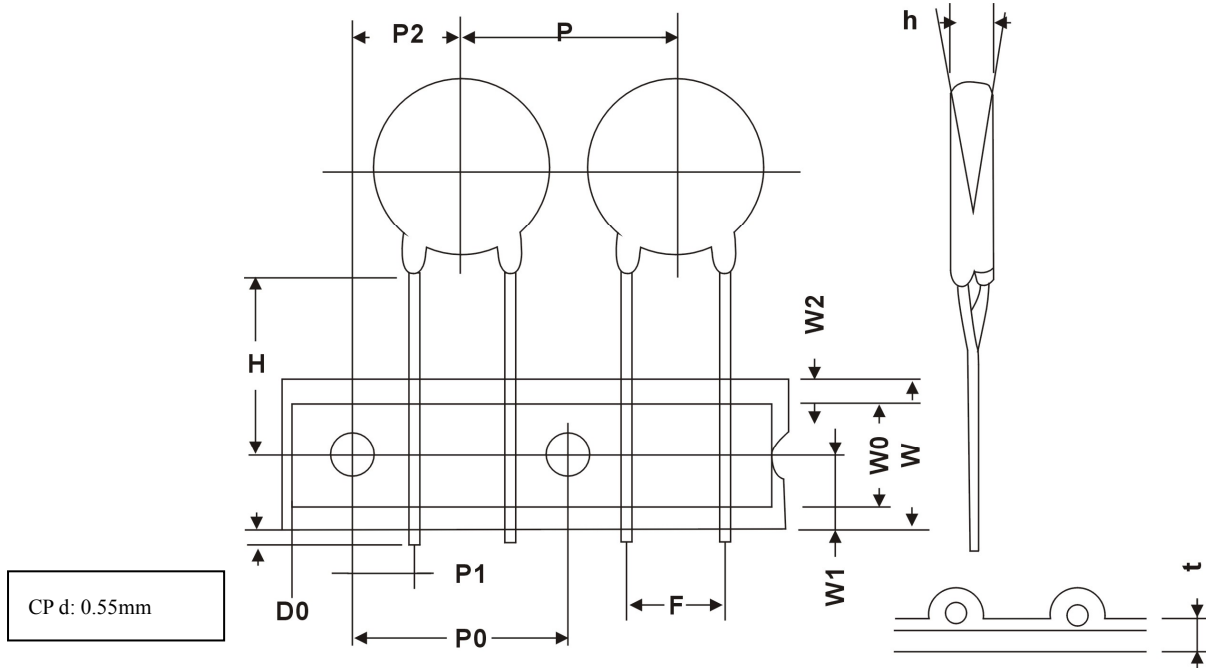
DIMENSIONS

DIMENSIONS(mm)	Model No.	T MAX.	D MAX.	H MAX.	d.	E±0.8	L MIN.
	330KD20	5.5	25	28	0.8	7.5	20
	680KD20	5.8			1.0		
	820KD20	4.9	25	28	0.8	7.5	
	471KD20	7.0			1.0	10	
	511KD20	7.0	25	30	0.8	8	
	152KD20	10.1			1.0	10	
182KD20	14.8	25	30	1.0	15(±1.0)		

TSV

ZINC OXIDE VARISTOR

TAPING SPECIFICATION



Straight Leads (D05, D07, D09, D10)

Symbol	Parameter	Series			
		05D	07D	09D	10D
P	Pitch Component	12.7±1.0	12.7±1.0	12.7±1.0	12.7±1.0
P0	Feed Hold	12.7±0.3	12.7±0.3	12.7±0.3	12.7±0.3
P1	Feed Hold Center to Lead	3.85±0.7	3.85±0.7	3.85±0.7	3.75±0.7
P2	Hold Center to Component Center	6.35±1.3	6.35±1.3	6.35±1.3	7.5±1.3
F	Lead to Lead Distance	5.0±0.5	5.0±0.5	5.0±0.5	7.5±0.5
Δh	Component Alignment	0±2	0±2	0±2	0±2
W	Tape Width	18.0±1.0	18.0±1.0	18.0±1.0	18.0±1.0
W0	Hold Down Tape Width	10±0.5	10±0.5	10±0.5	10±0.5
W1	Hold Position	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5
W2	Hold Down Tape Position	3.0max	3.0max	3.0max	3.0max
H	Height from Tape Center to Component	20.0±2.0	20.0±2.0	20.0±2.0	20.0±2.0
l	Length of Clipped Lead	1.0max	1.0max	1.0max	1.0max
D0	Feed Hold Diameter	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2
t	Total Tape Thickness	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3

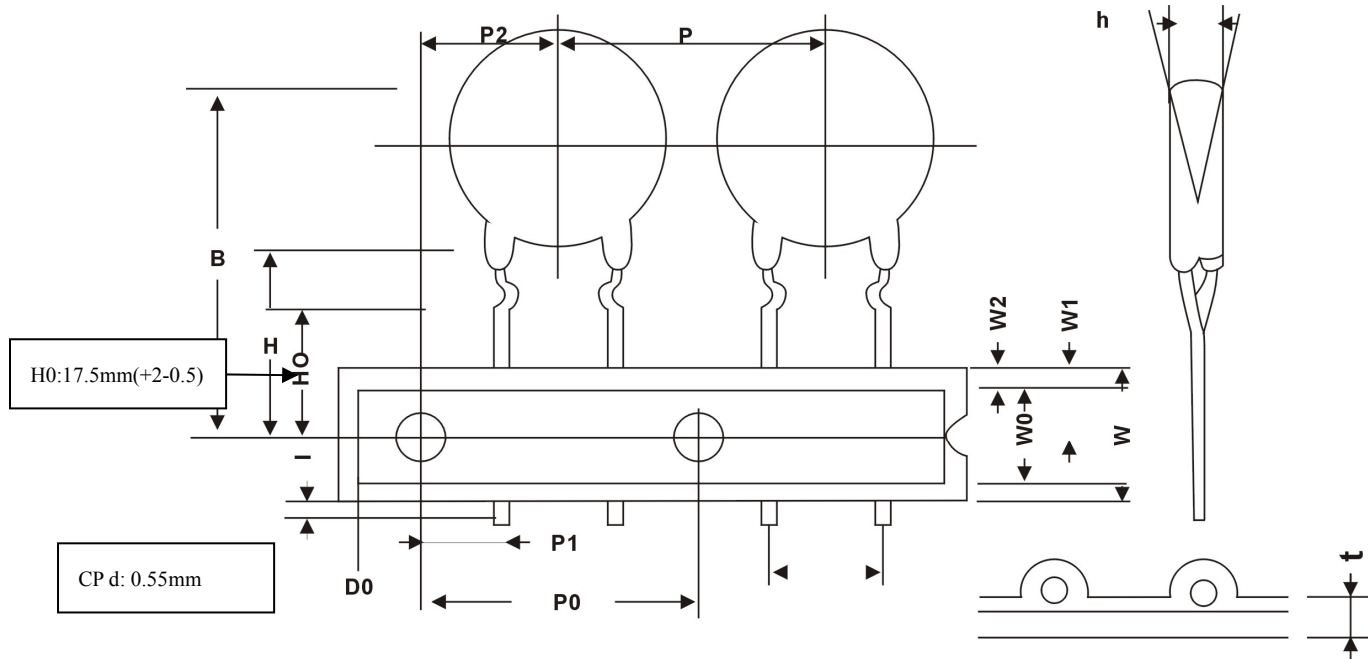
Unit : mm

TSV

ZINC OXIDE VARISTOR

TAPING SPECIFICATION

Crimped Leads (D05, D07, D09, D10)



Symbol	Parameter	Series			
		05D	07D	09D	10D
P	Pitch Component	12.7±1.0	12.7±1.0	12.7±1.0	12.7±1.0
P0	Feed Hold	12.7±0.3	12.7±0.3	12.7±0.3	12.7±0.3
P1	Feed Hold Center to Lead	3.85±0.7	3.85±0.7	3.85±0.7	3.75±0.7
P2	Hold Center to Component Center	6.35±1.3	6.35±1.3	6.35±1.3	7.5±1.3
F	Lead to Lead Distance	5.0±0.5	5.0±0.5	5.0±0.5	7.5±0.5
Δh	Component Alignment	0±2	0±2	0±2	0±2
W	Tape Width	18.0±1.0	18.0±1.0	18.0±1.0	18.0±1.0
W0	Hold Down Tape Width	10±0.5	10±0.5	10±0.5	10±0.5
W1	Hold Position	9.0±0.5	9.0±0.5	9.0±0.5	9.0±0.5
W2	Hold Down Tape Position	3.0max	3.0max	3.0max	3.0max
H	Height from Tape Center to Component	20.0±2.0	20.0±2.0	20.0±2.0	20.0±2.0
l	Length of Clipped Lead	1.0max	1.0max	1.0max	1.0max
D0	Feed Hold Diameter	4.0±0.2	4.0±0.2	4.0±0.2	4.0±0.2
t	Total Tape Thickness	0.6±0.3	0.6±0.3	0.6±0.3	0.6±0.3

Unit : mm

TSV

ZINC OXIDE VARISTOR

APPROVAL

	CQC	UL	UL/CUL	VDE
5D	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K	151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K	180K,220K,270K,330K,390K,820K,101K,121K,561K,	ND
7D	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,821K	151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K	180K,220K,270K,330K,390K,470K,560K,680K,820K,101K,121K,511K,561K,621K,681K,	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K
10D	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,821K,911K,102K,112K	181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,911K,102K,112K	180K,220K,270K,330K,390K,470K,560K,680K,820K,101K,121K,151K,561K,621K,681K,751K,781K,821K	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,821K,911K,102K
14D	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,821K,911K,102K,112K	ND	180K,220K,270K,330K,390K,470K,560K,680K,820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,781K,821K,911K,102K,112K,182K	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,821K,911K,102K
20D	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,821K,911K,102K,112K	ND	180K,220K,270K,330K,390K,470K,560K,680K,820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,781K,821K,911K,102K,112K,182K	820K,101K,121K,151K,181K,201K,221K,241K,271K,301K,331K,361K,391K,431K,471K,511K,561K,621K,681K,751K,821K,911K,102K

Note: Specification are subject to change without notice. For more detail and update, please visit our website.