

ZINC OXIDE VARISTOR



MULTILAYER CHIP VARISTOR



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ZINC OXIDE VARISTOR

TSV

FEATURES

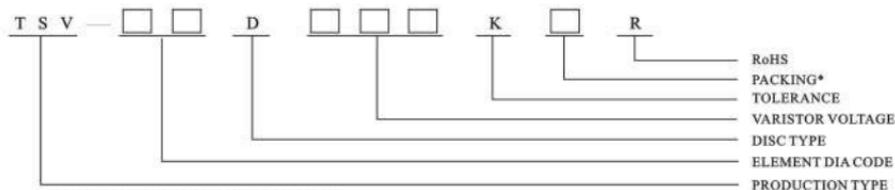
- ▶ Body Size 5.0mm ~ 20mm
- ▶ Widely Voltage Range
- ▶ Fast Response Time and Low Leakage Current
- ▶ Operating Temperature Range : -40°C ~ +85°C
- ▶ Large Withstanding Surge Current Capability

APPLICATIONS

- ▶ Power Supply
- ▶ Home Appliance
- ▶ Industrial Equipment
- ▶ Telecommunication or Data System
- ▶ Surge Protection in Consumer Electronics



HOW TO ORDER



Approval No.	cUL(Canada)	UL(USA)	VDE(Germany)
	E360986	E360986	40036445
5D	180K, 220K, 270K, 330K, 390K, 820K, 101K, 121K, 561K, 391K, 431K, 471K	180K, 220K, 270K, 330K, 390K, 820K, 101K, 121K, 561K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 821K, 911K, 102K, 112K, 122K	N/A
7D	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	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	820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K
10D	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, 821K, 911K, 102K, 112K	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, 821K, 911K, 102K, 112K	820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 821K, 911K, 102K
14D	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, 821K, 911K, 102K, 112K, 122K	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, 821K, 911K, 102K, 112K, 122K	820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 821K, 911K, 102K
20D	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, 821K, 911K, 102K, 112K, 122K	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, 821K, 911K, 102K, 112K, 122K	820K, 101K, 121K, 151K, 181K, 201K, 221K, 241K, 271K, 301K, 331K, 361K, 391K, 431K, 471K, 511K, 561K, 621K, 681K, 751K, 821K, 911K, 102K

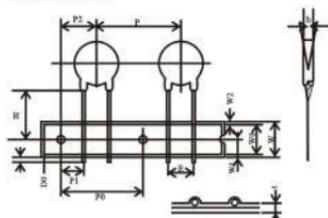
Note: Specification are subject to change without notice. For more detail and update, please visit our website

ZINC OXIDE VARISTOR

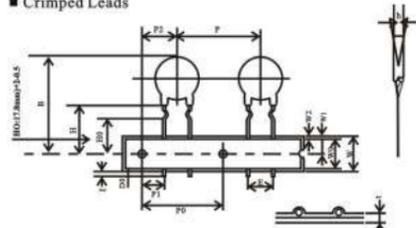
TSV

TAPING SPECIFICATIONS

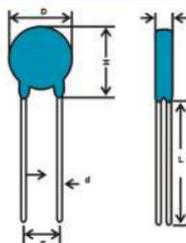
■ Straight Leads



■ Crimped Leads



DIMENSIONS



L: 16mm min.

SIZE	D MAX	H MAX	D \pm 0.05	E
5D	8	11	0.5	5 \pm 0.8
7D	10	14	0.5	5 \pm 0.8
10D	14	19	0.7	7.5 \pm 0.8
14D	18	22	0.7	7.5 \pm 0.8
20D	26	30	1.0	10 \pm 1.0

T Thickness(Max.)

Part Code	5D	7D	10D	14D	20D
182K	--	--	--	14.4	14.8
152K	--	--	--	12.0	12.4
112K	--	--	9.7	9.7	10.1
102K	--	--	9.1	9.1	9.5
911K	--	--	8.6	8.6	9.0
821K	--	--	8.1	8.1	8.5
781K	--	--	7.9	7.9	8.3
751K	--	--	7.8	7.8	8.2
681K	--	7.3	7.4	7.4	7.8
621K	--	7.1	7.1	7.1	7.5
561K	--	6.4	6.5	6.5	7.0
511K	--	6.4	6.5	6.5	7.0
471K	6.0	6.0	6.5	6.5	7.0
431K	5.7	5.7	6.2	6.2	6.7
391K	5.4	5.4	5.8	5.8	6.4
361K	5.2	5.2	5.7	5.7	6.2
331K	5.1	5.1	5.6	5.6	6.0
301K	5.0	5.0	5.3	5.3	5.7
271K	4.9	4.9	5.2	5.2	5.6
241K	4.6	4.6	5.0	5.0	5.4
221K	4.5	4.5	4.9	4.9	5.3
201K	4.4	4.4	4.8	4.8	5.2
181K	4.3	4.3	4.8	4.8	5.2
151K	4.8	4.8	5.2	5.2	5.6
121K	4.5	4.5	4.9	4.7	5.3
101K	4.3	4.3	4.7	4.9	5.1
820K	4.1	4.1	4.5	4.5	4.9
680K	4.5	5.2	5.3	5.3	5.8
560K	4.5	5.0	5.1	5.1	5.7
470K	4.5	4.9	5.0	5.0	5.6
390K	4.5	4.8	4.9	4.9	5.5
330K	4.5	4.9	5.0	5.0	--
270K	4.5	4.7	4.8	4.8	--
220K	4.5	4.6	4.7	4.7	--
180L	4.5	4.5	4.6	4.6	--

MULTILAYER CHIP VARISTOR

TSVC

FEATURES

- ▶ Fast Response Time
- ▶ SMD Type, Small Size
- ▶ Low Working Voltage
- ▶ Low Leakage Current and Inductance
- ▶ Bi-directional
- ▶ Excellent Solderability

APPLICATIONS

TSVC is widely used in Notebook, PDA, Cellular Phone, MP3, Main board, LCM, HUB, Microphone, Wireless LAN, VOIP, Auto electronic and so on.



DIMENSIONS

Size	Length(L)	Width(W)
0603	0.06	0.03
0805	0.08	0.05
1206	0.12	0.06
1210	0.12	0.10
1812	0.18	0.12
2220	0.22	0.20

(Unit:inches)

HOW TO ORDER

1	TSVC	Series Name	5	P	Termination S=Ag P=Ag/Ni/Sn
2	0603	Size Code Inches	6	C	Nominal Cap A:0~5pF, B:5.1~10pF, C:10.1~50pF D:50.1~100pF, E:100.1~500pF, F:500.1~1000pF, G:1000.1~1500pF, H:1500.1~2000pF J:1.5~5pF, K:8~11pF, X:no capacitance
3	G	Series Code E:ESD, G:Normal, H:Highpower	7	T	Package Style:T=tape C=bulk
4	140	VDC 140~14V, 5R6~5.6V			

Part No.	Working Voltage	Varistor Voltage V1mA(V)		Clamping Voltage Vc(V)	Peak Current IP(A)	Transient Energy ET(J)
	VDC(V)	Min.	Max.	8/20Us	8/20Us	10/1000us
TSVC0603E240PJT	24.0	100.0	185.0	240.0	1	0.01
TSVC0603E5R0PKT	5.0	12.0	20.0	38.0	1	0.01
TSVC0603G5R6PXT	5.6	6.7	10.0	15.5	1	0.01
TSVC0805G5R6PXT	5.6	6.7	10.0	15.5	40	0.1
TSVC0805G9R0PXT	9.0	10.8	16.2	25.0	40	0.1
TSVC0805G1180PXT	18.0	21.6	32.4	54.0	40	0.1
TSVC0805G220PXT	22.0	26.4	39.6	65.0	40	0.1
TSVC0805G300PXT	30.0	36.0	54.0	85.0	40	0.1
TSVC1206G5R6PXT	5.6	6.4	10.1	15.6	100	1.0
TSVC1206G9R0PXT	9.0	10.8	16.2	25.0	100	1.0
TSVC1206G1180PXT	18.0	21.6	32.4	54.0	100	1.0
TSVC1206G220PXT	22.0	26.4	39.6	65.0	100	1.0
TSVC1206G300PXT	30.0	36.0	54.0	85.0	100	1.0
TSVC1206G560PXT	56.0	67.2	100.8	150.0	100	1.0
TSVC1210G5R6PXT	5.6	6.4	10.1	15.6	250	1.5
TSVC1210G9R0PXT	9.0	10.8	16.2	25.0	250	1.5
TSVC1210G1180PXT	18.0	21.6	32.4	54.0	250	1.5
TSVC1210G220PXT	22.0	26.4	39.6	65.0	250	1.5
TSVC1210G300PXT	30.0	36.0	54.0	85.0	250	1.5
TSVC1210G450PXT	45.0	54.0	81.0	125.0	250	1.5
TSVC1210G560PXT	56.0	67.2	100.8	150.0	250	1.5
TSVC1812H1180PXT	18.0	21.6	32.4	54.0	800	2.3
TSVC1812H240PXT	24.0	28.8	43.2	67.0	800	2.7
TSVC1812H300PXT	30.0	36.0	54.0	86.0	800	2.7
TSVC1812H480PXT	48.0	57.0	86.0	132.0	800	2.7
TSVC220H1180PXT	18.0	21.6	32.4	54.0	1200	5.8
TSVC220H220PXT	22.0	26.4	39.6	65.0	1200	7.8
TSVC220H270PXT	27.0	32.4	48.6	75.0	1200	7.8
TSVC220H300PXT	30.0	36.0	54.0	85.0	1200	7.8