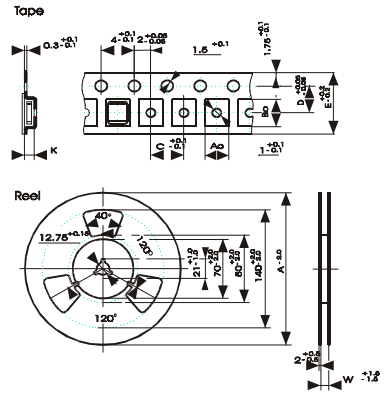
Tape & Reel Specification – PV Series

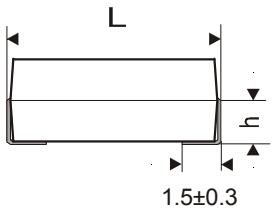
Tape / Reel Dimensions

Conforms to IEC Publication 286-2

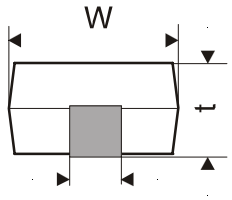


	CASE SIZE	
PARAMETERS	3225	4032
	mm	mm
A_0	8.9	8.6
B_0	8.7	10.6
C	12.0	12.0
D	7.5	7.5
E	16.4	16.4
K_{MAX}	4.7	4.7
W	16.4	16.4
A	330	330

Case Size Dimensions



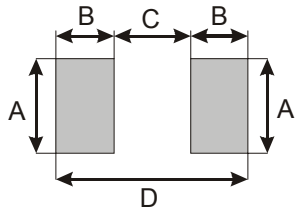
1.5±0.3



3.0±0.3

PV Series	Voltage Range	Length	Width	Height	Thickness
		L ± 0.5	W ± 0.4	h ± 0.3	t ± 0.3
Size	V_{RMS}	mm	mm	mm	mm
3225	11 to 175	8.0	6.3	1.7	3.2
3225	230 to 300	8.3	6.3	2.3	4.5
4032	11 to 175	10.2	8.0	1.7	3.2
4032	230 to 300	10.2	8.0	2.3	4.5

Recommended Soldering Pad Dimensions

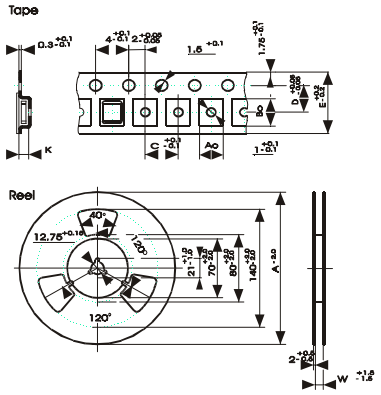


PV Series	Voltage Range				
		A	B	C	D
Size	V_{RMS}	mm	mm	mm	mm
3225	11 to 175	3.5	2.8	4.5	10.1
3225	230 to 300	3.5	2.8	4.5	10.0
4032	11 to 175	3.5	2.8	6.5	12.1
4032	230 to 300	3.5	2.8	6.5	12.1

Tape & Reel Specification – DV Series

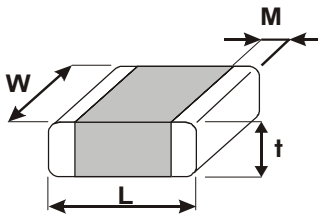
Tape / Reel Dimensions

Conforms to IEC Publication 286-2



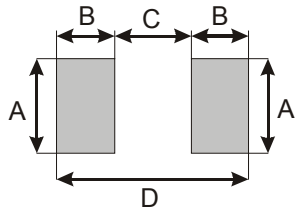
	CASE SIZE	
PARAMETERS	3225	4032
	mm	mm
A_0	8.9	8.6
B_0	8.7	10.6
C	12.0	12.0
D	7.5	7.5
E	16.4	16.4
K_{MAX}	4.7	4.7
W	16.4	16.4
A	330	330

Case Size Dimensions



DV Series	Voltage Range	Length	Width	Land Length	Thickness
		L ± 0.5	W ± 0.4	M ± 0.25	t_{MAX}
Size	V_{RMS}	mm	mm	mm	mm
3225	11 to 300	8.0	6.3	0.5	2.0
4032	11 to 300	10.0	8.0	0.1	2.0

Recommended Soldering Pad Dimensions



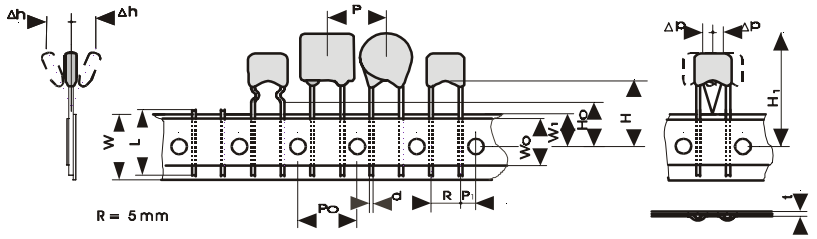
DV Series	Voltage Range				
		A	B	C	D
Size	V_{RMS}	mm	mm	mm	mm
3225	11 to 300	6.8	1.5	6.5	9.5
4032	11 to 300	6.8	1.5	8.7	11.7

Single Layer Technology **Varistor Plus**

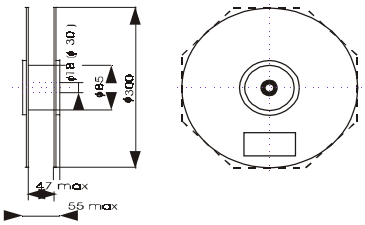
Tape & Reel Specification – CV, CV+, SV Series

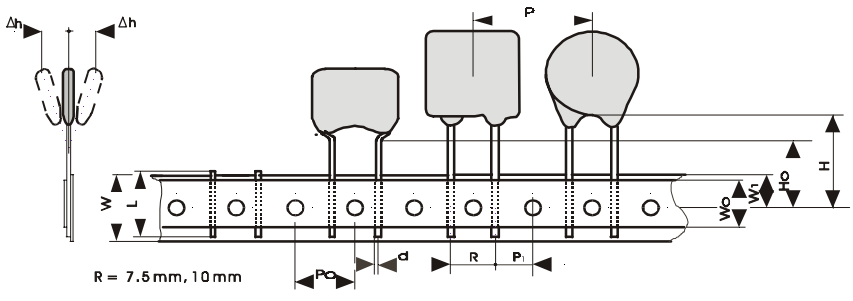
Ammo Pack Dimensions

Conforms to IEC Publication 286-2

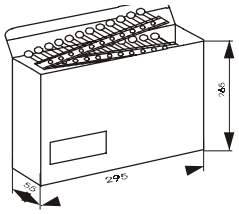


Reel





Ammo Pack

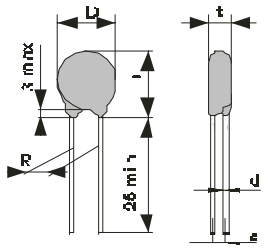
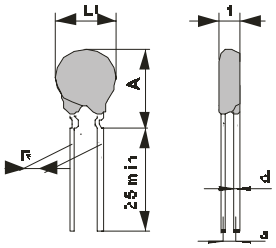
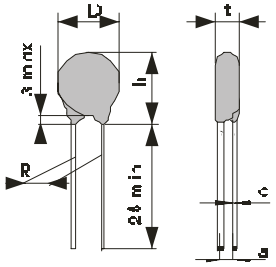
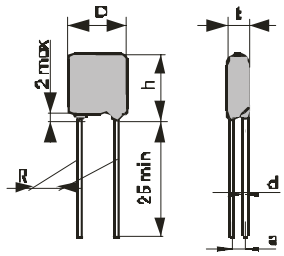
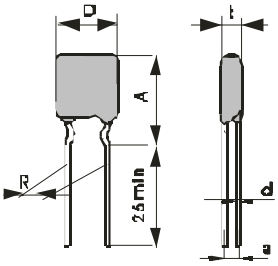
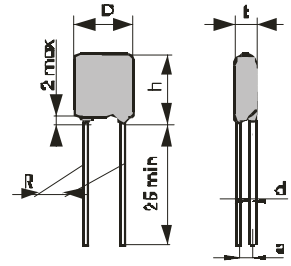


Symbol	Parameters	Series	Model Size				
		CV					
		CV+	05	07	10	14	20
		SV					
W	Tape Width		18 +1.0/-0.5 (0.71 +0.04/-0.02)	18 +1.0/-0.5 (0.71 +0.04/-0.02)	18 +1.0/-0.5 (0.71 +0.04/-0.02)	18 +1.0/-0.5 (0.71 +0.04/-0.02)	18 +1.0/-0.5 (0.71 +0.04/-0.02)
W_0	Hold Down Tape Width		12 Min. (0.47 Min.)	12 Min. (0.47 Min.)	12 Min. (0.47 Min.)	12 Min. (0.47 Min.)	12 Min. (0.47 Min.)
W_1	Hold position		9 +0.75/0.5 (0.35 +0.03/0.02)	9 +0.75/0.5 (0.35 +0.03/0.02)	9 +0.75/0.5 (0.35 +0.03/0.02)	9 +0.75/0.5 (0.35 +0.03/0.02)	9 +0.75/0.5 (0.35 +0.03/0.02)
t	Total Tape Thickness		0.9 Max. (0.04 Max.)	0.9 Max. (0.04 Max.)	0.9 Max. (0.04 Max.)	0.9 Max. (0.04 Max.)	0.9 Max. (0.04 Max.)
P	Pitch of Component		12.7 ± 1.0 (0.5 ± 0.04)	12.7 ± 1.0 (0.5 ± 0.04)	12.7 ± 1.0 (0.5 ± 0.04)	12.7 ± 1.0 (0.5 ± 0.04)	12.7 ± 1.0 (0.5 ± 0.04)
P_0	Feed Hold Pitch		12.7 ± 0.2 (0.5 ± 0.01)	12.7 ± 0.2 (0.5 ± 0.01)	12.7 ± 0.2 (0.5 ± 0.01)	12.7 ± 0.2 (0.5 ± 0.01)	12.7 ± 0.2 (0.5 ± 0.01)
P_1	Feed Hold Center to Pitch		3.81 ± 0.7 (0.15 ± 0.03)	3.81 ± 0.7 (0.15 ± 0.03)	8.89 ± 0.8 (0.35 ± 0.03)	8.89 ± 0.8 (0.35 ± 0.03)	7.62 ± 0.8 (0.30 ± 0.03)
R	Lead Spacing		5.08 +0.6/-0.1 (0.2 +0.02/-.004)	5.08 +0.6/-0.1 (0.2 +0.02/-.004)	7.62 +0.6/-0.1 (0.3 +0.02/-.004)	7.62 +0.6/-0.1 (0.3 +0.02/-.004)	10.16 +0.6/-0.1 (0.4 +0.02/-.004)
ΔP	Component Alignment		± 1.3 Max. (± 0.05 Max.)	± 1.3 Max. (± 0.05 Max.)	± 2.0 Max. (± 0.08 Max.)	± 2.0 Max. (± 0.08 Max.)	± 2.0 Max. (± 0.08 Max.)
Δh	Component Alignment		± 2.0 Max. (± 0.08 Max.)	± 2.0 Max. (± 0.08 Max.)	Depends on t_{max}	Depends on t_{max}	Depends on t_{max}
d	Wire Diameter		0.6 ± 0.05 (0.024 ± 0.002)	0.6 ± 0.05 (0.024 ± 0.002)	0.8 ± 0.05 (0.031 ± 0.002)	0.8 ± 0.05 (0.031 ± 0.002)	0.8 ± 0.05 (0.031 ± 0.002)
D_0	Feed Hold Diameter		4 +/- 0.2 (0.16 +/-0.01)	4 ± 0.2 (0.16 ± 0.01)	4 ± 0.2 (0.16 ± 0.01)	4 ± 0.2 (0.16 ± 0.01)	4 ± 0.2 (0.16 ± 0.01)
H	Height from Tape Center		18 +2.0/-0.0 (0.71 +/-0.0)	18 +2.0/-0.0 (0.71 ± 0.0)	18 +2.0/-0.0 (0.71 ± 0.0)	18 +2.0/-0.0 (0.71 ± 0.0)	18 +2.0/-0.0 (0.71 +/-0.0)
	to Component Base						
H_0	Seating Plane Height		16 +/- 0.5 (0.63 +/- 0.02)	16 ± 0.5 (0.63 ± 0.02)	16 ± 0.5 (0.63 ± 0.02)	16 ± 0.5 (0.63 ± 0.02)	16 ± 0.5 (0.63 ± 0.02)
H_1	Component Height		32.2 Max. (1.27 Max.)	32.2 Max. (1.27 Max.)	38.5 Max. (1.52 Max.)	40.0 Max. (1.57 Max.)	46.5 Max. (1.83 Max.)
L	Length of Clipped Lead		11 Max. (0.43 Max.)	11 Max. (0.43 Max.)	11 Max. (0.43 Max.)	11 Max. (0.43 Max.)	11 Max. (0.43 Max.)

Legend: mm (inch)

Single Layer Technology **Varistor Plus**

Lead Style (Version) / Lead Spacing – CV, CV+, SV Series

Product Series / Range	Dimensions R mm (inch)	Dimensions h mm (inch)	Dimensions A mm (inch)	Version 1	Version 5
					
CV 11…275 K 05	5	9.5	14.5		
CV 11…300 K 07	5	9.5	16.5		
CV 60…275 K 07					
CV 14…550 K 10	7.5	15			
CV 50…550 K 14	7.5	19			
CV 50…550 K 20	10	26			
CV+ 60…550 K 10	7.5	15			
CV+ 60…550 K 14	7.5	16			
CV+ 60…550 K 20	10	26			
CV+ 130…550 K 23	10	29			
					
SV 60…300 K 05	5	9.5	14.5		
SV 60…300 K 07	5	11.5	16.5		
					
SV 60…550 K 10	7.5	15			
SV 60…550 K 14	7.5	19			
SV 60…550 K 20	10	26			
SV 60…550 K 23	10	29			

For additional lead styles (e.g., clipped leads), contact the factory.

Varistor Marking – CV, CV+, SV, PV, ZOV Series

Leaded Varistor – CV, CV+, SV Series

For Model Sizes 5, 7

CV 130
K7

CV = Series Name
130 = V_{RMS}
K = V_N Tolerance
7 = Model Size: 5, 7

For Model Sizes 10, 14, 18, 20, 23

KEKO
CV 130
K 20

KEKO = Tradename
CV = Series Name
130 = V_{RMS}
K = V_N Tolerance
20 = Model Size: 10, 14, 18, 20, 23

Leaded High Energy Varistor – ZOV Series

Standard

For Model Sizes 23, 25, 32, 40, 60

KEKO
ZOV 680
K 40

KEKO = Tradename
ZOV = Series Name
680 = V_{RMS}
K = V_N Tolerance
40 = Model Size:23, 25, 40, 60

Custom Designed

KEKO
ZOV 275
K 503

KEKO = Tradename
ZOV = Series Name
275 = V_{RMS}
K = V_N Tolerance
503 = Surge Current Code: 503, 50,000A, 8/20 µs

SMD Varistor – PV Series

For Model Sizes 3225, 4032

KEKO
PV 20
K 3225

KEKO = Tradename
PV = Series Name
20 = V_{RMS}
K = V_N Tolerance
3225 = Model Size: 3225, 4032