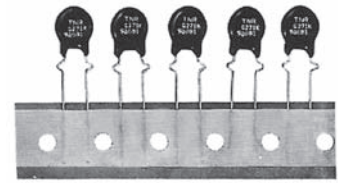
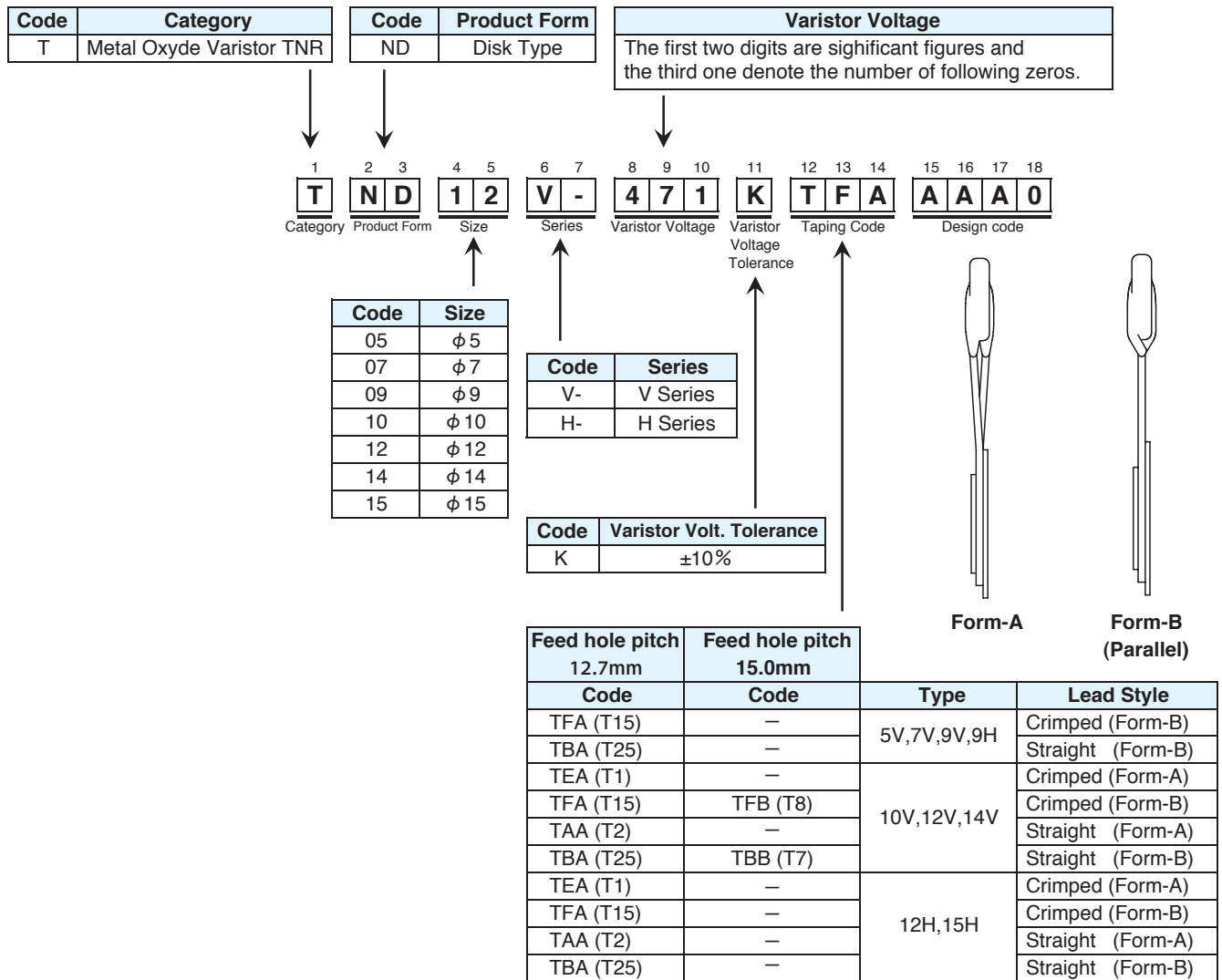


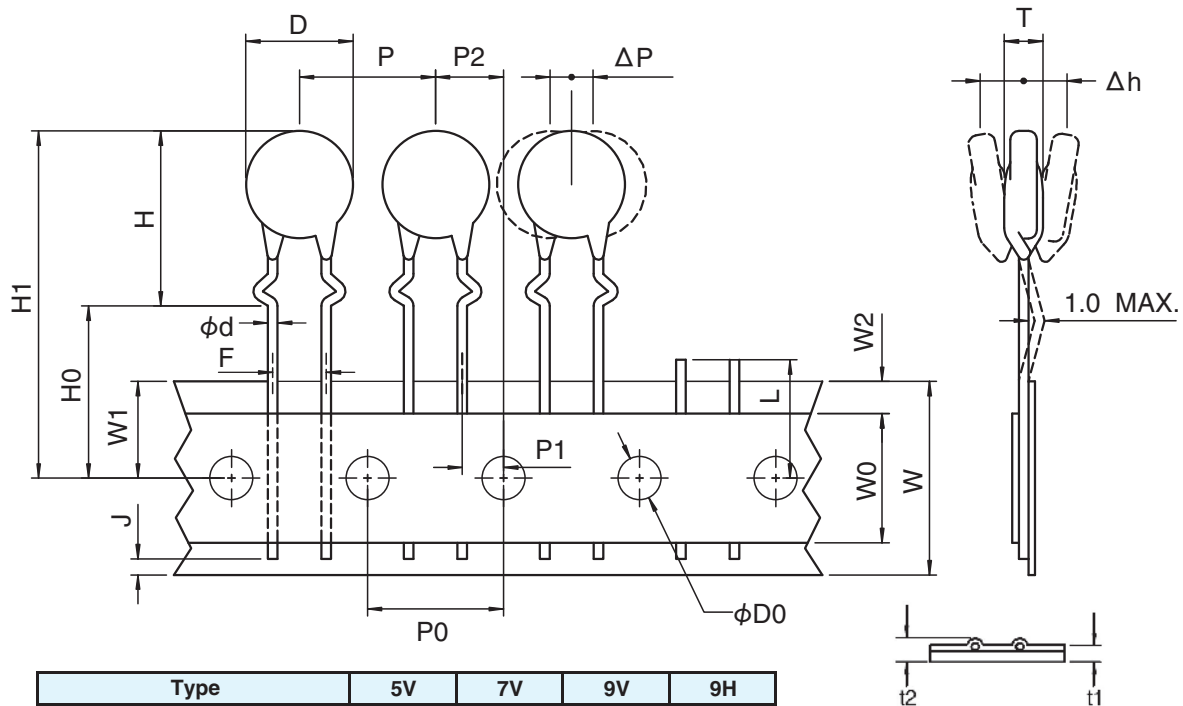
- This Specifies taping specifications for TNR varistors which have normal disk diameter of 5 to 15mm and nominal varistor voltage of 15 to 510V.



◆ PART NUMBERING SYSTEM



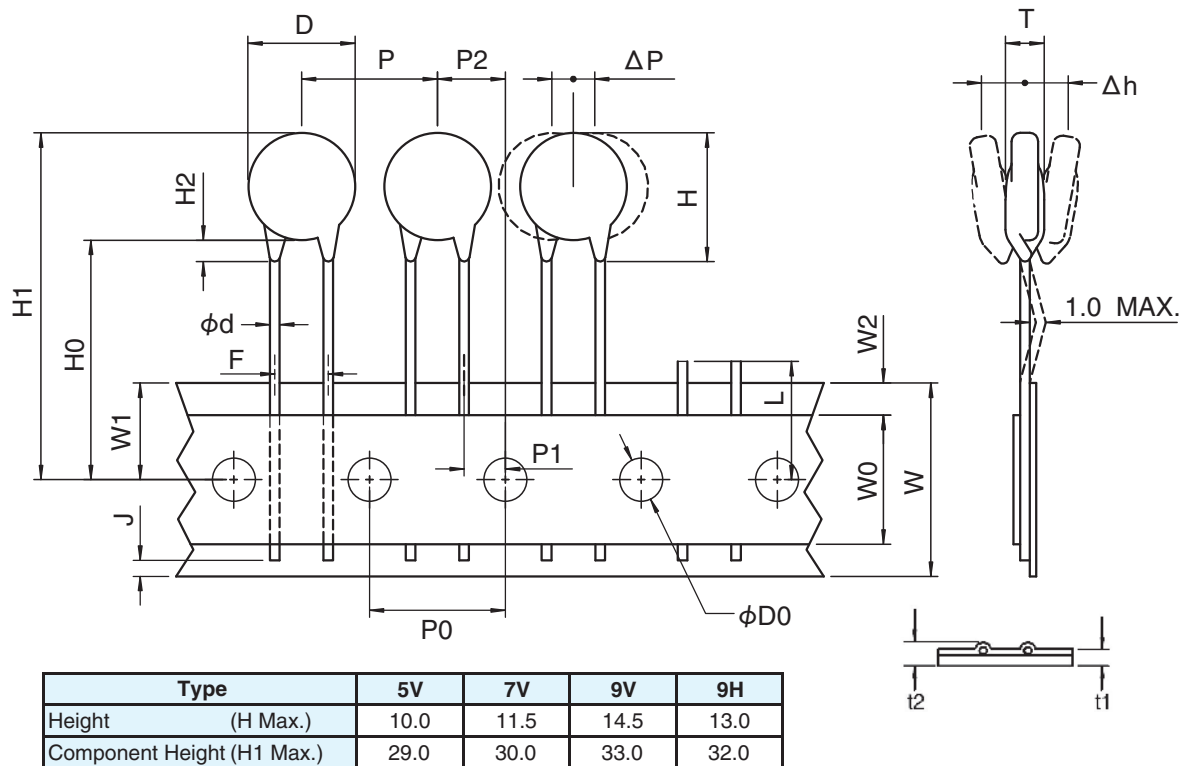
Note : The Code (T1,T15,T2,T25,T8,T7) are the old taping code.

**◆5V, 7V, 9V, 9H : TYPE TFA(T15) (Crimped Lead)**


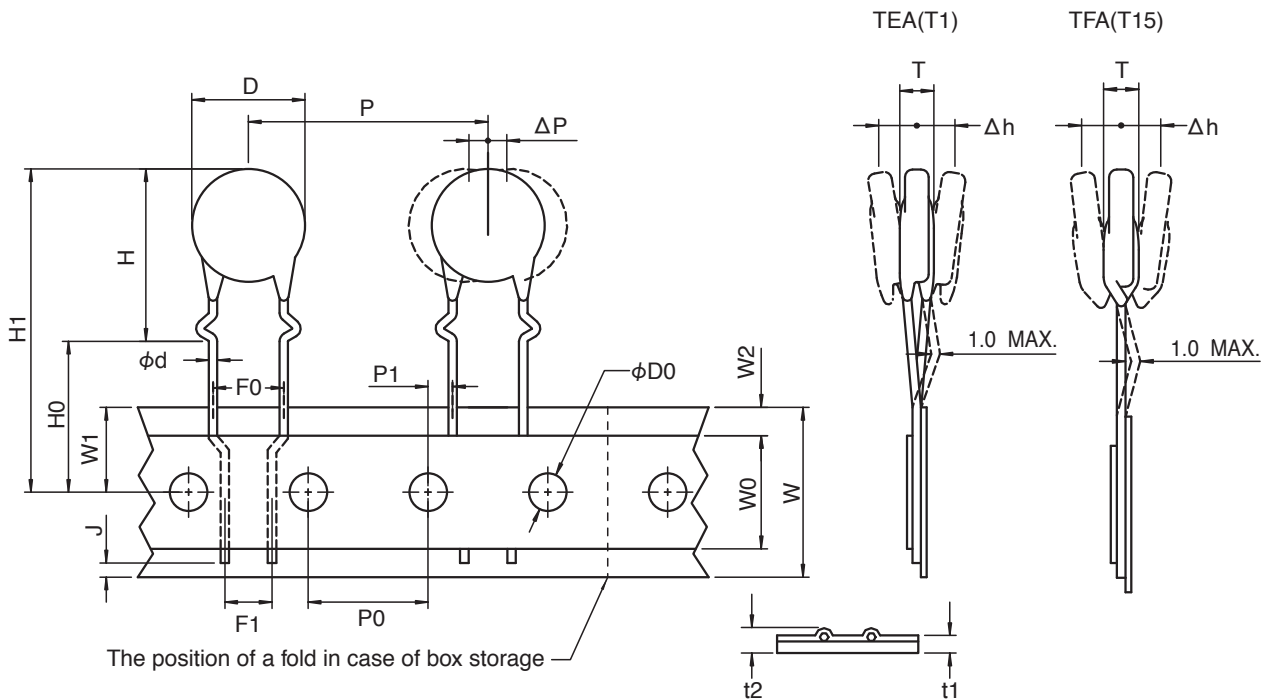
Type	5V	7V	9V	9H
Height (H Max.)	13.0	14.5	17.5	16.0
Component Height (H1 Max.)	30.0	31.0	34.0	33.0

**◆TYPE TFA(T15)**

Parameter	Code	Dimensions (mm)	Note
Diameter of component	D	—	Refer to the applicable detail spec
Thickness of component	T	—	Refer to the applicable detail spec
Lead diameter	φd	0.6±0.05	
Pitch of component	P	12.7±1.0	
Feed hole pitch	P0	12.7±0.3	Cumulative pitch error : ±1 mm/20 pitches
Feed hole diameter	φD0	4.0±0.2	
Feed hole center to lead	P1	3.85±0.7	Measured at the upper end of tape
Feed hole center to component center	P2	6.35±1.3	
Feed hole position	W1	9.0±0.5	
Lead spacing	F	5.0±0.8	
Deviation across tape	Δh	0±2.0	
Deviation along tape	ΔP	0±1.0	
Carrier tape width	W	18.0± $\begin{smallmatrix} 0 \\ 0.5 \end{smallmatrix}$	
Hold down tape width	W0	5.0 Min.	
Tape thickness	t1	0.6±0.3	
Total tape thickness	t2	1.5 Max.	
Hold down tape position	W2	3.0 Max.	
Seating plane height	H0	16.0±0.5	
Component height	H1	—	Please refer to the above list
Lead position	J	6.0 Max.	
Defective article cut position	L	11.0 Max.	

**◆ 5V, 7V, 9V, 9H : TYPE TBA(T25) (Straight Lead)**

**◆TYPE TBA(T25)**

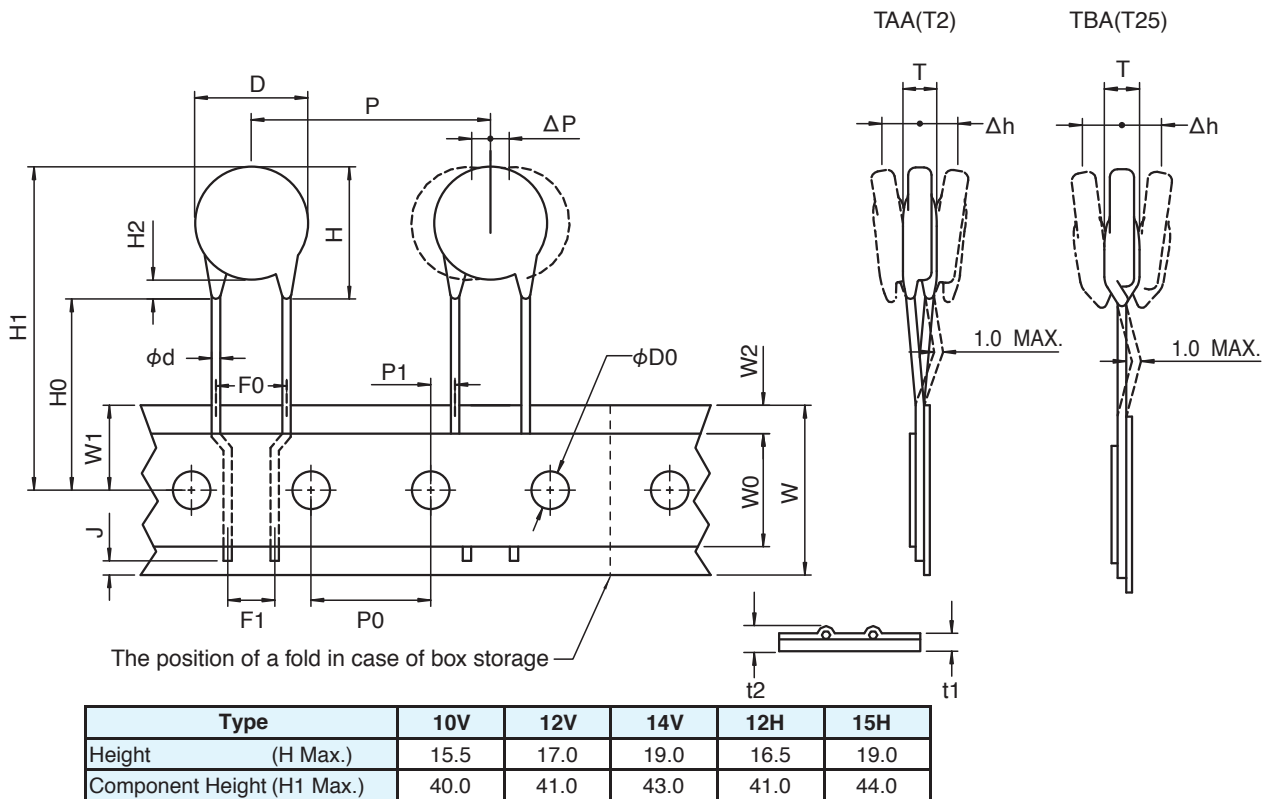
Parameter	Code	Dimensions (mm)	Note
Diameter of component	D	—	Refer to the applicable detail spec
Thickness of component	T	—	Refer to the applicable detail spec
Lead diameter	φd	0.6±0.05	
Pitch of component	P	12.7±1.0	
Feed hole pitch	P0	12.7±0.3	Cumulative pitch error : ±1 mm/20 pitches
Feed hole diameter	φD0	4.0±0.2	
Feed hole center to lead	P1	3.85±0.7	Measured at the upper end of tape
Feed hole center to component center	P2	6.35±1.3	
Feed hole position	W1	9.0±0.5	
Lead spacing	F	5.0±0.8	
Deviation across tape	Δh	0±2.0	9V : 34.0 Max.
Deviation along tape	ΔP	0±1.0	
Carrier tape width	W	18.0± $\begin{smallmatrix} 0 \\ 0.5 \end{smallmatrix}$	
Hold down tape width	W0	5.0 Min.	
Tape thickness	t1	0.6±0.3	
Total tape thickness	t2	1.5 Max.	
Hold down tape position	W2	3.0 Max.	
Height from tape center to component base	H0	20.0± $\begin{smallmatrix} 1.5 \\ 1.0 \end{smallmatrix}$	
Component height	H1	—	Please refer to the above list
	H2	3.0 Max.	
Lead position	J	6.0 Max.	
Defective article cut position	L	11.0 Max.	

**◆10V, 12V, 14V, 12H, 15H :TYPE TEA(T1), TFA(T15) (Crimped Lead)**


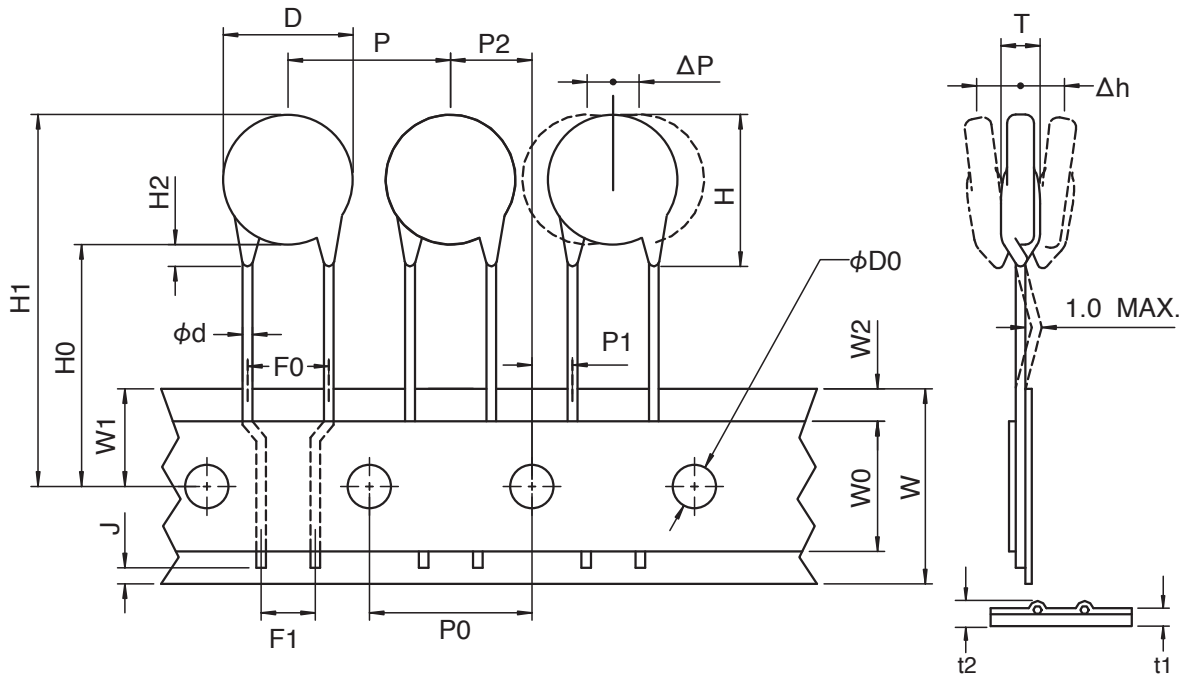
Type	10V	12V	14V	12H	15H
Height (H Max.)	17.5	19.0	21.0	21.0	24.0
Component Height (H1 Max.)	35.0	36.0	38.0	38.0	41.0

**◆TYPE TEA(T1), TFA(T15)**

Parameter	Code	Dimensions (mm)	Note
Diameter of component	D	—	Refer to the applicable detail spec
Thickness of component	T	—	Refer to the applicable detail spec
Lead diameter	φd	0.8±0.05	
Pitch of component	P	25.4±1.0	
Feed hole pitch	P0	12.7±0.3	Cumulative pitch error : ±1 mm/20 pitches
Feed hole diameter	φD0	4.0±0.2	
Feed hole center to lead	P1	2.6±0.5	Measured at the upper end of tape
Feed hole position	W1	9.0±0.5	
Lead spacing	F0	7.5±0.8	
	F1	5.0 Nom.	
Deviation across tape	Δh	0±2.0	
Deviation along tape	ΔP	0±1.0	
Carrier tape width	W	18.0 <sup>+1.0</sup> <sub>-0.5</sub>	
Hold down tape width	W0	5.0 Min.	
Tape thickness	t1	0.6±0.3	
Total tape thickness	t2	1.5 Max.	
Hold down tape position	W2	3.0 Max.	
Seating plane height	H0	16.0±1.0	
Component height	H1	—	Please refer to the above list
Lead position	J	6.0 Max.	

**◆10V, 12V, 14V, 12H, 15H :TYPE TAA(T2), TBA(T25) (Straight Lead)**

**◆TYPE TAA(T2), TBA(T25)**

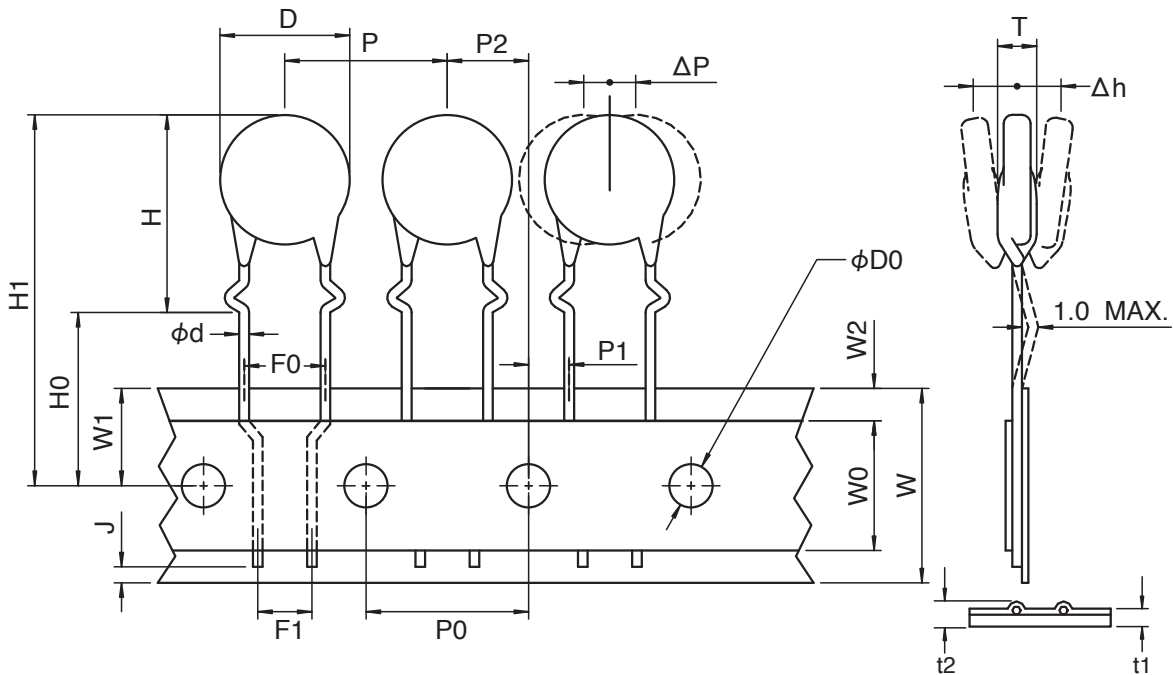
Parameter	Code	Dimensions (mm)	Note
Diameter of component	D	—	Refer to the applicable detail spec
Thickness of component	T	—	Refer to the applicable detail spec
Lead diameter	φd	0.8±0.05	
Pitch of component	P	25.4±1.0	
Feed hole pitch	P0	12.7±0.3	Cumulative pitch error : ±1 mm/20 pitches
Feed hole diameter	φD0	4.0±0.2	
Feed hole center to lead	P1	2.6±0.5	Measured at the upper end of tape
Feed hole position	W1	9.0±0.5	
Lead spacing	F0	7.5±0.8	
	F1	5.0 Nom.	
Deviation across tape	Δh	0±2.0	
Deviation along tape	ΔP	0±1.0	
Carrier tape width	W	18.0 <sup>+1.0</sup> <sub>-0.5</sub>	
Hold down tape width	W0	5.0 Min.	
Tape thickness	t1	0.6±0.3	
Total tape thickness	t2	1.5 Max.	
Hold down tape position	W2	3.0 Max.	
Height from tape center to component base	H0	20.0 Min.	SE : 19.0 Min.
Component height	H1	—	Please refer to the above list
	H2	3.0 Max.	
Lead position	J	6.0 Max.	

**◆10V, 12V, 14V :TYPE TBB(T7) (Straight Lead, 15mm Pitch)**


Type	10V	12V	14V
Height (H Max.)	15.5	17.0	19.0
Component Height (H1 Max.)	37.0	39.0	41.0

**◆TYPE TBB(T7)**

Parameter	Code	Dimensions (mm)	Note
Diameter of component	D	—	Refer to the applicable detail spec (14V : 15.0 Max.)
Thickness of component	T	—	Refer to the applicable detail spec
Lead diameter	φd	0.8±0.05	
Pitch of component	P	15.0±1.0	14SE : 30.0 ±1.0 mm
Feed hole pitch	P0	15.0±0.3	Cumulative pitch error : ±1 mm/20 pitches
Feed hole diameter	φD0	4.0±0.2	
Feed hole center to lead	P1	3.75±0.5	Measured at the upper end of tape
Feed hole center to component center	P2	7.5±1.3	
Feed hole position	W1	9.0±0.5	
Lead spacing	F0	7.5±0.8	
	F1	5.0 Nom.	
Deviation across tape	Δh	0±2.0	
Deviation along tape	ΔP	0±1.3	
Carrier tape width	W	18.0±0.5	
Hold down tape width	W0	5.0 Min.	
Tape thickness	t1	0.6±0.3	
Total tape thickness	t2	1.5 Max.	
Hold down tape position	W2	3.0 Max.	
Height from tape center to component base	H0	20.0±1.5	
Component height	H1	—	Please refer to above list
	H2	3.0 Max.	
Lead position	J	6.0 Max.	

**◆10V, 12V, 14V :TYPE TFB(T8) (Crimped Lead, 15mm Pitch)**


Type	10V	12V	14V
Height (H Max.)	17.5	19.0	21.0
Component Height (H1 Max.)	35.0	36.0	38.0

**◆TYPE TFB(T8)**

Parameter	Code	Dimensions (mm)	Note
Diameter of component	D	—	Refer to the applicable detail spec (14V : 15.0 Max.)
Thickness of component	T	—	Refer to the applicable detail spec
Lead diameter	φd	0.8±0.05	
Pitch of component	P	15.0±1.0	14SE : 30.0±1.0 mm
Feed hole pitch	P0	15.0±0.3	Cumulative pitch error : ±1 mm/20 pitches
Feed hole diameter	φD0	4.0±0.2	
Feed hole center to lead	P1	3.75±0.5	Measured at the upper end of tape
Feed hole center to component center	P2	7.5±1.3	
Feed hole position	W1	9.0±0.5	
Lead spacing	F1	5.0 Nom.	
Deviation across tape	Δh	0±2.0	
Deviation along tape	ΔP	0±1.3	
Carrier tape width	W	18.0± <sup>1.0</sup> <sub>0.5</sub>	
Hold down tape width	W0	5.0 Min.	
Tape thickness	t1	0.6±0.3	
Total tape thickness	t2	1.5 Max.	
Hold down tape position	W2	3.0 Max.	
Seating plane height	H	—	10V ; 17.5 Max. 14V ; 21.0 Max.
Component height	H0	16.0±1.0	
Component height	H1	—	Please refer to above list
Lead position	J	6.0 Max.	