

# **AVX** *TransGuard*<sup>®</sup>

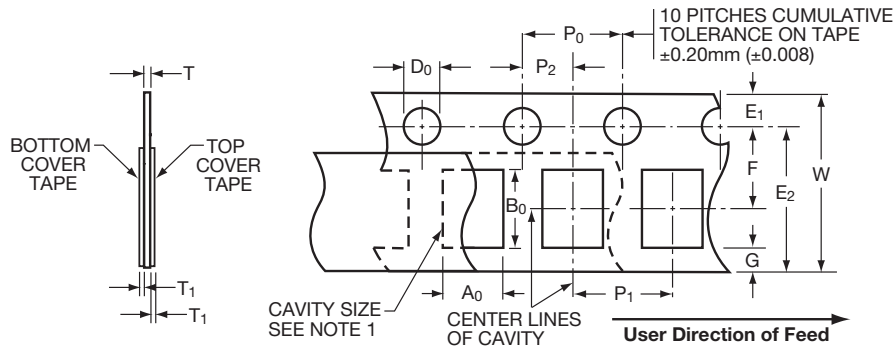
## **PACKAGING**

- Chips
- Axial Leads
- Radial Leads

# Paper Carrier Configuration



## 8mm Tape Only



## 8mm Paper Tape Metric Dimensions Will Govern

### CONSTANT DIMENSIONS

Tape Size	$D_0$	E	$P_0$	$P_2$	$T_1$	G. Min.	R Min.
8mm	$1.50^{+0.10}_{-0.0}$ ( $0.059^{+0.004}_{-0.0}$ )	$1.75 \pm 0.10$ ( $0.069 \pm 0.004$ )	$4.00 \pm 0.10$ ( $0.157 \pm 0.004$ )	$2.00 \pm 0.05$ ( $0.079 \pm 0.002$ )	0.10 (0.004) Max.	0.75 (0.030) Min.	25.0 (0.984) See Note 2 Min.

### VARIABLE DIMENSIONS

Tape Size	$P_1$ See Note 4	$E_2$ Min.	F	W	$A_0 B_0$	T
8mm	$4.00 \pm 0.10$ ( $0.157 \pm 0.004$ )	6.25 (0.246)	$3.50 \pm 0.05$ ( $0.138 \pm 0.002$ )	$8.00^{+0.08}_{-0.08}$ ( $0.315^{+0.012}_{-0.012}$ )	See Note 1	1.10mm (0.043) Max. for Paper Base Tape and  1.60mm (0.063) Max. for Non-Paper Base Compositions

#### NOTES:

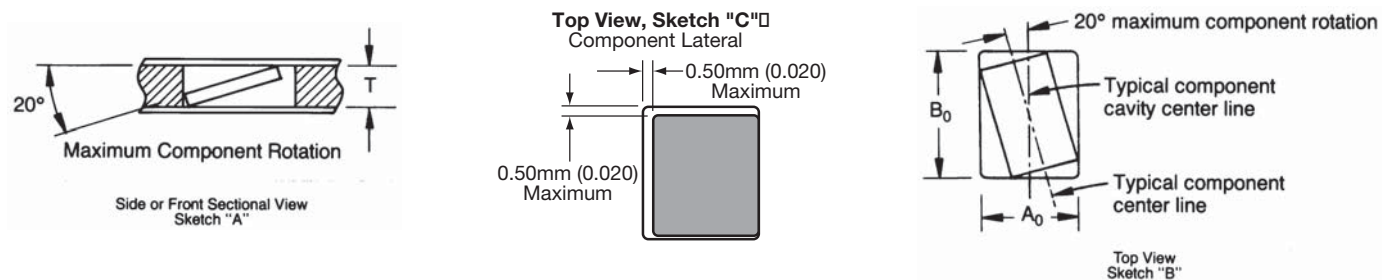
1. The cavity defined by  $A_0$ ,  $B_0$ , and T shall be configured to provide sufficient clearance surrounding the component so that:

- the component does not protrude beyond either surface of the carrier tape;
- the component can be removed from the cavity in a vertical direction without mechanical restriction after the top cover tape has been removed;
- rotation of the component is limited to 20° maximum (see Sketches A & B);
- lateral movement of the component is restricted to 0.5mm maximum (see Sketch C).

2. Tape with or without components shall pass around radius "R" without damage.

3. Bar code labeling (if required) shall be on the side of the reel opposite the sprocket holes. Refer to EIA-556.

4. If  $P_1 = 2.0$ mm, the tape may not properly index in all tape feeders.



## Bar Code Labeling Standard

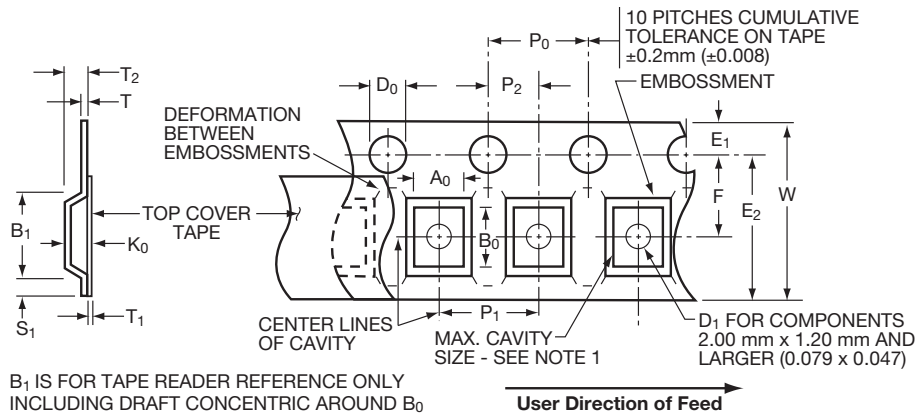
AVX bar code labeling is available and follows latest version of EIA-556



# Embossed Carrier Configuration



## 8 & 12mm Tape Only



B<sub>1</sub> IS FOR TAPE READER REFERENCE ONLY INCLUDING DRAFT CONCENTRIC AROUND B<sub>0</sub>

## 8 & 12mm Embossed Tape Metric Dimensions Will Govern

### CONSTANT DIMENSIONS

mm (inches)

Tape Size	D <sub>0</sub>	E	P <sub>0</sub>	P <sub>2</sub>	S <sub>1</sub> Min.	T Max.	T <sub>1</sub>
8mm and 12mm	1.50 <sup>+0.10</sup> <sub>-0.0</sub> (0.059 <sup>+0.004</sup> <sub>-0.0</sub> )	1.75 ± 0.10 (0.069 ± 0.004)	4.0 ± 0.10 (0.157 ± 0.004)	2.0 ± 0.05 (0.079 ± 0.002)	0.60 (0.024)	0.60 (0.024)	0.10 (0.004) Max.

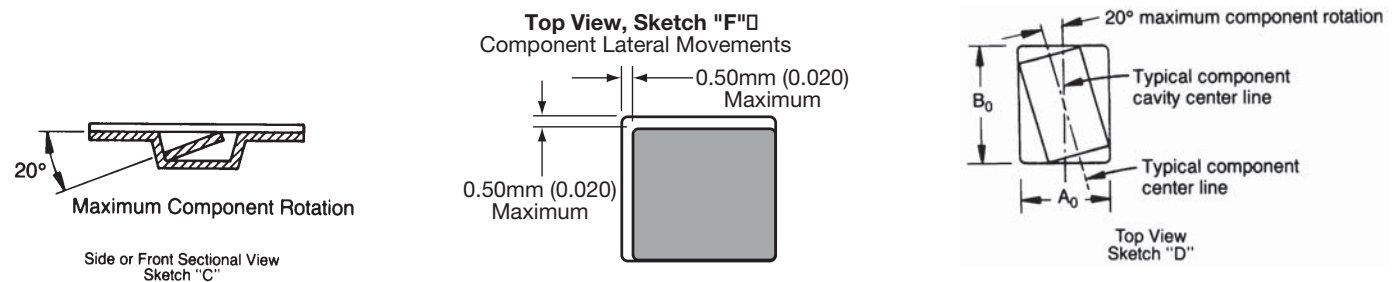
### VARIABLE DIMENSIONS

mm (inches)

Tape Size	B <sub>1</sub> Max.	D <sub>1</sub> Min.	E <sub>2</sub> Min.	F	P <sub>1</sub> See Note 5	R Min. See Note 2	T <sub>2</sub>	W Max.	A <sub>0</sub> B <sub>0</sub> K <sub>0</sub>
8mm	4.35 (0.171)	1.00 (0.039)	6.25 (0.246)	3.50 ± 0.05 (0.138 ± 0.002)	4.00 ± 0.10 (0.157 ± 0.004)	25.0 (0.984)	2.50 Max. (0.098)	8.30 (0.327)	See Note 1
12mm	8.20 (0.323)	1.50 (0.059)	10.25 (0.404)	5.50 ± 0.05 (0.217 ± 0.002)	4.00 ± 0.10 (0.157 ± 0.004)	30.0 (1.181)	6.50 Max. (0.256)	12.3 (0.484)	See Note 1

#### NOTES:

- The cavity defined by A<sub>0</sub>, B<sub>0</sub>, and K<sub>0</sub> shall be configured to provide the following:
  - the component does not protrude beyond the sealing plane of the cover tape.
  - the component can be removed from the cavity in a vertical direction without mechanical restriction, after the cover tape has been removed.
  - rotation of the component is limited to 20° maximum (see Sketches D & E).
  - lateral movement of the component is restricted to 0.5mm maximum (see Sketch F).
- Tape with or without components shall pass around radius "R" without damage.
- Bar code labeling (if required) shall be on the side of the reel opposite the round sprocket holes. Refer to EIA-556.
- B<sub>1</sub> dimension is a reference dimension for tape feeder clearance only.
- If P<sub>1</sub> = 2.0mm, the tape may not properly index in all tape feeders.

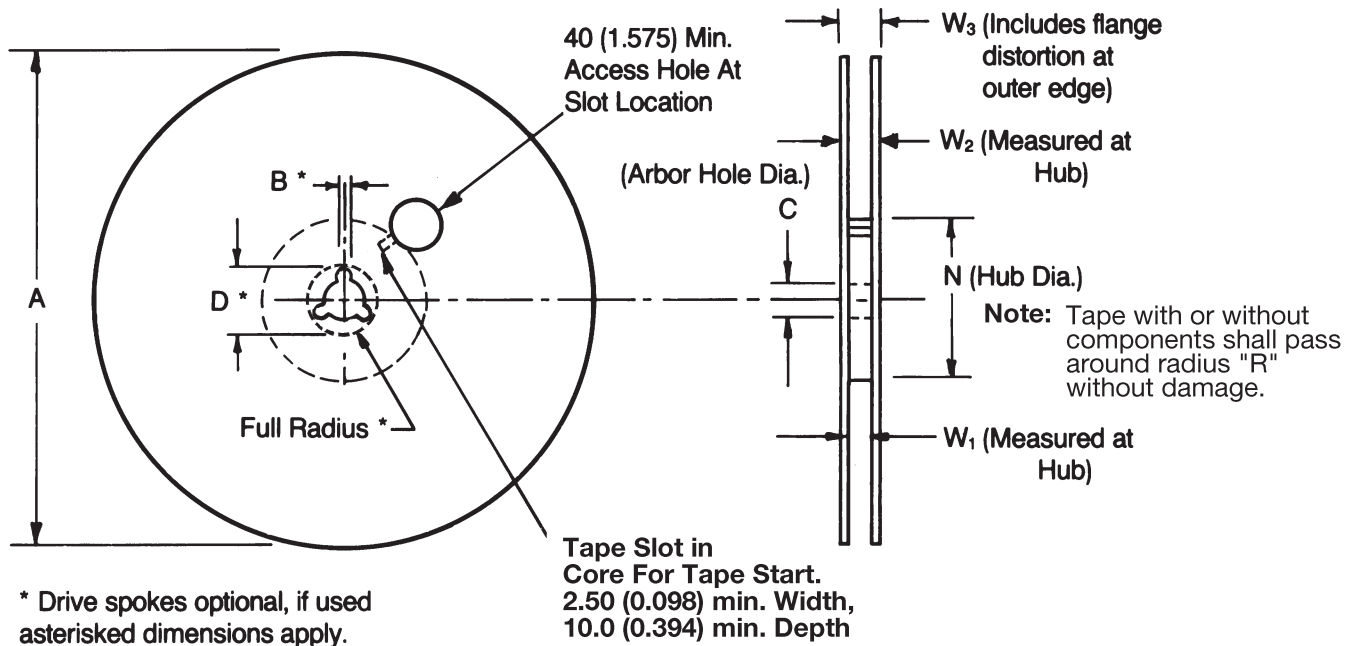


# Packaging of Chip Components



## Automatic Insertion Packaging

### REEL DIMENSIONS



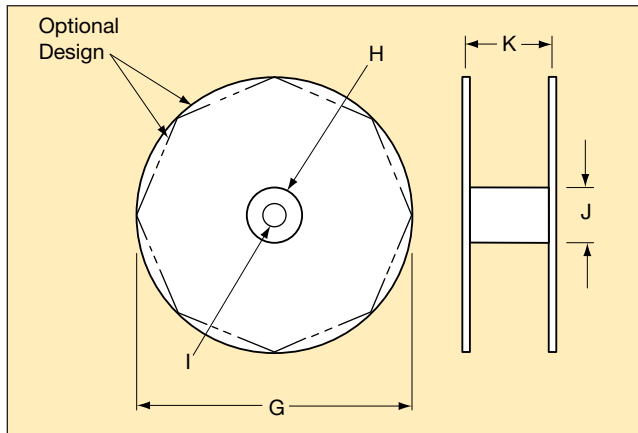
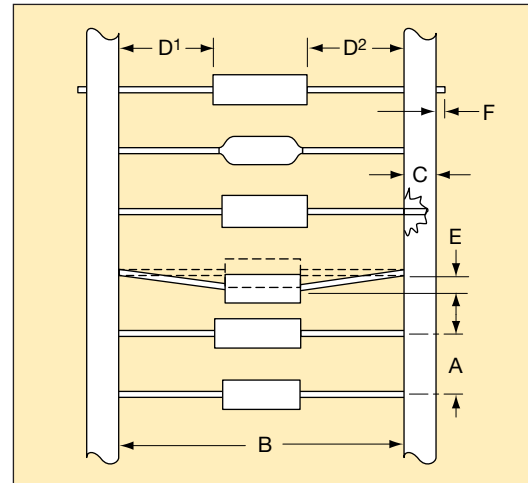
mm (inches)

Tape Size	A Max.	B* Min.	C	D* Min.	N Min.	W <sub>1</sub>	W <sub>2</sub> Max.	W <sub>3</sub>
8mm	330 (12.992)	1.5 (0.059)	13.0 <sup>+0.50</sup> <sub>-0.20</sub> (0.512 <sup>+0.020</sup> <sub>-0.008</sub> )	20.2 (0.795)	50.0 (1.969)	8.40 <sup>+1.5</sup> <sub>-0.0</sub> (0.331 <sup>+0.059</sup> <sub>-0.0</sub> )	14.4 (0.567)	7.90 Min. (0.311)
12mm						12.4 <sup>+2.0</sup> <sub>-0.0</sub> (0.488 <sup>+0.079</sup> <sub>-0.0</sub> )		11.9 Min. (0.469)
								10.9 Max. (0.429)
								15.4 Max. (0.607)

Metric dimensions will govern.  
English measurements rounded and for reference only.

### PACKAGING - AXIAL LEADS / TAPE AND REEL

CLASS I / RS-296	
A.	5mm ± 0.5mm (0.200" ± 0.020")
B*	52.4mm ± 1.5mm (2.063" ± 0.059")
C.	6.35mm ± 0.4mm (0.250" ± 0.016")
D <sup>1</sup> -D <sup>2</sup> .	1.4mm (0.055" MAX.)
E.	1.2mm (0.047" MAX.)
F.	1.6mm (0.063" MAX.)
G.	356mm (14.00" MAX.)
H.	76mm (3.000")
I.	25.4mm (1.000")
J.	84mm (3.300")
K.	70mm (2.750")

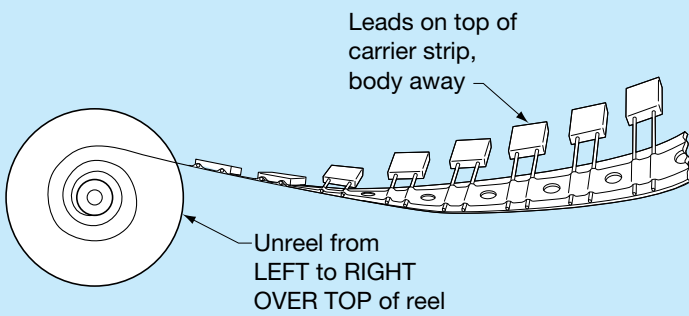


**Leader Tape:** 300mm min. (12")

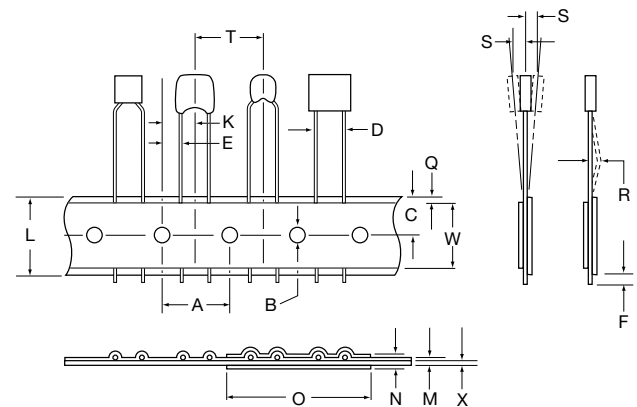
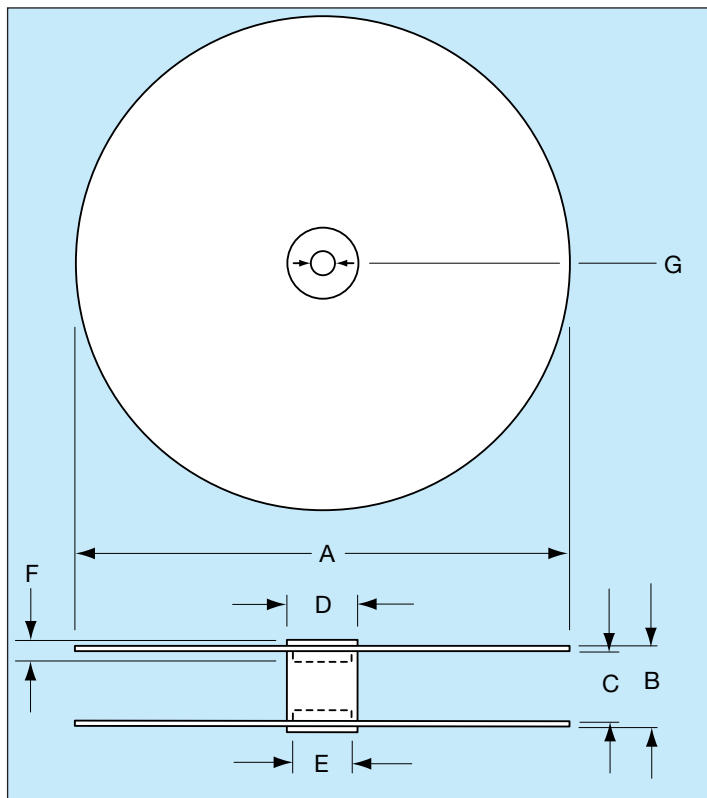
**Splicing:** Tape Only

**Missing Parts:** 0.25% of component count max.-  
No consecutive missing parts

## REEL DIRECTION



QUANTITY PER REEL	
PART	PCS
VR15, VR20 CG20, CG21	3000



## DESCRIPTION

## DIMENSIONS (MM)

A. Feed Hole Pitch	12.70 ± .20
B. Feed Hole Diameter	3.99 ± .20
C. Feed Hole Location	9.02 ± .51
D. Component Lead Spacing	5.00 <sup>+0.79</sup> <sub>-.20</sub> or 2.54 <sup>+0.79</sup> <sub>-.20</sub>
E. Component Lead Location	3.81 ± .51 or 5.00 ± .51 for 2.54 lead spacing
F. Component Lead Protrusion (edge of carrier to cut end of lead)	2.00 maximum
K. Component Body Location	6.35 ± .41
L. Carrier Tape Width	18.01 <sup>+1.02</sup> <sub>-.51</sub>
M. Carrier Tape Assembly Thickness	.71 ± .20
N. Carrier Tape Spliced Thickness	1.42 maximum
O. Carrier Tape Spliced Length	50.80 - 88.90
Q. Adhesive Tape Border	3.00 maximum
R. Component Bent Leads (either direction)	.79 maximum
S. Component Misalignment	.99 maximum
T. Component Pitch	12.70 ± .99
W. Adhesive Tape Width	5.00 minimum
X. Carrier Tape Thickness	.51 ± .10
Y. Cumulative Pitch over 20 Pitches	254 ± 2.00

DESCRIPTION	DIMENSIONS (MM)
-------------	-----------------

A – Reel Diameter	304.80 - 355
B – Reel Outside Width	50.80 maximum
C – Reel Inside Width	38.10 - 46.02
D – Core Diameter (O.D.)	102.01 maximum
E – Hub Recess Diameter	86.36 maximum
F – Hub Recess Depth	9.50 minimum
G – Arbor Hole Diameter	25.40 - 30.48