KYOCERA
AVX®

Packaging

- Chips
- Axial Leads
- Radial Leads

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161
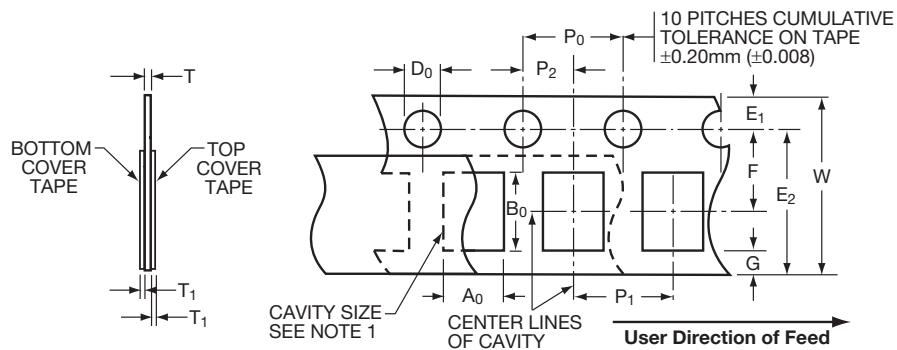
8MM PAPER TAPE

METRIC DIMENSIONS WILL GOVERN

CONSTANT DIMENSIONS

mm (inches)

| 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 ± 0.10 (0.069 ± 0.004)	4.00 ± 0.10 (0.157 ± 0.004)	2.00 ± 0.05 (0.079 ± 0.002)	0.10 (0.004) Max.	0.75 (0.030) Min.	25.0 (0.984) See Note 2 Min.

VARIABLE DIMENSIONS

mm (inches)

Tape Size	P_1 See Note 4	E_2 Min.	F	W	A_0 B0	T
8mm	4.00 ± 0.10 (0.157 ± 0.004)	6.25 (0.246)	3.50 ± 0.05 (0.138 ± 0.002)	$8.00 ^{+0.30}_{-0.10}$ (0.315 $^{+0.012}_{-0.004}$)	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 , 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 20º 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.
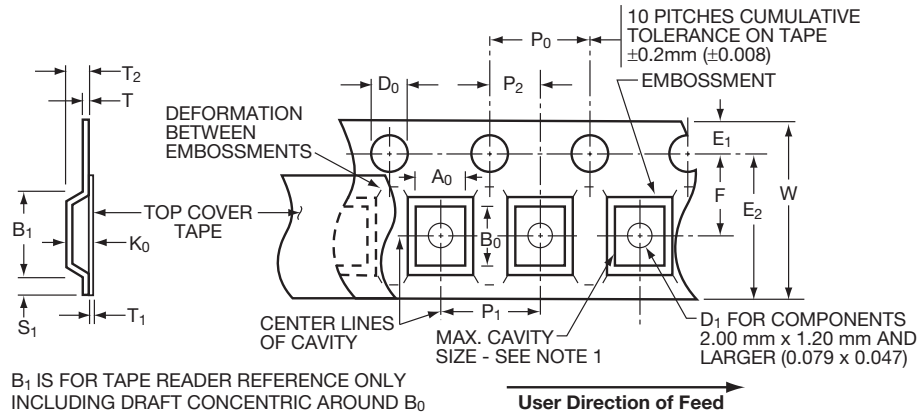4. If P1 = 2.0mm, the tape may not properly index in all tape feeders.

Top View, Sketch "C"
Component Lateral
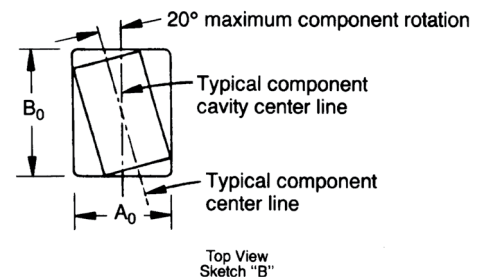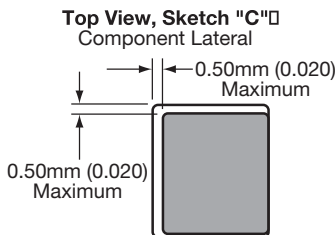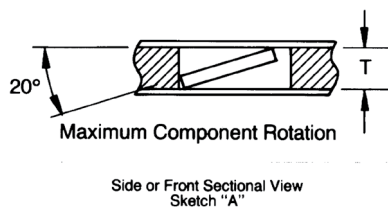
Bar Code Labeling Standard

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

112519

– TRANSIENT SUPPRESSION PRODUCTS –

10 PITCHES CUMULATIVE TOLERANCE ON TAPE ±0.2mm (±0.008)

DEFORMATION BETWEEN EMBOSSMENTS

TOP COVER TAPE

CENTER LINES OF CAVITY

MAX. CAVITY SIZE - SEE NOTE 1

EMBOSSMENT

D_1 FOR COMPONENTS 2.00 mm x 1.20 mm AND LARGER (0.079 x 0.047)

B_1 IS FOR TAPE READER REFERENCE ONLY INCLUDING DRAFT CONCENTRIC AROUND B_0

User Direction of Feed

8 & 12MM EMBOSSED TAPE
METRIC DIMENSIONS WILL GOVERN

CONSTANT DIMENSIONS

mm (inches)

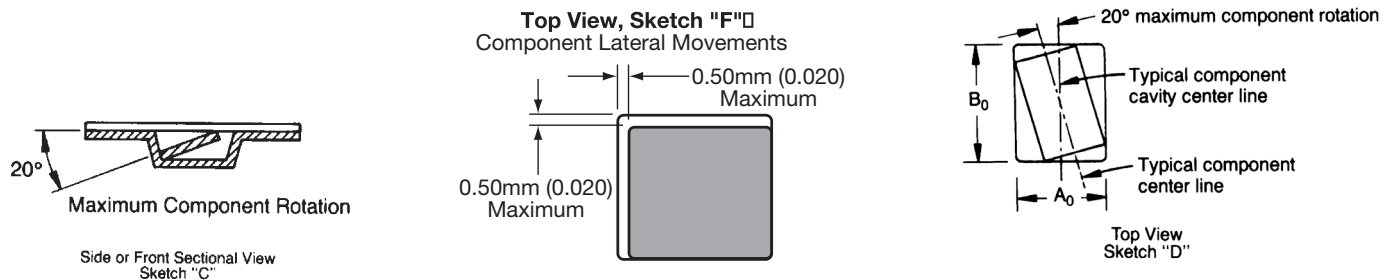| Tape Size	D_0	E	P_0	P_2	S_1 Min.	T Max.	T_1
8mm and 12mm	$1.50 \begin{smallmatrix}+0.10\\-0.0\end{smallmatrix}$ $(0.059 \begin{smallmatrix}+0.004\\-0.0\end{smallmatrix})$	1.75 ± 0.10 (0.069 ± 0.004)	4.0 ± 0.10 (0.157 ± 0.004)	2.0 ± 0.05 (0.079 ± 0.002)	0.60 (0.024)	0.60 (0.024)	0.10 (0.004) Max.

VARIABLE DIMENSIONS

mm (inches)

Tape Size	B_1 Max.	D_1 Min.	E_2 Min.	F	P_1 See Note 5	R Min. See Note 2	T_2	W Max.	$A_0 B_0 K_0$
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:

1. The cavity defined by A0, B0, and K0 shall be configured to provide the following: Surround the component with sufficient clearance such that:
   - 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 20º 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.
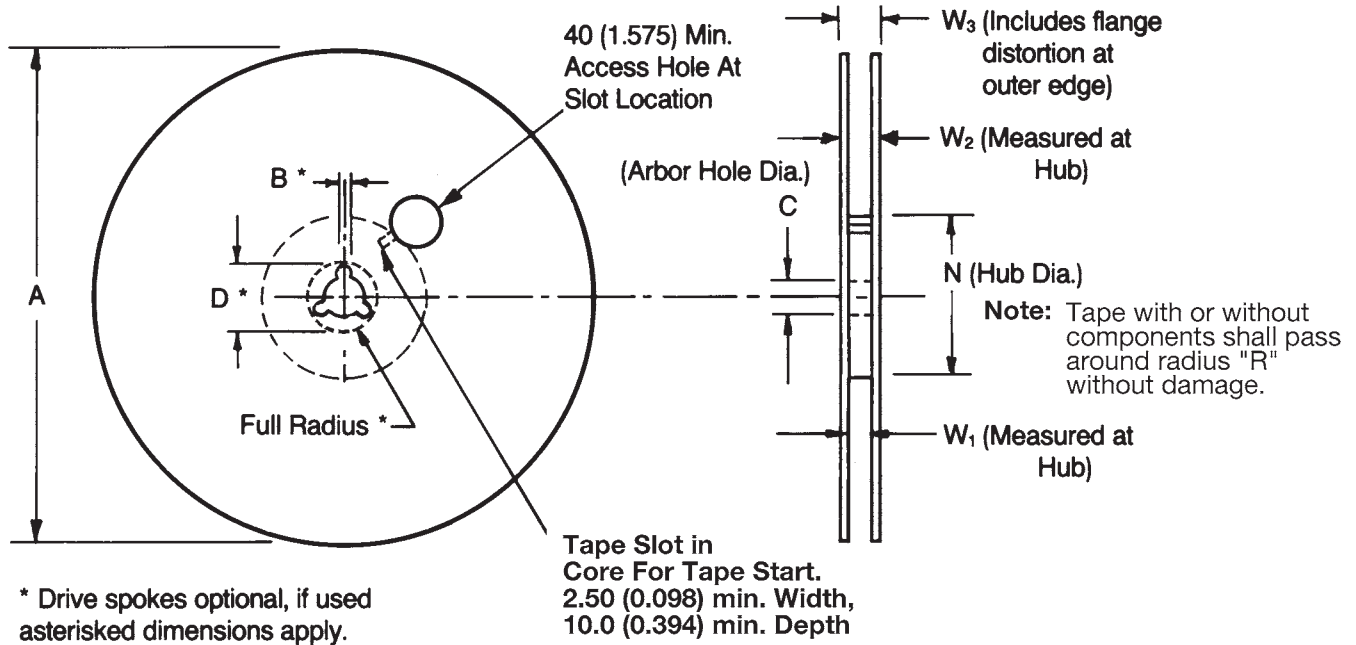
B1 dimension is a reference dimension for tape feeder clearance only.

If P1 = 2.0mm, the tape may not properly index in all tape feeders.

Maximum Component Rotation

Side or Front Sectional View Sketch "C"

Top View, Sketch "F"
Component Lateral Movements

0.50mm (0.020) Maximum

0.50mm (0.020) Maximum

20° maximum component rotation

Typical component cavity center line

Typical component center line

Top View Sketch "D"

– TRANSIENT SUPPRESSION PRODUCTS –

REEL DIMENSIONS

40 (1.575) Min. Access Hole At Slot Location

(Arbor Hole Dia.)

B *

D *

Full Radius *

Tape Slot in Core For Tape Start. 2.50 (0.098) min. Width, 10.0 (0.394) min. Depth

A

W₃ (Includes flange distortion at outer edge)

W₂ (Measured at Hub)

C

N (Hub Dia.)

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

W₁ (Measured at Hub)

* Drive spokes optional, if used asterisked dimensions apply.

mm (inches)

Tape Size	A Max.	B* Min.	C	D* Min.	N Min.	W1	W2 Max.	W3
8mm	330 (12.992)	1.5 (0.059)	13.0 $^{+0.50}_{-0.20}$ (0.512 $^{+0.020}_{-0.008}$)	20.2 (0.795)	50.0 (1.969)	8.40 $^{+1.5}_{-0.0}$ (0.331 $^{+0.059}_{-0.0}$)	14.4 (0.567)	7.90 Min. (0.311) 10.9 Max. (0.429)
12mm						12.4 $^{+2.0}_{-0.0}$ (0.488 $^{+0.079}_{-0.0}$)	18.4 (0.724)	11.9 Min. (0.469) 15.4 Max. (0.607)

Metric dimensions will govern.

English measurements rounded and for reference only.

TRANSGUARD®

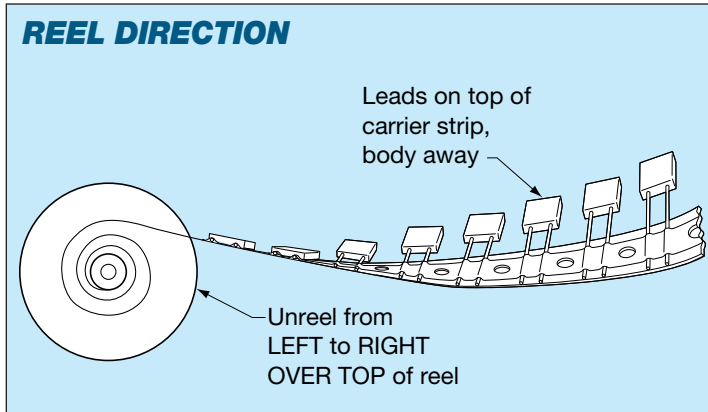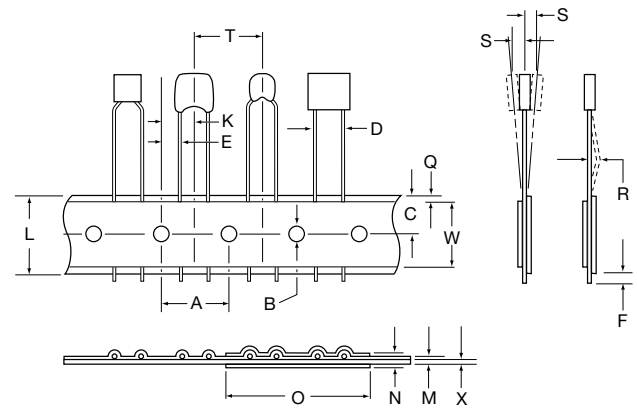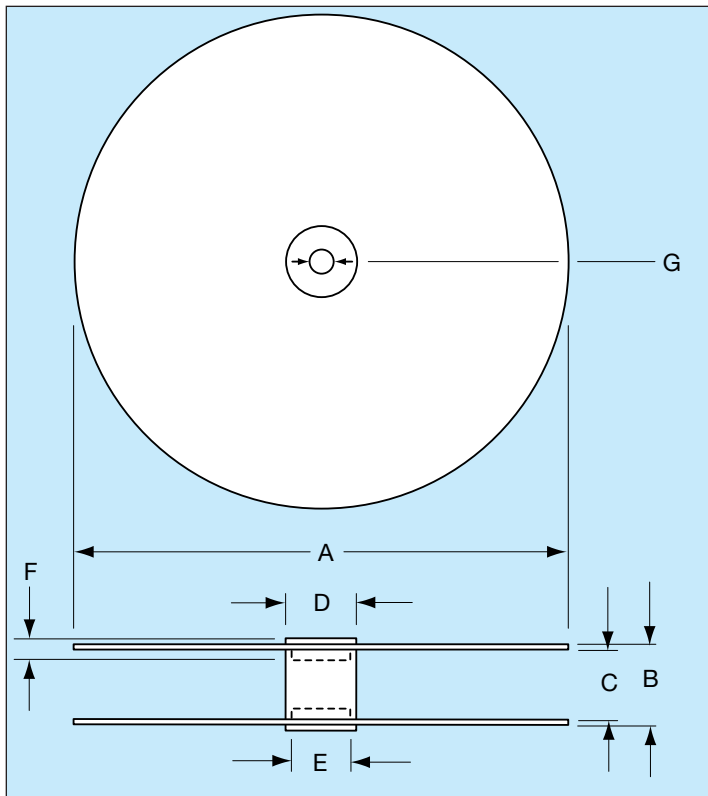| CLASS I / RS-296	
A.	5mm ± 0.5mm (0.200" ± 0.020")
B*.	52.4mm ± 1.5mm (2.063" ± 0.059")
C.	6.35mm ± 0.4mm (0.250" ± 0.016")
D1-D2.	1.4mm (0.055" MAX.)
E.	1.2mm (0.047" MAX.)
F.	1.6mm (0.063" MAX.)
G.	356mm (14.00" MAX.)
H.	76mm (3.000")
I.	25.4mm (1.000")
J.	84mm (3.300")
K.	70mm (2.750")
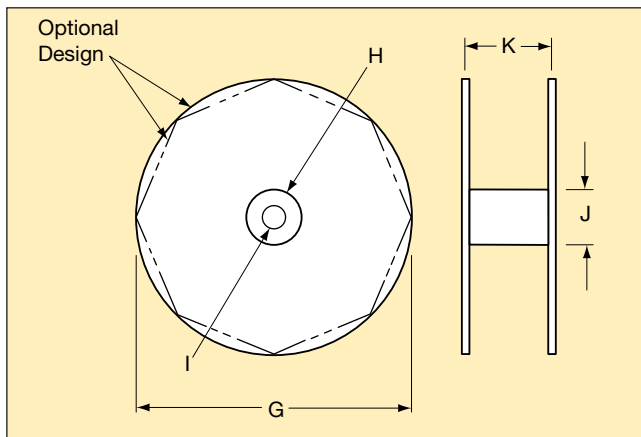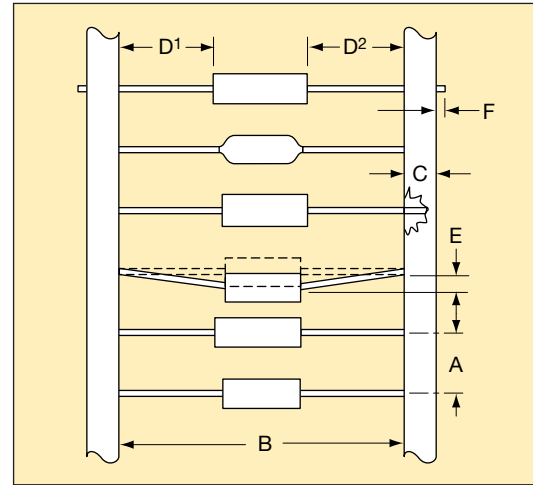
Leader Tape: 300mm min. (12")

Splicing: Tape Only

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

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165

– TRANSIENT SUPPRESSION PRODUCTS –

REEL DIRECTION

Leads on top of carrier strip, body away

Unreel from LEFT to RIGHT OVER TOP of reel

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 $^{+.79}_{-.20}$ or 2.54 $^{+.79}_{-.20}$
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 $^{+1.02}_{-.51}$
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

– TRANSIENT SUPPRESSION PRODUCTS –