Packaging

- Chips
- Axial Leads
- Radial Leads
**8mm Paper Tape Configuration**

**Metric Dimensions Will Govern**

### Constant Dimensions

<table>
<thead>
<tr>
<th>Tape Size</th>
<th>$D_0$</th>
<th>$E$</th>
<th>$P_0$</th>
<th>$P_2$</th>
<th>$T_1$</th>
<th>G. Min.</th>
<th>R Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8mm</td>
<td>1.50 ± 0.10 (0.059 ± 0.004)</td>
<td>1.75 ± 0.10 (0.069 ± 0.004)</td>
<td>4.00 ± 0.10 (0.157 ± 0.004)</td>
<td>2.00 ± 0.05 (0.079 ± 0.002)</td>
<td>0.10 (0.004)</td>
<td>0.75 (0.030)</td>
<td>25.0 (0.984)</td>
</tr>
</tbody>
</table>

*See Note 1 for Paper Base Tape and 1.60mm (0.063) Max. for Non-Paper Base Compositions.

### Variable Dimensions

<table>
<thead>
<tr>
<th>Tape Size</th>
<th>$P_1$</th>
<th>$E_1$ Min.</th>
<th>$F$</th>
<th>$W$</th>
<th>$A_0$ B0</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>8mm</td>
<td>4.00 ± 0.10 (0.157 ± 0.004)</td>
<td>6.25 (0.246)</td>
<td>3.50 ± 0.05 (0.138 ± 0.002)</td>
<td>+0.30 8.00 -0.10 0.315 -0.012</td>
<td>See Note 1</td>
<td></td>
</tr>
</tbody>
</table>

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

### Bar Code Labeling Standard

KYOCERA AVX bar code labeling is available and follows latest version of EIA-556.
8 & 12MM EMBOSSED TAPE
METRIC DIMENSIONS WILL GOVERN

CONSTANT DIMENSIONS

<table>
<thead>
<tr>
<th>Tape Size</th>
<th>D₀</th>
<th>E</th>
<th>P₀</th>
<th>P₂</th>
<th>S Min.</th>
<th>T Max.</th>
<th>T₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>8mm and 12mm</td>
<td>1.50 ± 0.10 (0.059 ± 0.004)</td>
<td>1.75 ± 0.10 (0.069 ± 0.004)</td>
<td>4.0 ± 0.10 (0.157 ± 0.004)</td>
<td>2.0 ± 0.05 (0.079 ± 0.002)</td>
<td>0.60 (0.024)</td>
<td>0.60 (0.024)</td>
<td>0.10 (0.004)</td>
</tr>
</tbody>
</table>

VARIABLE DIMENSIONS

<table>
<thead>
<tr>
<th>Tape Size</th>
<th>B₁ Max.</th>
<th>D₁ Min.</th>
<th>E₁ Min.</th>
<th>F</th>
<th>P₁ See Note 5</th>
<th>R Min. See Note 2</th>
<th>T₂</th>
<th>W Max.</th>
<th>A₀ B₁ K₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>8mm</td>
<td>4.35 (0.171)</td>
<td>1.00 (0.039)</td>
<td>6.25 (0.246)</td>
<td>3.50 ± 0.05 (0.138 ± 0.002)</td>
<td>4.00 ± 0.10 (0.157 ± 0.004)</td>
<td>25.0 (0.984)</td>
<td>2.50 Max. (0.098)</td>
<td>8.30 (0.327)</td>
<td>See Note 1</td>
</tr>
<tr>
<td>12mm</td>
<td>8.20 (0.323)</td>
<td>1.50 (0.059)</td>
<td>10.25 (0.404)</td>
<td>5.50 ± 0.05 (0.217 ± 0.002)</td>
<td>4.00 ± 0.10 (0.157 ± 0.004)</td>
<td>30.0 (1.181)</td>
<td>6.50 Max. (0.256)</td>
<td>12.3 (0.484)</td>
<td>See Note 1</td>
</tr>
</tbody>
</table>

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 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.
   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.
## REEL DIMENSIONS

*Tape Slot in Core For Tape Start.*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8mm</td>
<td>330</td>
<td>1.5</td>
<td>13.0</td>
<td>20.2</td>
<td>50.0</td>
<td>8.40</td>
<td>14.4</td>
<td>7.90</td>
</tr>
<tr>
<td></td>
<td>(12.992)</td>
<td>(0.059)</td>
<td>(0.512)</td>
<td>(0.795)</td>
<td>(1.969)</td>
<td>(0.331)</td>
<td>(0.567)</td>
<td>(0.429)</td>
</tr>
<tr>
<td>12mm</td>
<td>12.4</td>
<td>1.5</td>
<td>13.0</td>
<td>20.2</td>
<td>50.0</td>
<td>8.40</td>
<td>14.4</td>
<td>11.9</td>
</tr>
<tr>
<td></td>
<td>(0.488)</td>
<td>(0.059)</td>
<td>(0.512)</td>
<td>(0.795)</td>
<td>(1.969)</td>
<td>(0.331)</td>
<td>(0.567)</td>
<td>(0.469)</td>
</tr>
</tbody>
</table>

Metric dimensions will govern.

English measurements rounded and for reference only.
Axial (Leads/Packaging)

**TRANSGUARD®**

CLASS I / RS-296

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
</table>
| 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”)* |

Optional Design

Leader Tape: 300mm min. (12“)
Splicing: Tape Only
Missing Parts: 0.25% of component count max.- No consecutive missing parts

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**Radial Leads/Packaging**

**REEL DIRECTION**

Leads on top of carrier strip, body strip away.

Unreel from LEFT to RIGHT OVER TOP of reel.

**QUANTITY PER REEL**

<table>
<thead>
<tr>
<th>PART</th>
<th>PCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>VR15, VR20 CG20, CG21</td>
<td>3000</td>
</tr>
</tbody>
</table>

**DESCRIPTION DIMENSIONS (MM)**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>DIMENSIONS (MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Feed Hole Pitch</td>
<td>12.70 ± .20</td>
</tr>
<tr>
<td>B. Feed Hole Diameter</td>
<td>3.99 ± .20</td>
</tr>
<tr>
<td>C. Feed Hole Location</td>
<td>9.02 ± .51</td>
</tr>
<tr>
<td>D. Component Lead Spacing</td>
<td>5.00 ± .79</td>
</tr>
<tr>
<td>E. Component Lead Location</td>
<td>2.54 + .20</td>
</tr>
<tr>
<td>F. Component Lead Protrusion</td>
<td>3.81 ± .51</td>
</tr>
<tr>
<td>G. Arbor Hole Diameter</td>
<td>2.00 maximum</td>
</tr>
<tr>
<td>H. Component Body Location</td>
<td>6.35 ± .41</td>
</tr>
<tr>
<td>I. Carrier Tape Width</td>
<td>18.01 ± .51</td>
</tr>
<tr>
<td>J. Carrier Tape Spliced Thickness</td>
<td>1.42 maximum</td>
</tr>
<tr>
<td>K. Carrier Tape Spliced Length</td>
<td>50.80 - 88.90</td>
</tr>
<tr>
<td>L. Carrier Tape Spliced Length</td>
<td>3.00 maximum</td>
</tr>
<tr>
<td>M. Carrier Tape Spliced Length</td>
<td>.79 maximum</td>
</tr>
<tr>
<td>N. Carrier Tape Spliced Length</td>
<td>.99 maximum</td>
</tr>
<tr>
<td>O. Carrier Tape Spliced Length</td>
<td>12.70 ± .99</td>
</tr>
<tr>
<td>P. Carrier Tape Spliced Length</td>
<td>5.00 minimum</td>
</tr>
<tr>
<td>Q. Carrier Tape Spliced Length</td>
<td>.51 ± .10</td>
</tr>
<tr>
<td>R. Cumulative Pitch over 20 Pitches</td>
<td>254 ± 2.00</td>
</tr>
</tbody>
</table>

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