

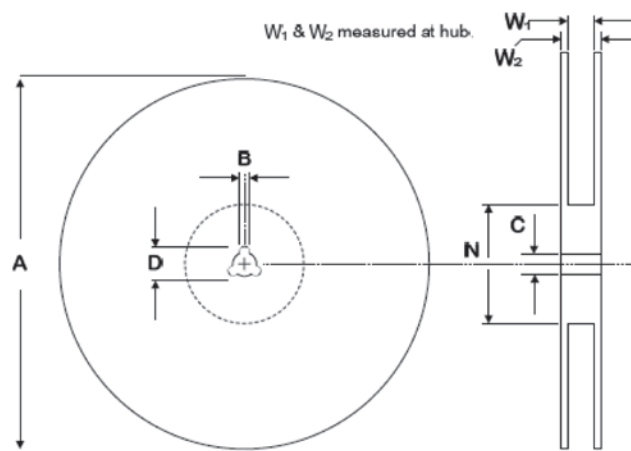
Carrier Tape and Reel Dimensions and Devices Orientation

Introduction

Application Note 101 applies to all packaged devices that Custom MMIC delivers in Tape and Reel packaging. This Application Note documents the Carrier Tape and the Reel dimensions, along with the device orientation. Custom MMIC's tape and reel procedure meets the specifications outlined in the EIA-481 Industry Standard.

Reel Description

This is a one-piece plastic reel. Material: High Impact Polystyrene. Antistatic. Surface Resistivity: <1012 ohms/square per ASTM D-257 at 50% RH. Static Decay: 90% discharge in 0.14 seconds. 100% discharge in 1.48 seconds per method 4046 of Standard 101C at 50% RH. Color: White or Yellow. Specifications: Reels meet EIA-481. Reel Diameter: 178mm. Size: 12mm.



Reel and Hub Dimensions

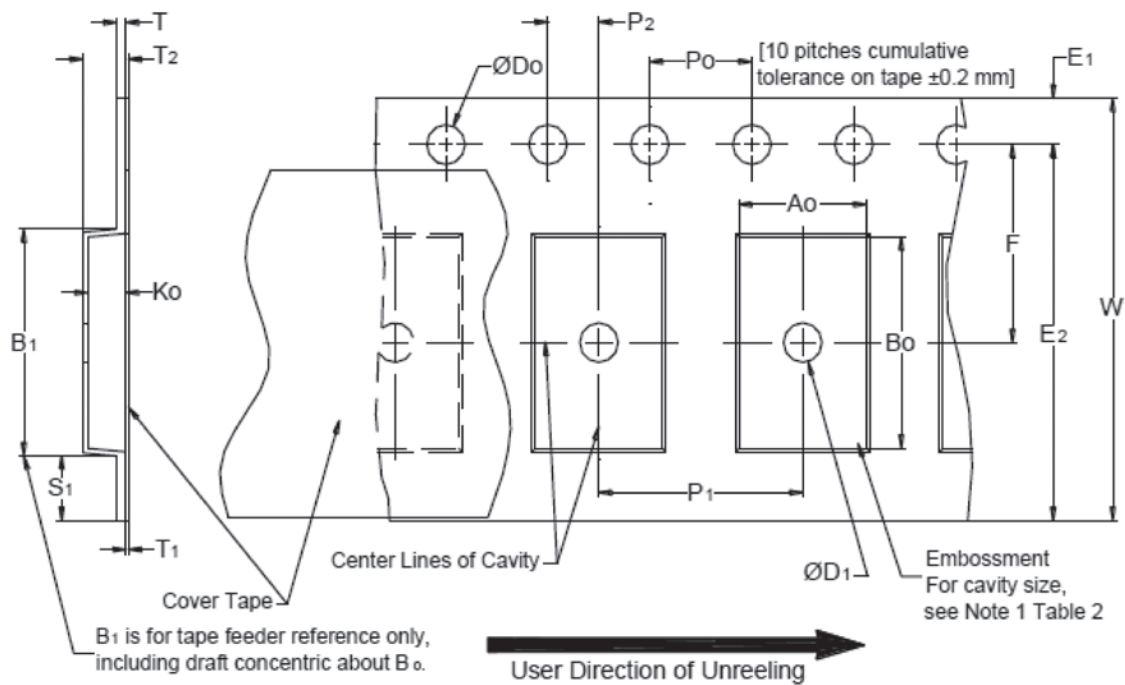
| | Item | Symbol | Size (MM) | Size (Inch) |
|------|------------------------|--------|-------------------|---------------------|
| Reel | Diameter | A | 178 ± 2.0 | 7.0 ± 0.08 |
| | Width (Inside Flanges) | W1 | 12.4 + 1.5, - 0.0 | 0.472 + 0.06, - 0.0 |
| | Width (Inside Flanges) | W2 | 18.4 max | 0.724 max |
| Hub | Outer Diameter | N | 50.0 min | 1.97 min |
| | Spindle Hole Diameter | C | 13.0 ± 0.2 | 0.512 ± 0.008 |
| | Key Slot Width | B | 1.5 min | 0.06 min |
| | Key Slot Diameter | D | 20.2 min | 0.795 min |



Carrier Tape Specifications

All carrier tape used by Custom MMIC to package devices meets the specifications of the EIA-481 Industry Standard. Cavity dimensions are

designed per individual package size to meet the maximum device rotation and lateral movement as specified in EIA-481.



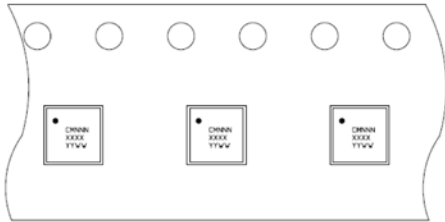
Tape Dimensions

| | Description | Symbol | Size (MM) | Size (INCH) |
|------------------------------|--|--------|------------|---------------|
| Cavity | Pitch | P1 | 8.0 ± 0.05 | 0.315 ± 0.004 |
| Distance Between Centerlines | Cavity to Sprocket Hole (Length Direction) | P2 | 2.0 ± 0.05 | 0.079 ± 0.002 |
| | Cavity to to Sprocket Hole (Width Direction) | F | 5.5 ± 0.05 | 0.217 ± 0.002 |
| Carrier Tape | Width | W | 12.3 max | 0.484 max |
| Cover Tape | Width | C | 9.2 ± 0.10 | 0.362 ± 0.004 |



Device Orientation in Cavity

Device orientation is with the PIN 1 marking on the device placed in Quadrant 1 per the EIA-481



Device Orientation per Reel

The maximum quantity of devices per reel are identified in the table below. Please contact our sales department for quantities other than those listed below.

| Device Package | Max. Device Quality |
|----------------|---------------------|
| 3x3 mm QFN | 1000 |
| 4x4 mm QFN | 1000 |
| 5x5 mm QFN | 500 |

For application support and additional technical resources visit our [Support Page](#).