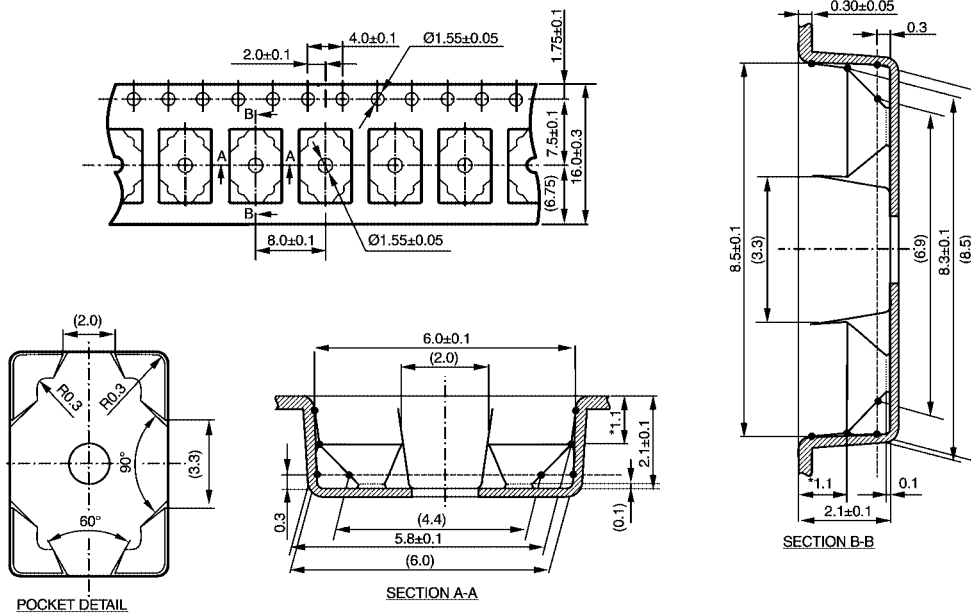


## BGA Tape and Reel Specifications

### Tape and Reel Quantities

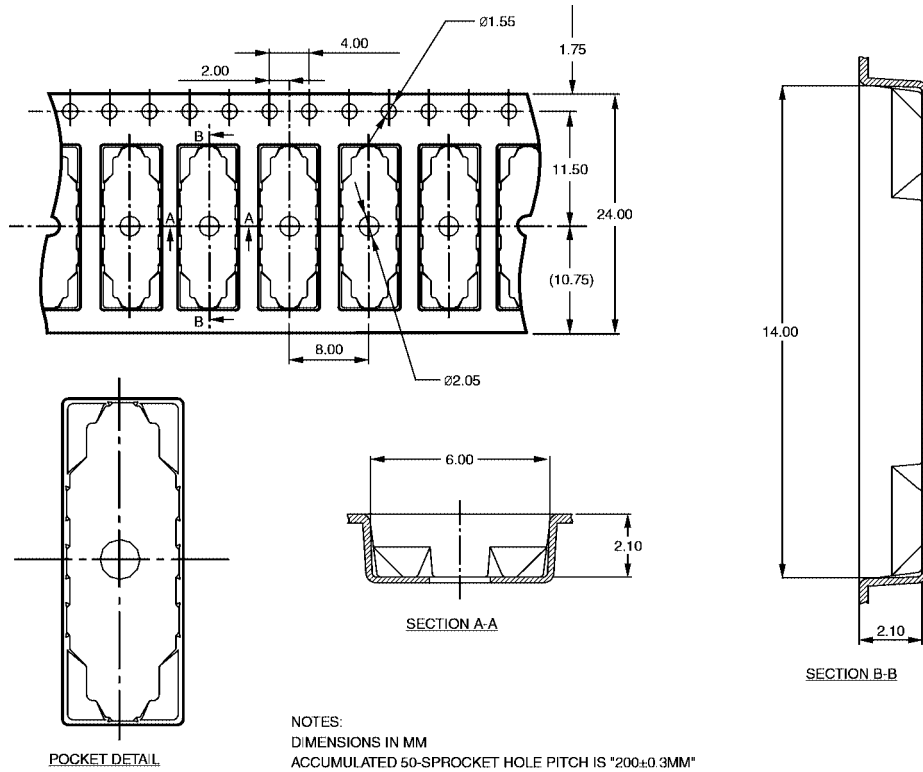
Package Code	Package Description	Package Drawing Number	Tape and Reel Container Quantity
GX	54-Ball Fine-Pitch Ball Grid Array (FBGA), JEDEC MO-205, 5.5mm Wide	BGA54A	2500
	96-Ball Fine-Pitch Ball Grid Array (FBGA), JEDEC MO-205, 5.5mm Wide	BGA96A	2500
	114-Ball Fine-Pitch Ball Grid Array (FBGA), JEDEC MO-205, 5.5mm Wide	BGA114A	2500

### 54-Ball BGA Package Tape Specification (All Dimensions in millimeters)



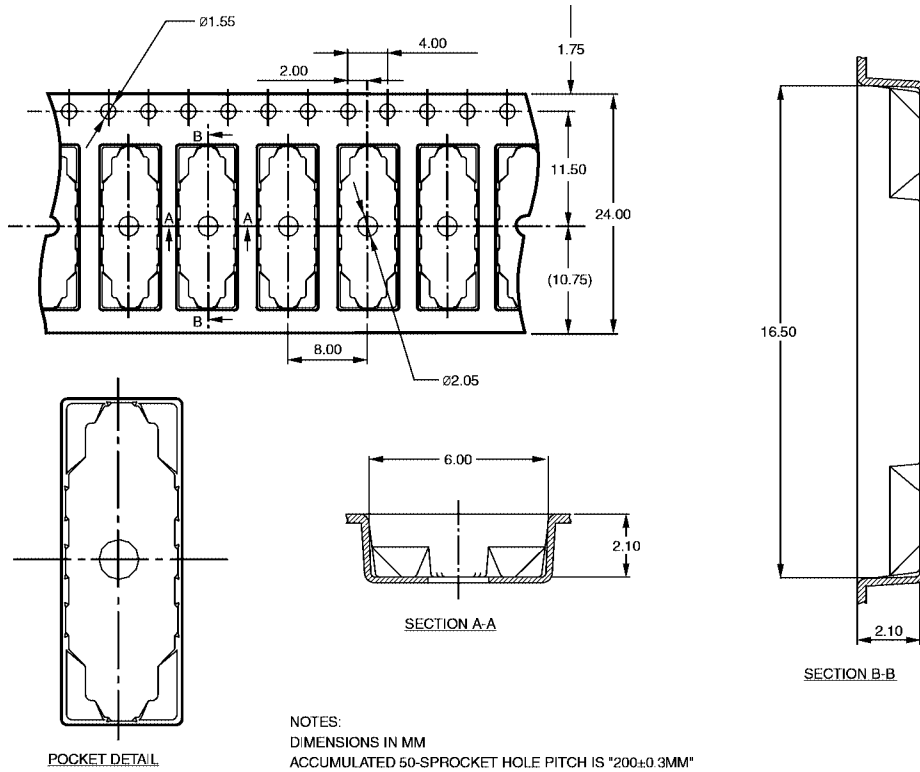
NOTES:  
ACCUMULATED 50-SPROCKET HOLE PITCH IS "200±0.3MM".  
DIMENSIONS IN MM

**96-Ball BGA Package Tape Specification** (All Dimensions in millimeters)



NOTES:  
 DIMENSIONS IN MM  
 ACCUMULATED 50-SPROCKET HOLE PITCH IS "200±0.3MM"

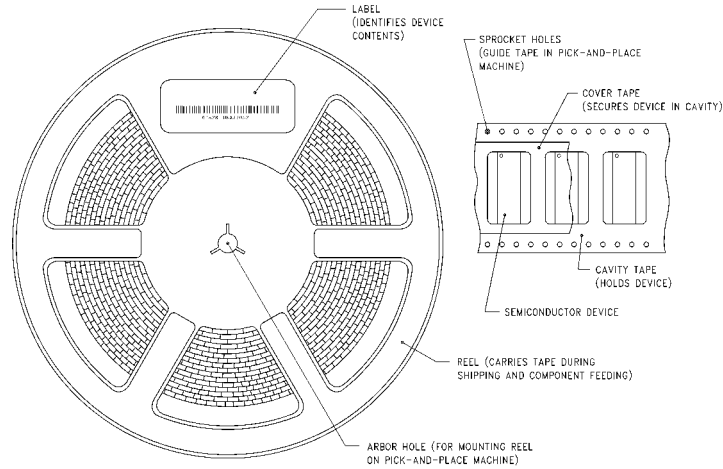
**114-Ball BGA Package Tape Specification** (All Dimensions in millimeters)



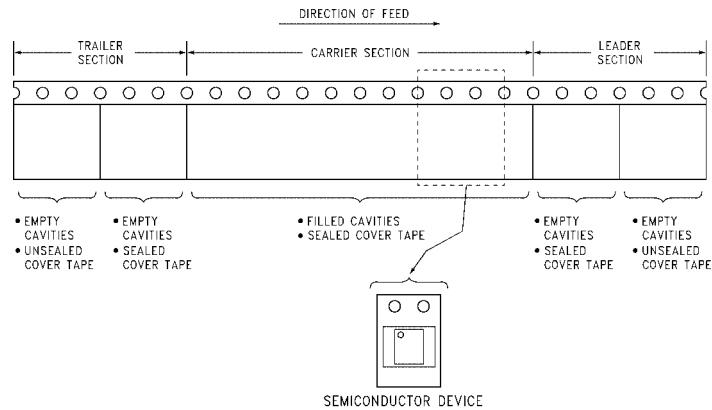
NOTES:  
 DIMENSIONS IN MM  
 ACCUMULATED 50-SPROCKET HOLE PITCH IS "200±0.3MM"

# Tape-and-Reel Overview and Technical Information

## Tape-and-Reel Diagram



## Tape Format and Device Orientation



## MATERIALS

- Cavity Tape: Static Dissipative PVC or Polystyrene
- Cover Tape: Static Dissipative Polyester or Polyethylene
- Reel: Static Dissipative PVC or Polystyrene
- Surface Resistivity:  $10^5 \Omega/\square$  to less than  $10^{12} \Omega/\square$  all materials.

## ELECTROSTATIC CHARGES

Fairchild Semiconductor uses only static dissipative tape and reel materials (surface resistivity of  $10^5 \Omega/\square$  to  $10^{12} \Omega/\square$ ) to avoid damaging static charges building up during the peeling off of the cover tape prior to pick and place. Fairchild Semiconductor ran extensive evaluations on cover tape materials and found that static charge build up was very low (less than 200V) on static dissipative cover tapes. In comparison, commonly used insulative cover tapes had readings consistently in excess of 3000V.

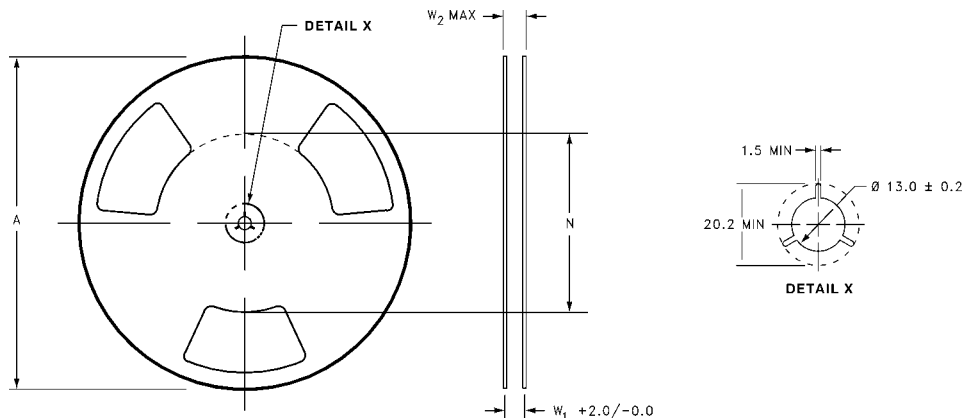
## COVER TAPE PEEL STRENGTH

- The force required to peel off the cover tape from the carrier tape will fall within the range of 0.1 Newton to 1.3 Newton (10 grams to 130 grams) at a peeling speed of 300 mm per minute. This complies with the EIA standard.

## TAPE STORAGE

- It is recommended that the sealed tape be stored in conditions where the environment does not exceed:
  - Temperature: 40°C maximum
  - Relative humidity: 90% maximum
  - No direct exposure to sunlight.

**Reel Specifications and Drawings** (All dimensions in millimeters)



**Plastic Reel Dimensions for 16mm, and 24mm Tape**

Package Drawing Number	Tape Size (mm)	A (mm)	N (Typical) (mm)	W <sub>1</sub> (mm)	W <sub>2</sub> (Max) (mm)
BGA54A	16	330	178	16.4	22.4
BGA96A BGA114A	24	330	178	24.4	30.4

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2. A critical component in any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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