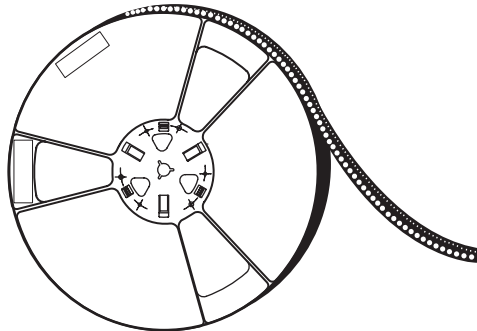


APPLICATION NOTE

Tape and Reel Information – RF Modules



Production quantities of Skyworks RF Modules are shipped in standard tape and reel format. The enclosed information provides the formats and dimensions for the currently popular sizes.

Revision History

Revision	Date	Description
A	April 24, 2002	Add: 4 x 4mm and 8 x 10 mm Tape and Reel Drawings
B	May 10, 2002	Add: ESD information
C	July 12, 2002	Add: Table 2
D	August 12, 2004	Revise: Section 1.0; Figures 3, 5, 9, 11, 13, 15 Add: Section 2.0; Figures 1, 2, 4, 6, 7, 8, 10, 12, 14, 16, 17
E	October 6, 2004	Delete: Shipping Tray Information (Refer to Application Note: Shipping Tray Information – RF Modules, Document Number 200079A) Add: Figure 7 (9 x 10 mm Body Size)
F	April 18, 2005	Add: Figures 1, 3, 5, 6, 7, 8, 11, 12, 15, 18, 20
G	June 20, 2006	Add: Figure 3 (3 x 5 mm Body Size); Figure 4 (3 x 6 mm Body Size); References Revise: Section 1.0; Figure 2 (pocket depth)
H	December 7, 2007	Revise: Figures 13, 22 Add: Figures 5, 8-11, 14, 15, 18, 20, 21, 23, 29
I	June 9, 2008	Revise: Figures 2, 4, 5, 8, 10, 15, 16, 19, 20, 21, 22, 23, 29, 30, 35, 37; Add: Figures 13, 18, 20, 26, 28

References

Skyworks Solutions, Inc. Specification: Tape & Reel Materials Used For Shipping & Handling Semiconductor Packages, Document Number GP01-D232

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ESD Standards EIA 481, EIA541, JESD625A

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Table of Contents

Revision History ii

References ii

1.0 Carrier Tapes 3

 1.1 Carrier Tapes – Black Conductive Polycarbonate 3

 1.2 Carrier Tapes – Black Conductive Polystyrene..... 3

2.0 Electrostatic Discharge (ESD) Sensitivity..... 3

List of Tables

Table 1. Classes of ESD Sensitive Parts3

Table 2. Static Shielding Foil Moisture Vapor Barrier Bag3

List of Figures

Figure 1. Carrier Tape Body Size: 2.44 x 4.5 x 1.5 mm – SOT-894

Figure 2. Carrier Tape Body Size: 3 x 3 x 1.4 / 1.4 mm – Overmold MCM / RFLGA5

Figure 3. Carrier Tape Body Size: 3 x 5 x 1.0 mm – Overmold MCM6

Figure 4. Carrier Tape Body Size: 3 x 6 x 1.2 mm – Overmold MCM7

Figure 5. Carrier Tape Body Size: 3 x 8 x 1.2 mm – Overmold MCM8

Figure 6. Carrier Tape Body Size: 3.5 x 3.5 x 1.4 mm – MCM9

Figure 7. Carrier Tape Body Size: 3.9 x 4.9 x 1.4 mm – 8L SOIC / 16L SSOP10

Figure 8. Carrier Tape Body Size: 4 x 4 x 1.4 mm – Overmold MCM / RFLGA11

Figure 9. Carrier Tape Body Size: 4 x 4.5 x 1.4 mm – Overmold RFLGA12

Figure 10. Carrier Tape Body Size: 4 x 7 x 1.2 mm – Overmold MCM13

Figure 11. Carrier Tape Body Size: 4.4 x 6.5 x 1.0 mm – 16L TSSOP14

Figure 12. Carrier Tape Body Size: 4.4 x 6.5 x 1.0 mm – 20L TSSOP15

Figure 13. Carrier Tape Body Size: 4.4 x 9.7 x 0.9 mm – 28L TSSOP16

Figure 14. Carrier Tape Body Size: 5 x 5 x 1.0 mm – Overmold MLF17

Figure 15. Carrier Tape Body Size: 5 x 5 x 1.3 / 1.0 mm – Overmold MCM / RFLGA18

Figure 16. Carrier Tape Body Size: 5 x 6 x 1.4 mm – Overmold MCM19

Figure 17. Carrier Tape Body Size: 5 x 8 x 1.4 mm – Overmold MCM20

Figure 18. Carrier Tape Body Size: 5.42 x 9.04 x 1.2 mm – Overmold MCM21

Figure 19. Carrier Tape Body Size: 6 x 6 x 1.4 mm – Overmold MCM / RFLGA (1 of 2)22

Figure 20. Carrier Tape Body Size: 6 x 6 x 1.75 mm – Overmold MCM / RFLGA (2 of 2)23

Figure 21. Carrier Tape Body Size: 6 x 7 x 1.0 mm – Overmold MCM / RFLGA24

Figure 22. Carrier Tape Body Size: 6 x 8 x 1.4 mm – Overmold MCM25

Figure 23. Carrier Tape Body Size: 6 x 11 x 1.4 mm – Overmold MCM26

Figure 24. Carrier Tape Body Size: 6 x 12 x 1.4 mm – Overmold MCM27

Figure 25. Carrier Tape Body Size: 7 x 7 x 1.3 / 1.0 mm – Overmold BCC++ / MCM / RFLGA28

Figure 26. Carrier Tape Body Size: 7 x 7.5 x 1.4 mm – Overmold MCM29

Figure 27. Carrier Tape Body Size: 7 x 11 x 1.4 mm – Overmold MCM30

Figure 28. Carrier Tape Body Size: 7.5 x 7.5 x 1.4 mm – Overmold MCM31

Figure 29. Carrier Tape Body Size: 8 x 8 x 1.4 / 1.3 / 1.0 mm – Overmold MCM / RFLGA32

Figure 30. Carrier Tape Body Size: 8 x 10 x 1.4 mm – Overmold MCM33

Figure 31. Carrier Tape Body Size: 8.3 x 8.3 x 2.1 mm – Ceramic MCM34

Figure 32. Carrier Tape Body Size: 9 x 9 x 1.3 / 1.0 mm – Overmold RFLGA35

Figure 33. Carrier Tape Body Size: 9 x 10 x 1.4 mm – Overmold MCM36

Figure 34. Carrier Tape Body Size: 9 x 12 x 1.4 mm – Overmold MCM37

Figure 35. Carrier Tape Body Size: 9.1 x 11.6 x 1.4 mm – Overmold MCM38

Figure 36. Carrier Tape Body Size: 10 x 10 x 1.0 mm – Overmold FPBGA39

Figure 37. Carrier Tape Body Size: 10 x 14 x 1.4 mm – Overmold MCM40

Figure 38. Carrier Tape Body Size: 13 x 13 x 1.8 / 1.4 mm – Overmold MCM41

Figure 39. Typical Tape and Reel Showing Unreeling Direction42

1.0 Carrier Tapes

Production quantities of Skyworks RF products can be delivered in standard tape-and-reel format for attachment in a production solder-reflow environment. Carrier tapes identified in this Application Note may be manufactured of either polycarbonate or polystyrene material. The material used for each individual carrier tape is identified under NOTES on each tape and reel drawing. Skyworks tape and reel material complies with ESD standards EIA481, EIA541, and JESD625-A.

The diagrams within this Application Note provide information regarding tape materials, dimensions, adherence to industry standards, and part numbers for placing orders. Carrier tape diagrams are arranged by part size (in millimeters) from the smallest to the largest and each part size is stated by its smallest dimension first. For example, the sequence of part sizes in Figures 1 through Figure 33 begins with the size 2.44 x 4.5 mm, followed by 3 x 3 mm, 3 x 5 mm, and so on through 13 x 13 mm in Figure 34. Any tape carrier diagram within this document may be quickly located from the List of Figures on page 1. Figure 22 illustrates the orientation of the carrier tape to the supply reel and the direction of the tape as it feeds from the reel.

1.1 Carrier Tapes – Black Conductive Polycarbonate

Black conductive polycarbonate carrier tapes possess electrical and tribo-electrical properties that help protect static-sensitive components with an effective balance of the carrier’s electrostatic shielding and electrostatic decay properties. The electrically conductive polycarbonate carrier tape shows a nominal surface resistivity in the pocket of $\geq 10^4 \Omega/\text{square}$ and $\leq 10^8 \Omega/\text{square}$, which minimizes dV/dt 50 to afford ESD protection to devices in Classes I through III. These properties of the black polycarbonate carrier are appropriate for packaging electro-statically sensitive components.

1.2 Carrier Tapes – Black Conductive Polystyrene

Black conductive polystyrene carrier tapes possess electrical and tribo-electrical properties that help protect static-sensitive components with an effective balance of the carrier’s electrostatic shielding and electrostatic decay properties. The electrically static dissipative polystyrene carrier shows a nominal surface resistivity of $10^{10} \Omega/\text{square}$, which minimizes dV/dt to afford ESD protection to devices in Classes I through III. These properties of the black polystyrene carrier are appropriate for packaging electro-statically sensitive components.

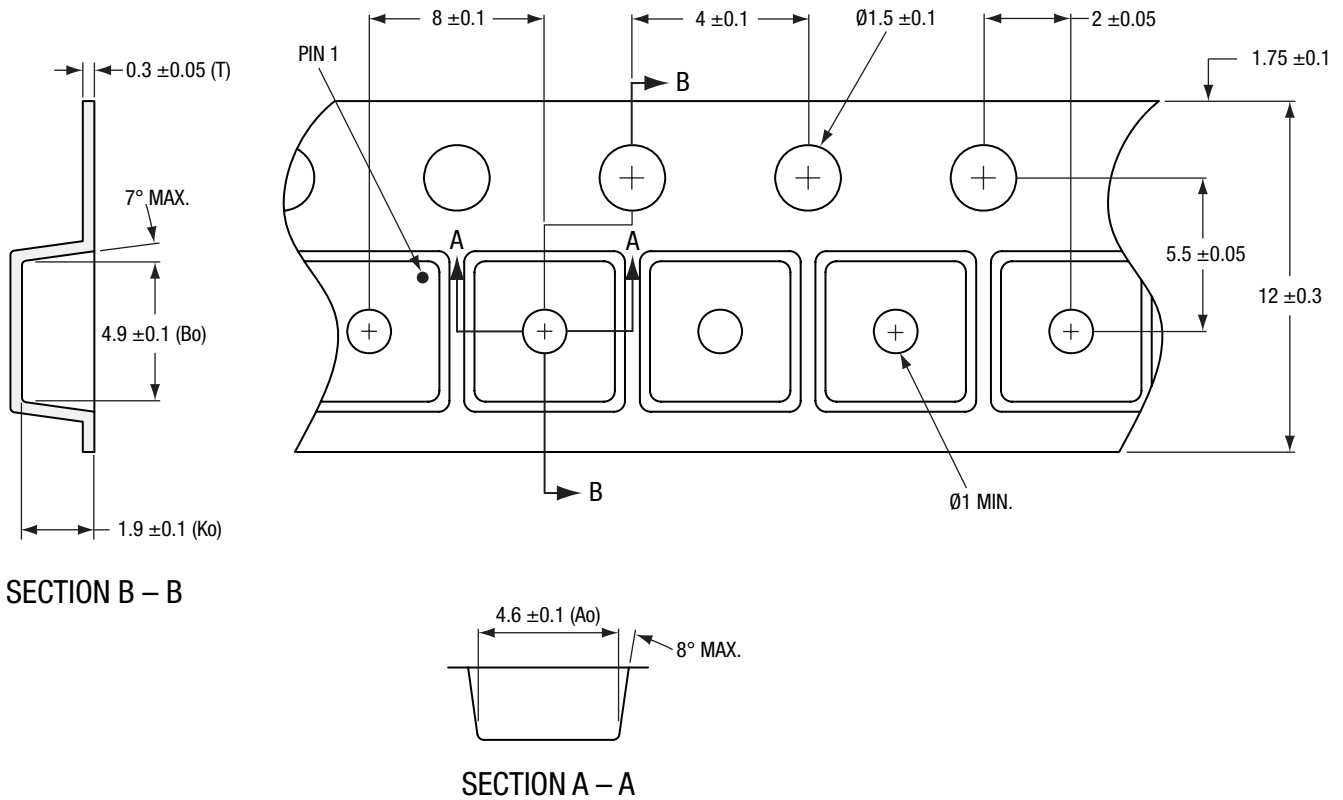
2.0 Electrostatic Discharge (ESD) Sensitivity

Table 1. Classes of ESD Sensitive Parts

ESD Model	ESD Class	Voltage Range
Human Body Model	I	> 0 V–1,999 V
	II	2,000 V–3,999 V
	III	4,000 V–15,999 V

Table 2. Static Shielding Foil Moisture Vapor Barrier Bag

Electrical Properties	Method	Units	Typical Value
Surface Resistance	EOS/ESD S11.11	ohms	In 1.0E+11
			Out 1.0E+11
Static Decay	FTMS 101C/METHOD 4046	Sec.	+ 0.01 – 0.01
Energy Test	EOS/ESD S11.31	nano-Joules	10



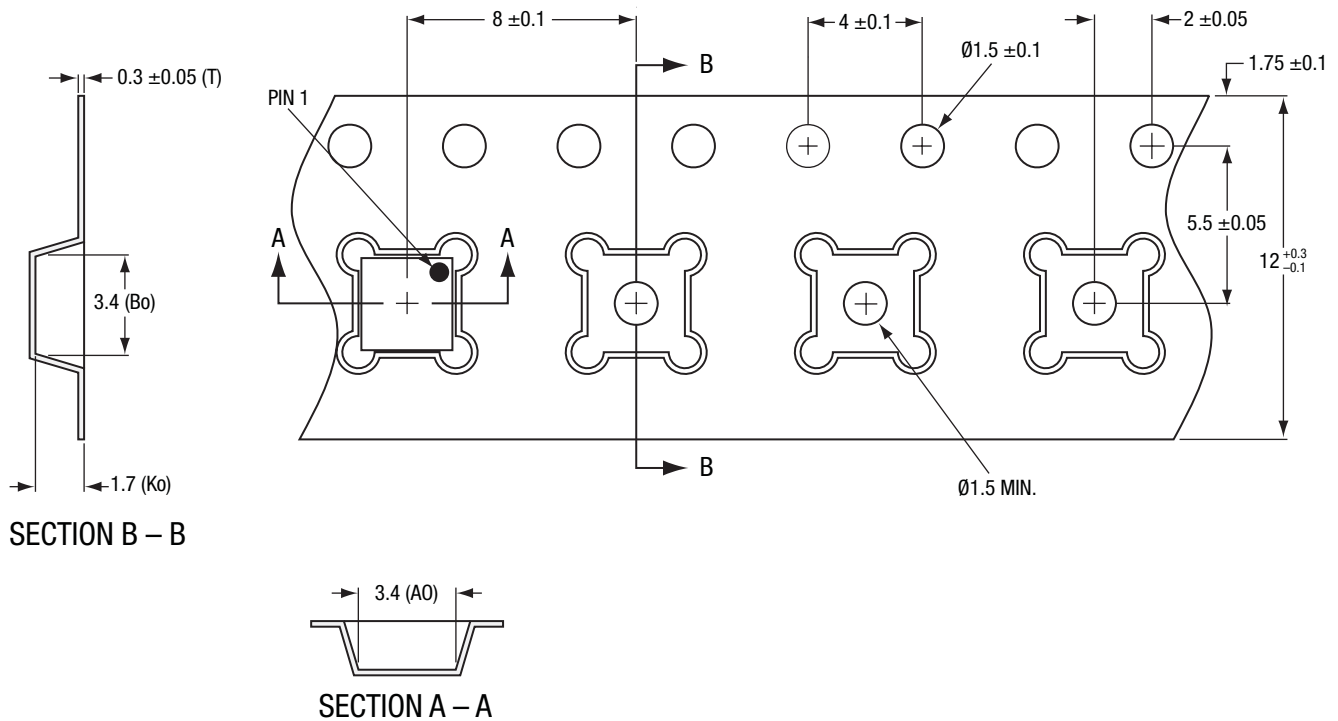
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.2 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^8$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
6. ALL DIMENSIONS ARE IN MILLIMETERS.
7. PART NO.: SOT-89-D (PLEASE INDICATE ON PURCHASE ORDER).
8. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 3000.

ADVANTEK CARRIER TAPE

CARRIER TAPE SOT-89 2.44 x 4.5 x 1.5 mm BODY SIZE GP01-D232-129B
101568_001

Figure 1. Carrier Tape Body Size: 2.44 x 4.5 x 1.5 mm – SOT-89



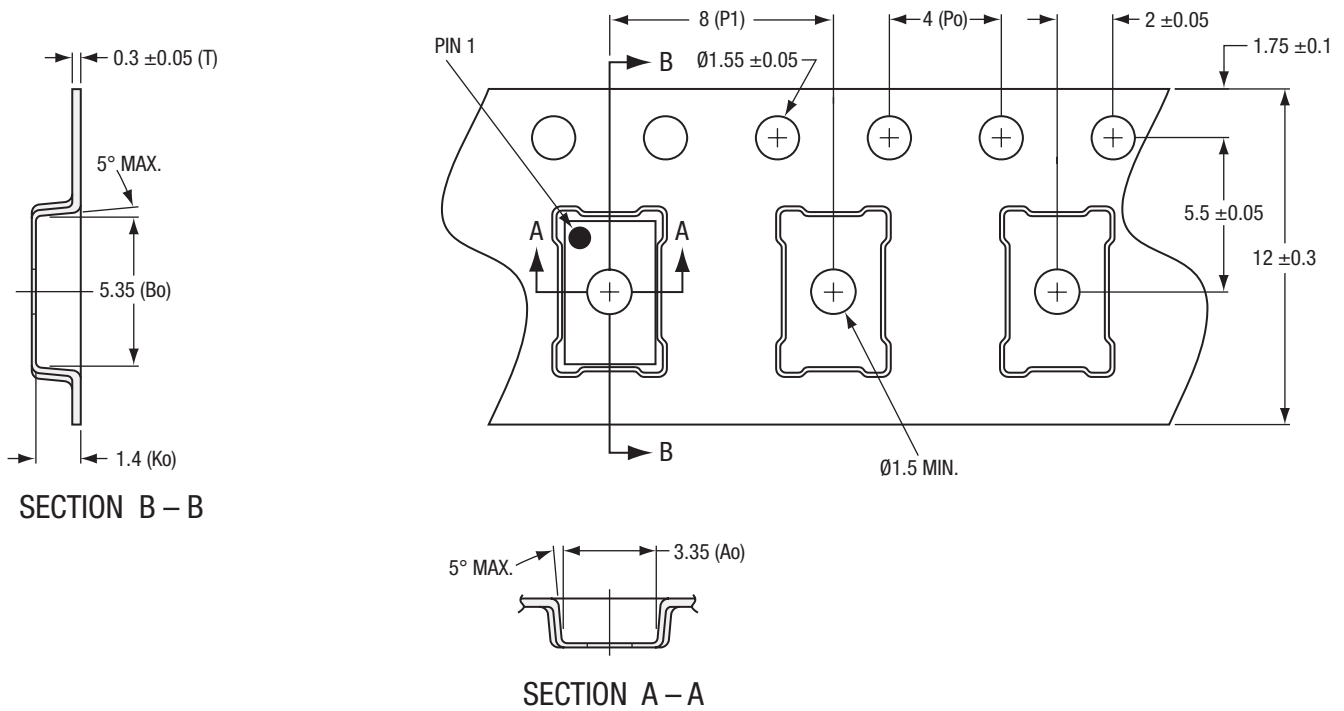
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. 10 SPROCKET HOLE PITCH CUMULATIVE TOLERANCE: ± 0.2 mm
6. Ao & Bo MEASURED ON PLANE 0.3 mm ABOVE THE BOTTOM OF THE POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: KS-1208-208 REV. 00 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 4500.

KOSTAT CARRIER TAPE

CARRIER TAPE OVERMOLD MCM / RFLGA 3 x 3 x 1.4 mm BODY SIZE GP01-D232-187A 101568_002

Figure 2. Carrier Tape Body Size: 3 x 3 x 1.4 / 1.4 mm – Overmold MCM / RFLGA



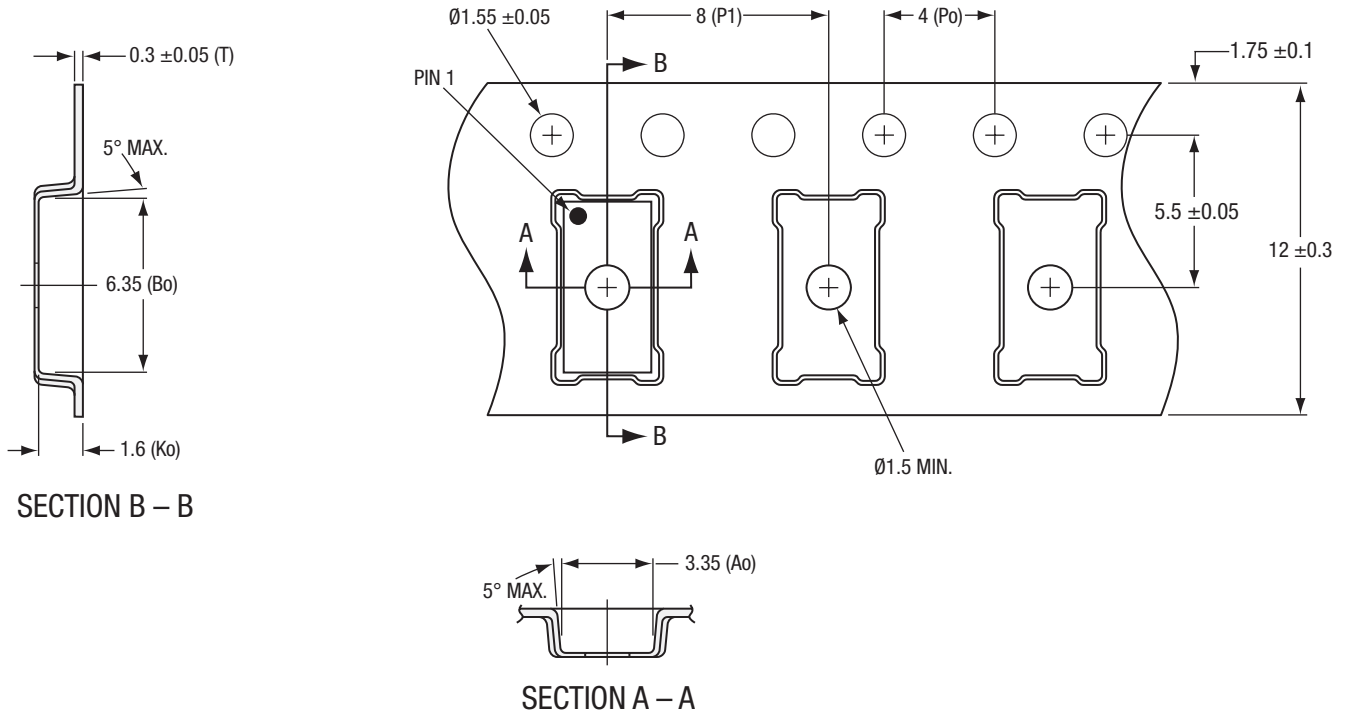
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM0305-12-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 4500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 3 x 5 x 1.0 mm BODY SIZE GP01-D232-173A 101568_003

Figure 3. Carrier Tape Body Size: 3 x 5 x 1.0 mm – Overmold MCM



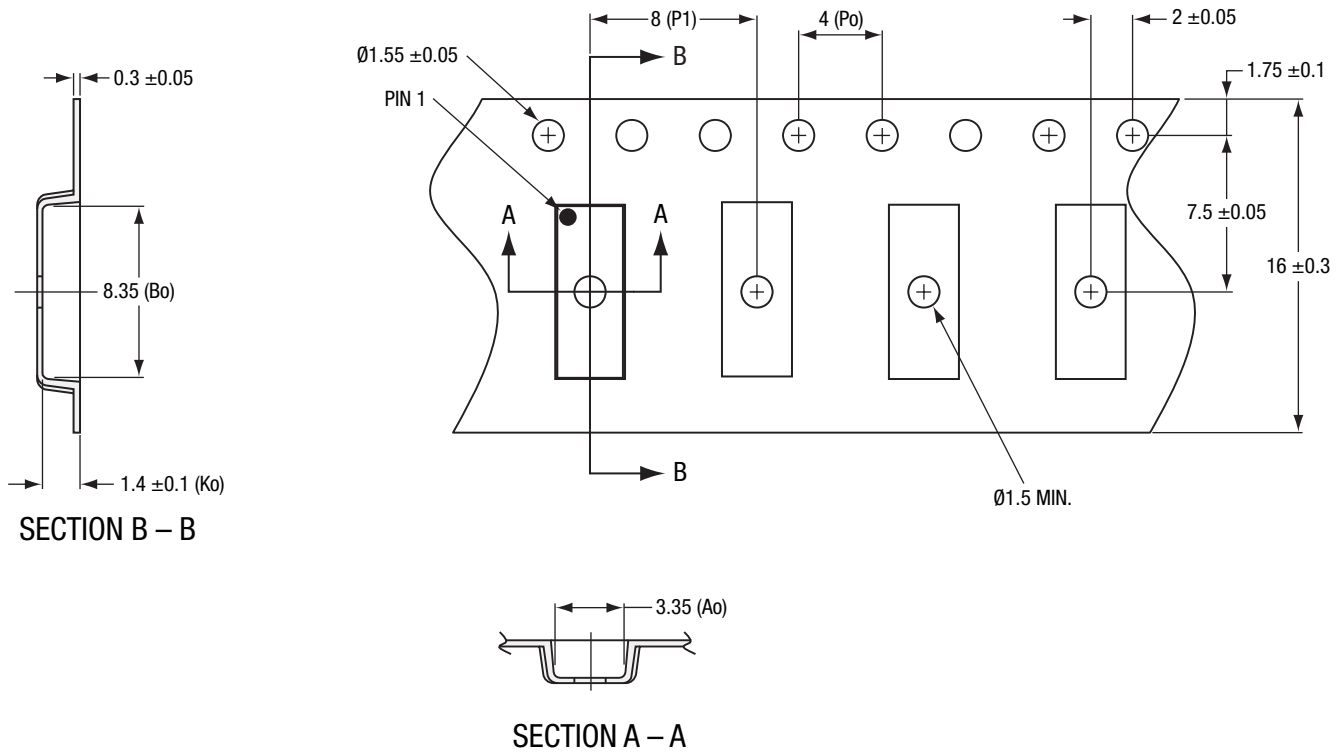
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM0306-12-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 4500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 3 x 6 x 1.2 mm BODY SIZE GP01-D232-171A
101568_004

Figure 4. Carrier Tape Body Size: 3 x 6 x 1.2 mm – Overmold MCM



SECTION B – B

SECTION A – A

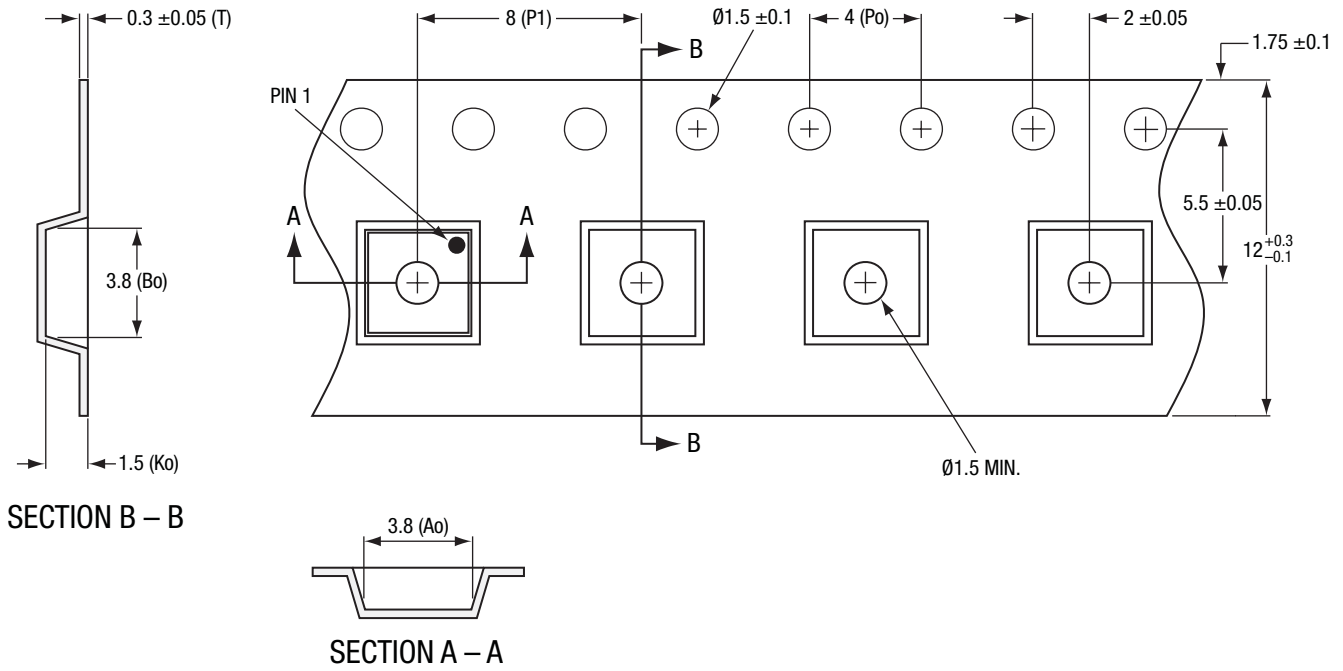
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. P_0 / P_1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
6. A_0 & B_0 MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM3x8-16-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER.)
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 3 x 8 x 1.2 mm BODY SIZE GP01-D232-203A
101568_005

Figure 5. Carrier Tape Body Size: 3 x 8 x 1.2 mm – Overmold MCM



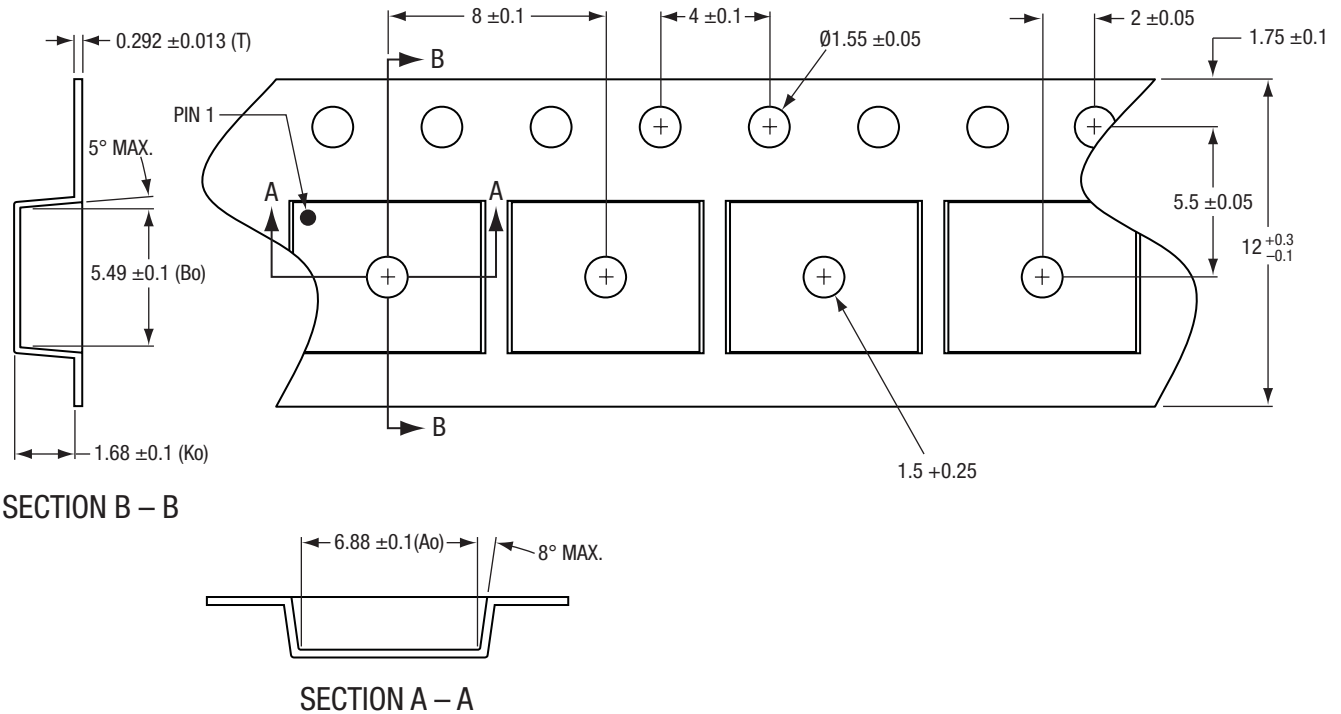
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. P_0 / P_1 , 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
6. A_0 & B_0 MEASUREMENT POINT TO BE 0.3 FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM3.5x3.5-12-8-F1-L (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 3.5 x 3.5 x 1.4 mm BODY SIZE GP01-D232-185A
101568_006

Figure 6. Carrier Tape Body Size: 3.5 x 3.5 x 1.4 mm – MCM



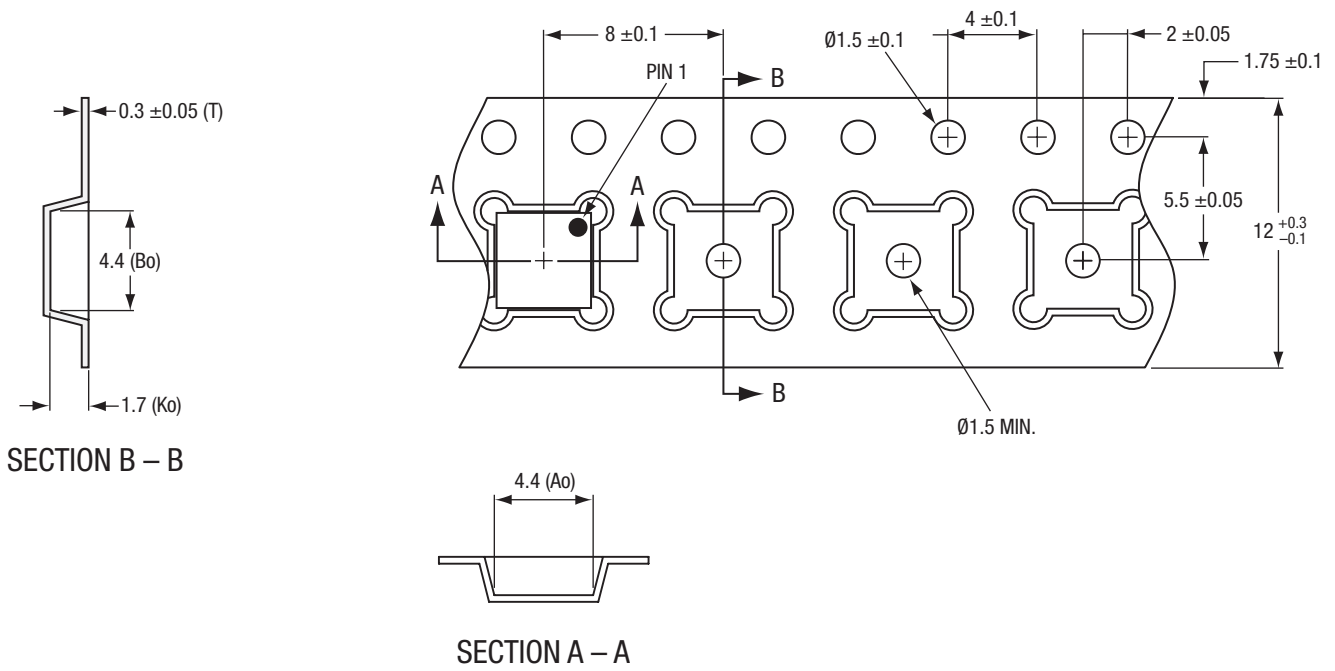
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^8$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. ALL DIMENSIONS ARE IN MILLIMETERS.
6. PART NO.: US019881 (PLEASE INDICATE ON PURCHASE ORDER).
7. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 2500.

3M CARRIER TAPE

CARRIER TAPE 8L SOIC / 16L SSOP 3.9 x 4.9 x 1.4 mm BODY SIZE GP01-D232-001C 101568_007

Figure 7. Carrier Tape Body Size: 3.9 x 4.9 x 1.4 mm – 8L SOIC / 16L SSOP



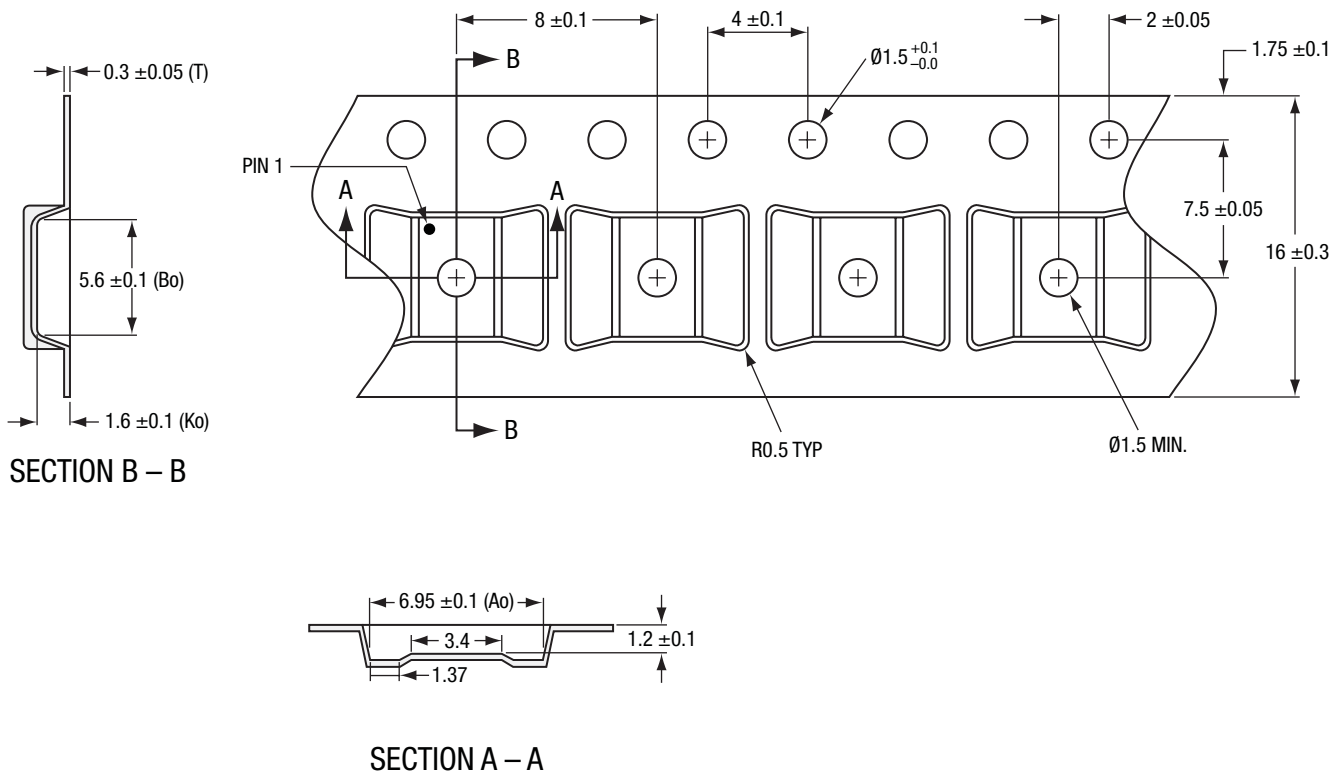
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. 10-SPROCKET HOLE PITCH CUMULATIVE TOLERANCE: ± 0.2 mm
6. Ao & Bo MEASURED ON PLANE 0.3 mm ABOVE THE BOTTOM OF THE POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: KS-1208-40 REV. 03 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 4500.

KOSTAT CARRIER TAPE

CARRIER TAPE OVERMOLD MCM / RFLGA 4 x 4 x 1.4 mm BODY SIZE GP01-D232-189A 101568_008

Figure 8. Carrier Tape Body Size: 4 x 4 x 1.4 mm – Overmold MCM / RFLGA



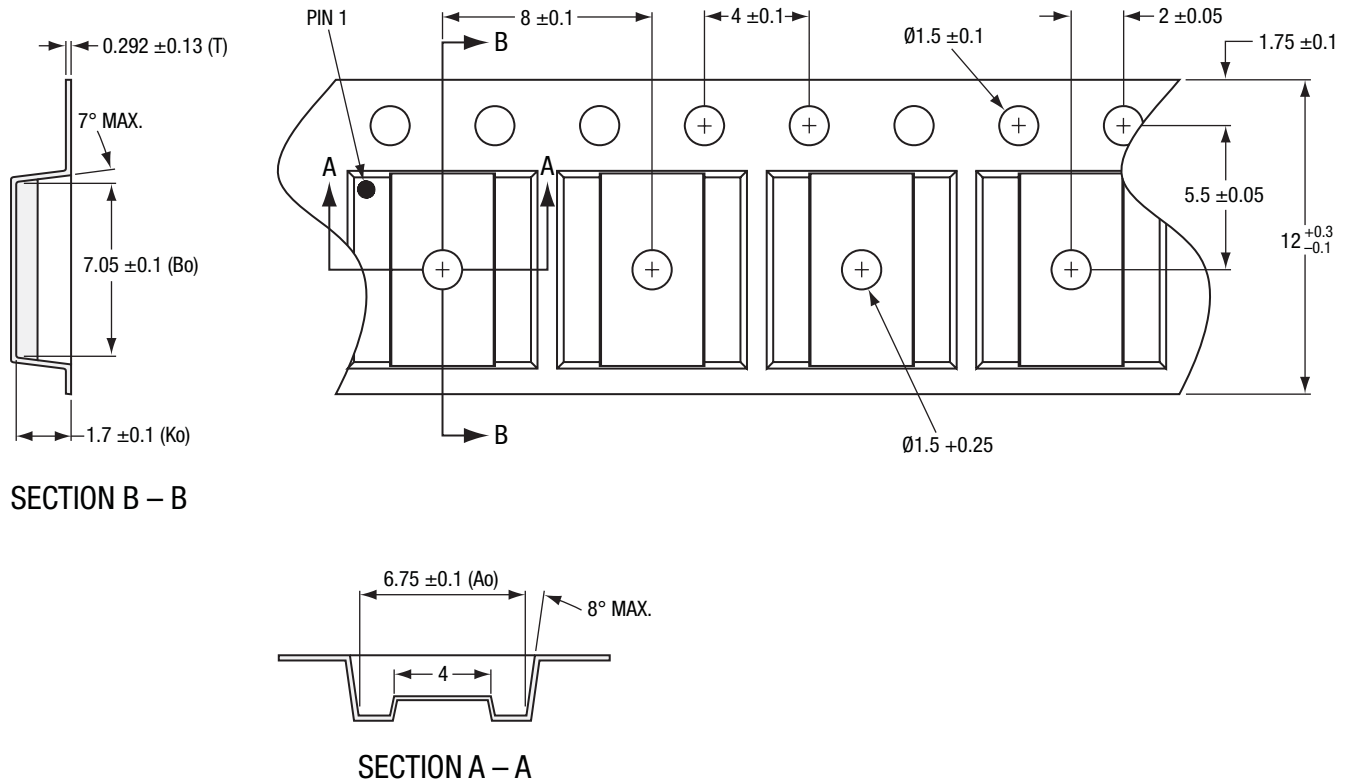
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE NON-BAKEABLE MATERIAL.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE HEAT-SENSITIVE ADHESIVE (HSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\geq 1 \times 10^5 \sim \leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. ALL DIMENSIONS ARE IN MILLIMETERS.
6. PART NO.: TSSP16-B (PLEASE INDICATE ON PURCHASE ORDER).
7. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 3000.

ADVANTEK CARRIER TAPE

CARRIER TAPE 16L TSSOP 4.4 x 6.5 x 1.0 mm BODY SIZE GP01-D232-121B
101568_011

Figure 11. Carrier Tape Body Size: 4.4 x 6.5 x 1.0 mm – 16L TSSOP



SECTION B – B

SECTION A – A

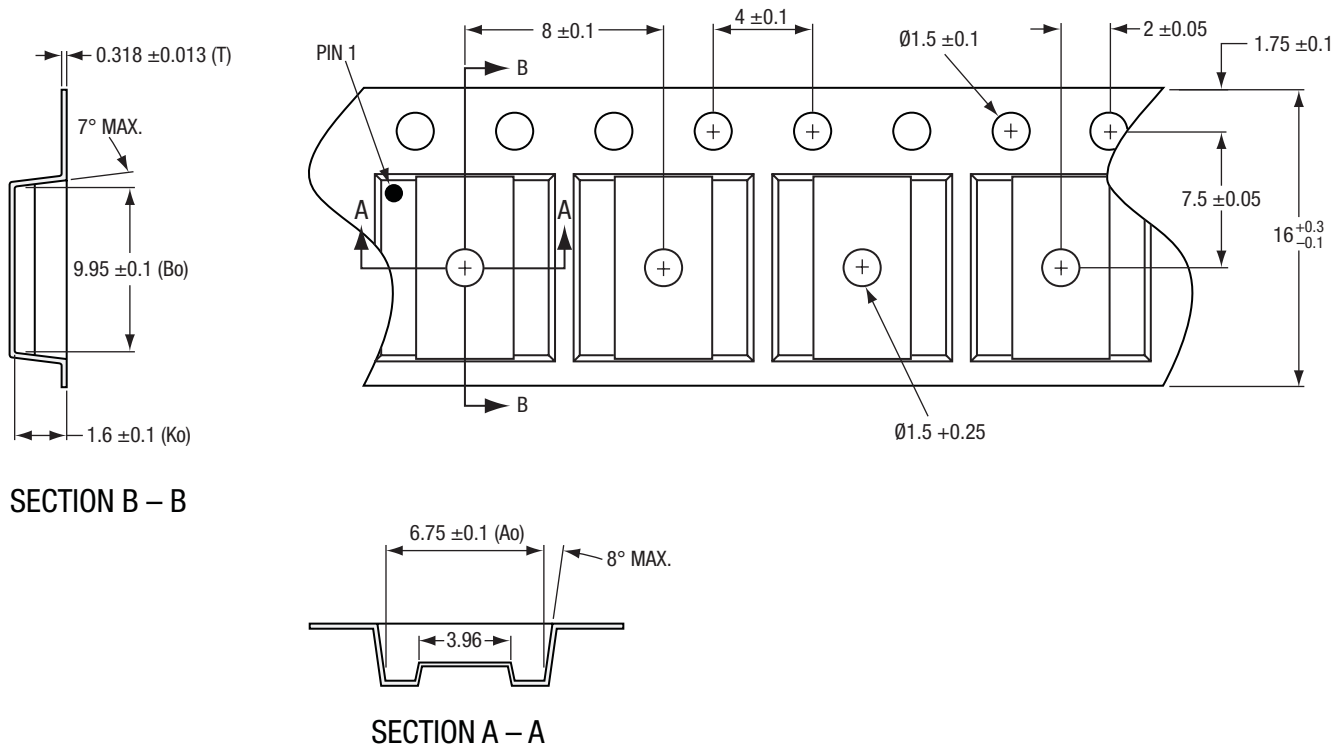
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^8$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. ALL DIMENSIONS ARE IN MILLIMETERS.
6. PART NO.: US044571 (PLEASE INDICATE ON PURCHASE ORDER).
7. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 2500.

3M CARRIER TAPE

CARRIER TAPE 20L TSSOP 4.4 x 6.5 x 1.0 mm BODY SIZE GP01-D232-003C
101568_012

Figure 12. Carrier Tape Body Size: 4.4 x 6.5 x 1.0 mm – 20L TSSOP



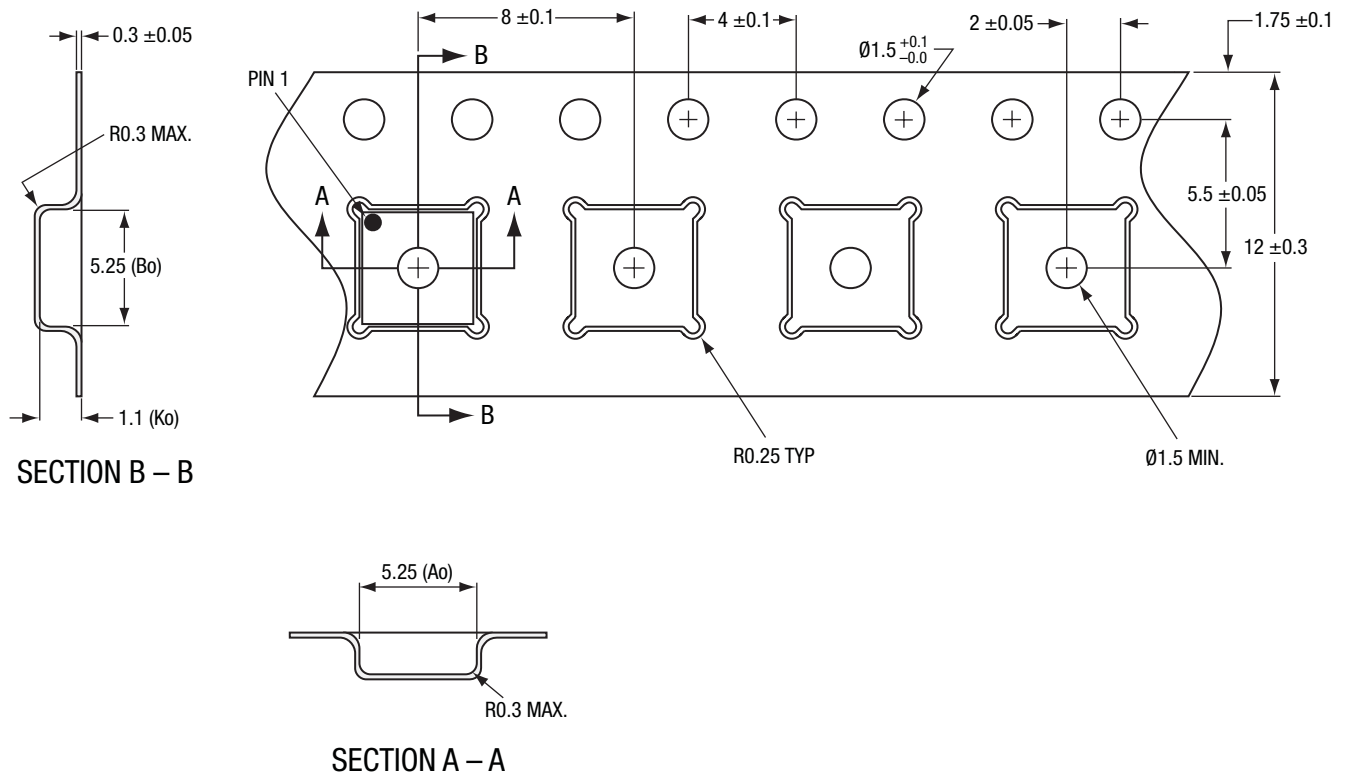
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^8$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. ALL DIMENSIONS ARE IN MILLIMETERS.
6. PART NO.: US045391 (PLEASE INDICATE ON PURCHASE ORDER).
7. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 2500.

3M CARRIER TAPE

CARRIER TAPE 28L TSSOP 4.4 x 9.7 x 0.9 mm BODY SIZE GP01-D232-077C
101568_013

Figure 13. Carrier Tape Body Size: 4.4 x 9.7 x 0.9 mm – 28L TSSOP



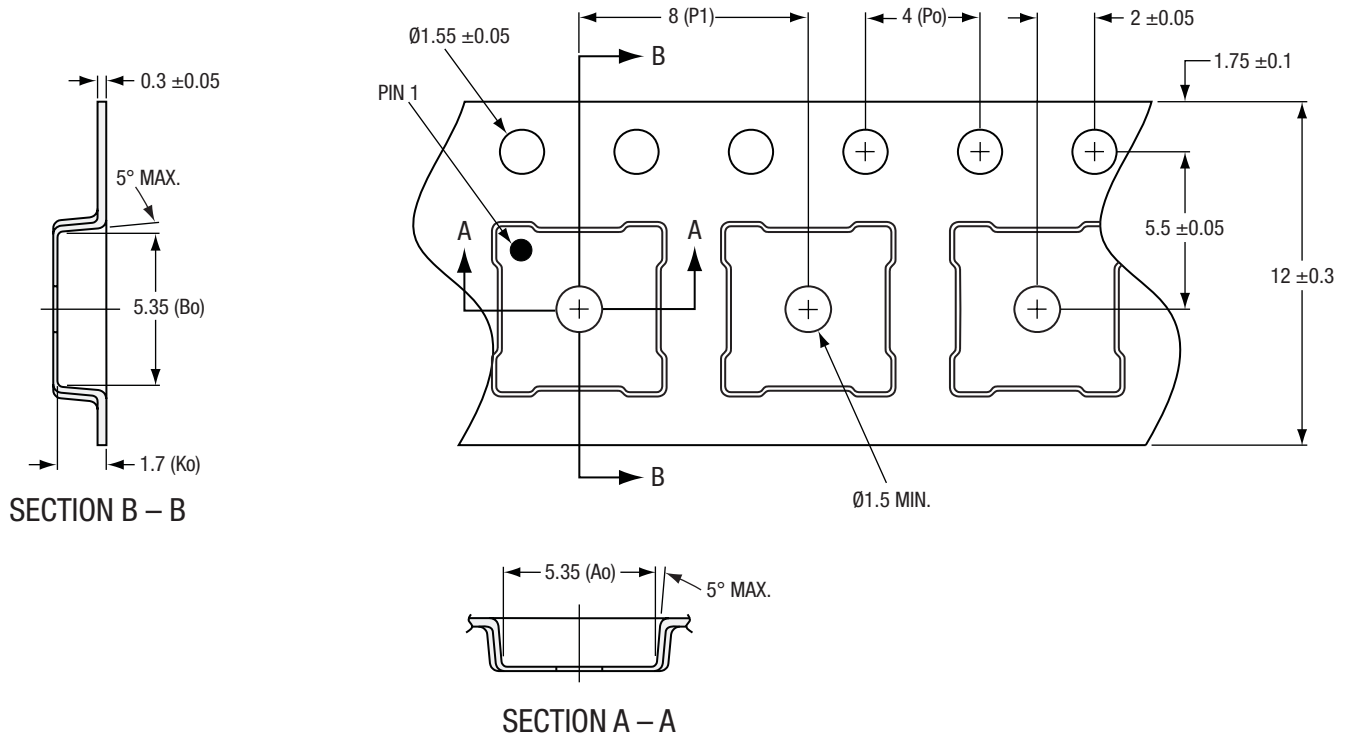
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01-D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE, NON-BAKEABLE MATERIAL.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE HEAT-SENSITIVE ADHESIVE (HSA) MATERIAL W/ 9.2 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\geq 1 \times 10^5 \sim \leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. ALL DIMENSIONS ARE IN MILLIMETERS.
6. PART NO.: ML0505-A (PLEASE INDICATE ON PURCHASE ORDER).
7. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 5000.

ADVANTEK CARRIER TAPE

CARRIER TAPE MLF 5 x 5 x 1.0 mm BODY SIZE GP01-D232-175A
101568_014

Figure 14. Carrier Tape Body Size: 5 x 5 x 1.0 mm – Overmold MLF



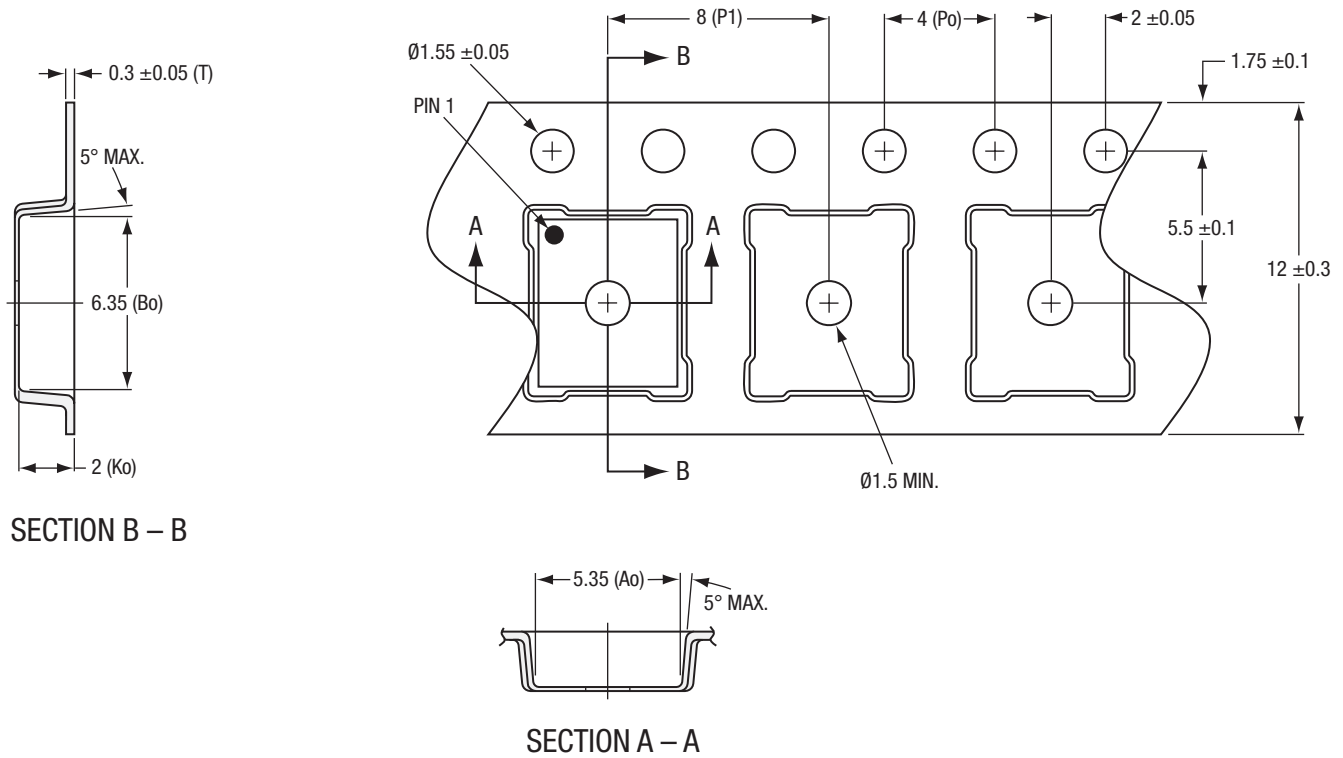
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. $Po / P1$ 10 PITCHES CUMULATIVE ON TAPE: ± 0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-LGA0505-12-8-F1-L REV. 0. (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 4000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD RFLGA / MCM 5 x 5 x 1.3 / 1.0 mm BODY SIZE GP01-D232-047D 101568_015

Figure 15. Carrier Tape Body Size: 5 x 5 x 1.3 / 1.0 mm – Overmold MCM / RFLGA



SECTION B – B

SECTION A – A

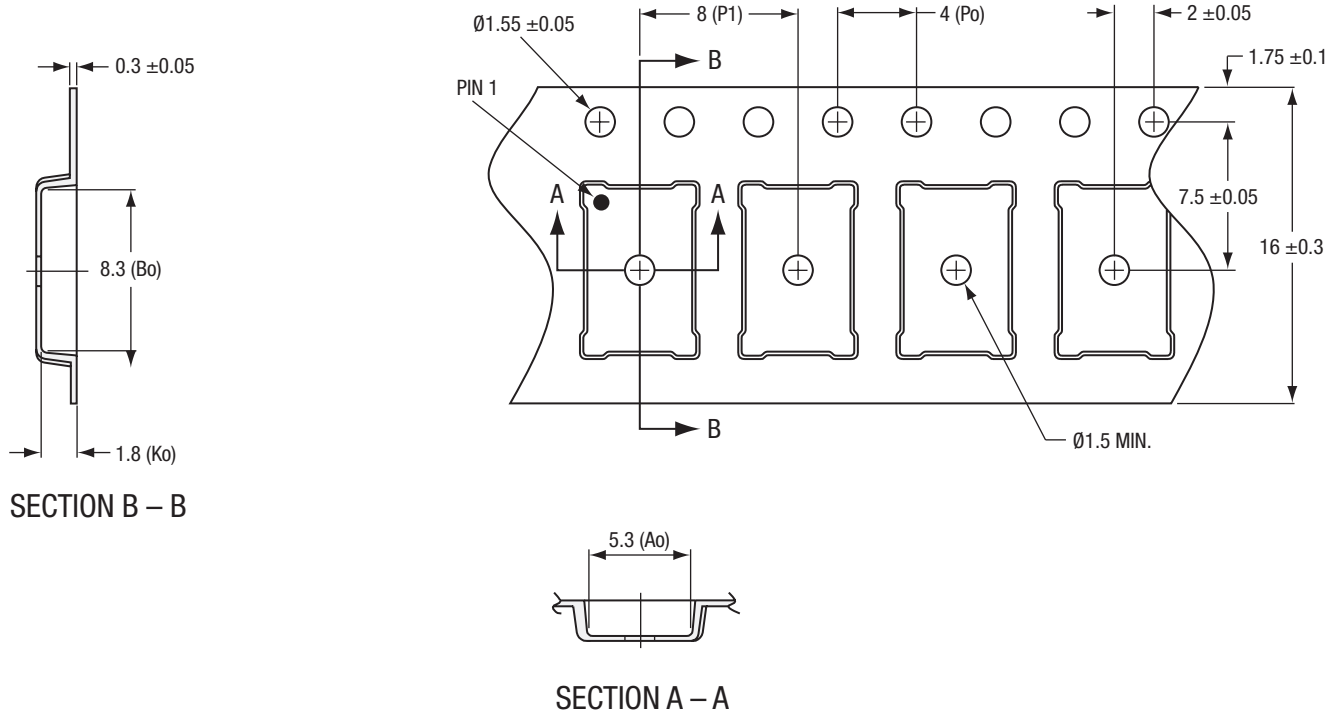
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
4. ED-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM5x6x1.5-12-8-F1-L Rev. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) X 12 mm REEL: 4000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 5 x 6 x 1.4 mm BODY SIZE GP01-D232-139A
101568_016

Figure 16. Carrier Tape Body Size: 5 x 6 x 1.4 mm – Overmold MCM



SECTION B – B

SECTION A – A

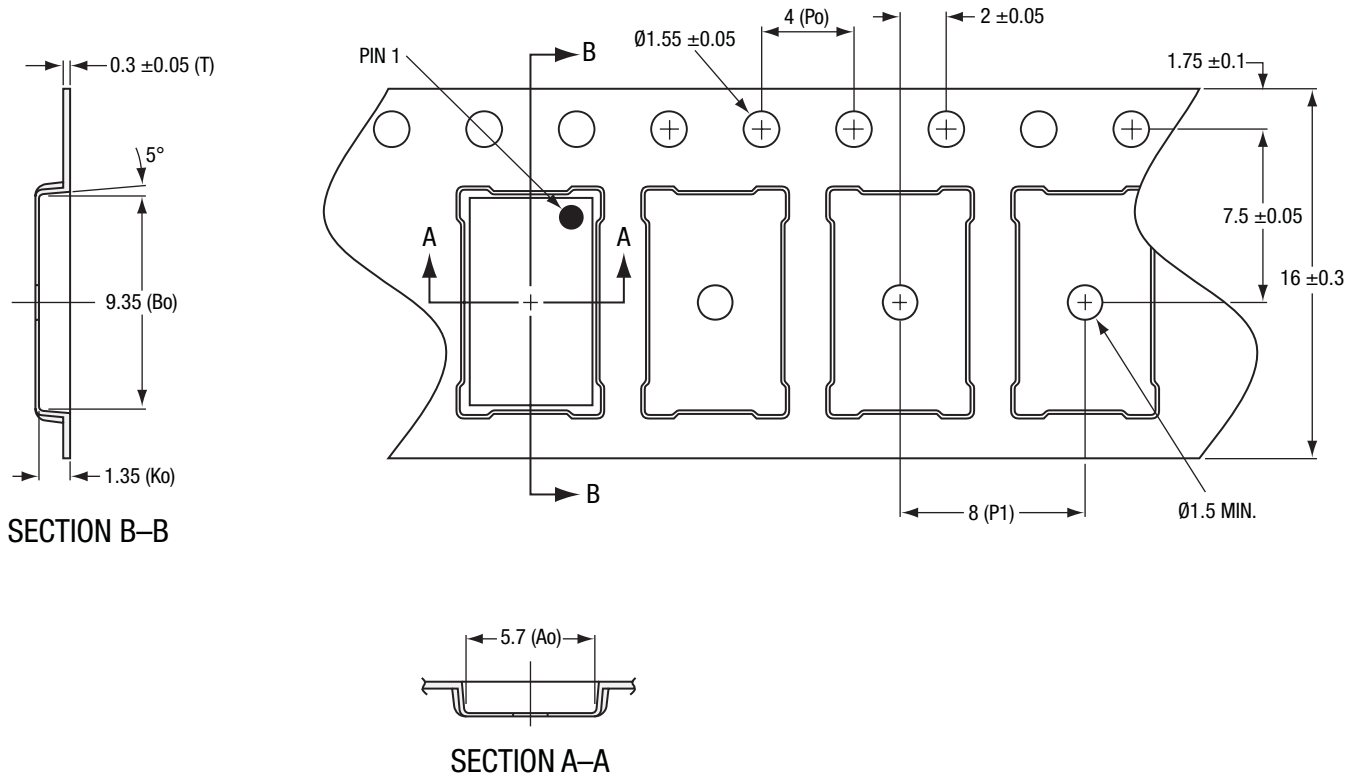
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. P_0 / P_1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
6. A_0 & B_0 MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM5x8-16-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER.)
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 5 x 8 x 1.4 mm BODY SIZE GP01-D232-133A
101568_017

Figure 17. Carrier Tape Body Size: 5 x 8 x 1.4 mm – Overmold MCM



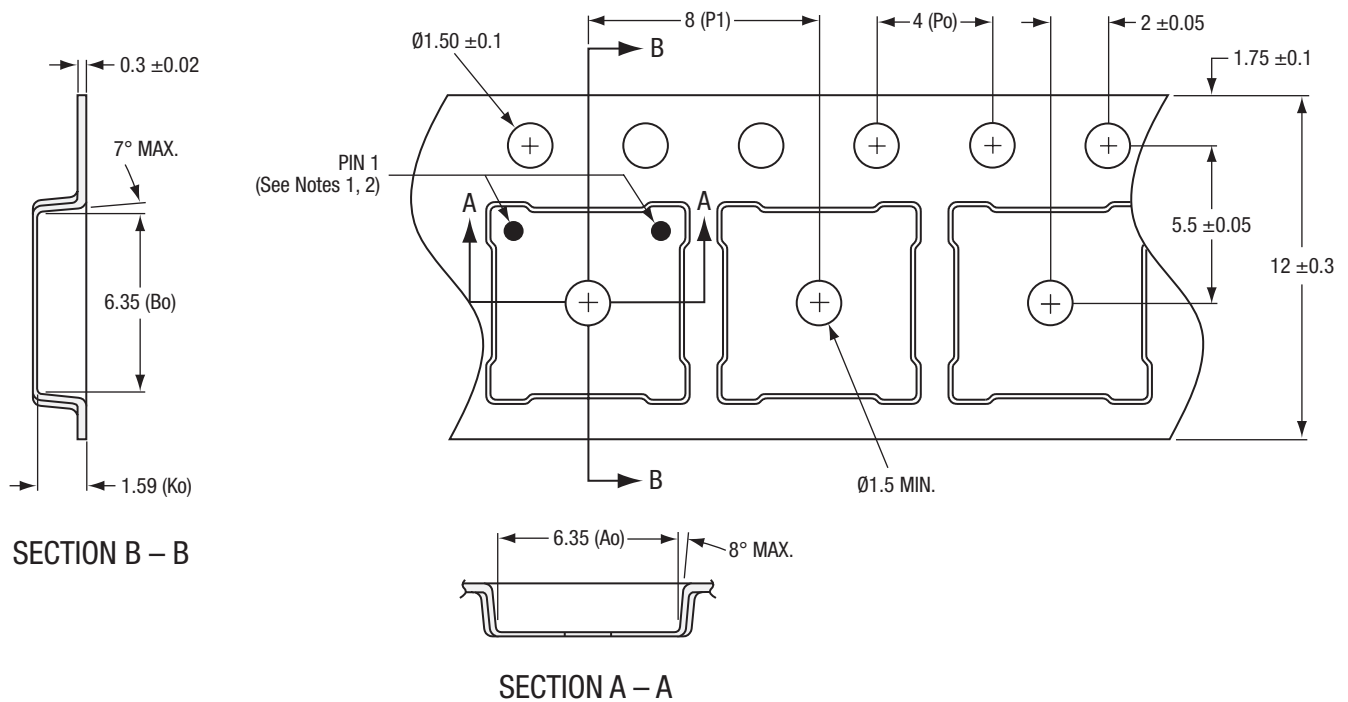
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ±0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM5.42x9.04-16-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER.)
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 5.42 x 9.04 x 1.2 mm BODY SIZE GP01-D232-181A 101568_018

Figure 18. Carrier Tape Body Size: 5.42 x 9.04 x 1.2 mm – Overmold MCM



NOTES:

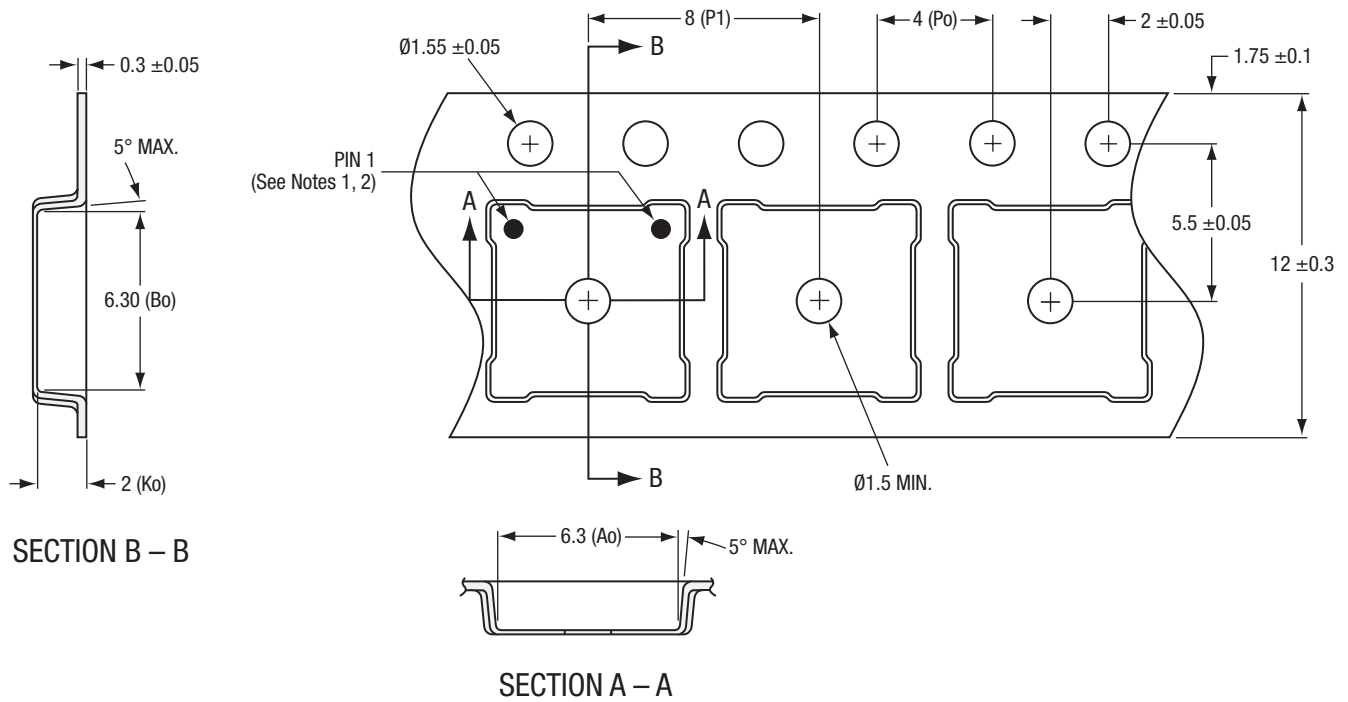
1. PIN 1 ORIENTATION SHALL BE "TOP LEFT" ONLY FOR RFLGA & MCM PRODUCTS LISTED BELOW:

SKY73022-21	SKY73022-31
SKY73023-21	SKY73023-31
2. PIN 1 ORIENTATION SHALL BE "TOP RIGHT" FOR ALL 6 x 6 mm RFLGA & MCM PRODUCTS EXCEPT THOSE LISTED IN NOTE 1 ABOVE.
3. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
4. CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
5. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
6. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
7. Po / P1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
8. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
9. ALL DIMENSIONS ARE IN MILLIMETERS.
10. PART NO.: eC3-MCM0606-12-8-F1-L (PLEASE INDICATE ON PURCHASE ORDER).
11. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 3000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM/RFLGA 6 x 6 x 1.4 mm BODY SIZE GP01-D232-049J
101568_019

Figure 19. Carrier Tape Body Size: 6 x 6 x 1.4 mm – Overmold MCM / RFLGA (1 of 2)



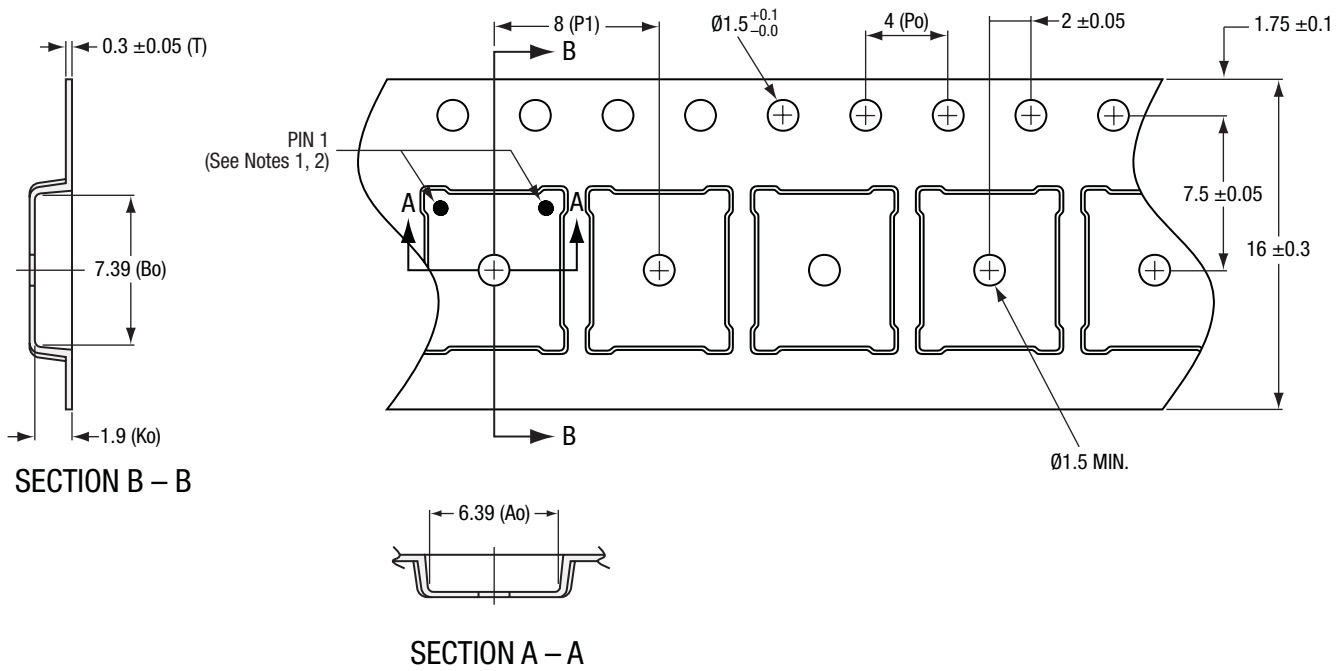
NOTES:

1. PIN 1 ORIENTATION SHALL BE "TOP LEFT" ONLY FOR RFLGA & MCM PRODUCTS LISTED BELOW:
SKY65205-11 SKY65208-11 SKY65215-11
2. PIN 1 ORIENTATION SHALL BE "TOP RIGHT" FOR ALL 6 x 6 mm RFLGA & MCM PRODUCTS EXCEPT THOSE LISTED IN NOTE 1 ABOVE.
3. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01-D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
4. CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
5. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 9.3 mm WIDTH.
6. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
7. Po / P1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
8. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
9. ALL DIMENSIONS ARE IN MILLIMETERS.
10. PART NO.: eC3-MCM0606-12-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
11. NUMBER OF PARTS per 13 inch (DIAMETER) x 12 mm REEL: 3000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM/RFLGA 6 x 6 x 1.75 mm BODY SIZE GP01-D232-209A
101568_020

Figure 20. Carrier Tape Body Size: 6 x 6 x 1.75 mm – Overmold MCM / RFLGA (2 of 2)



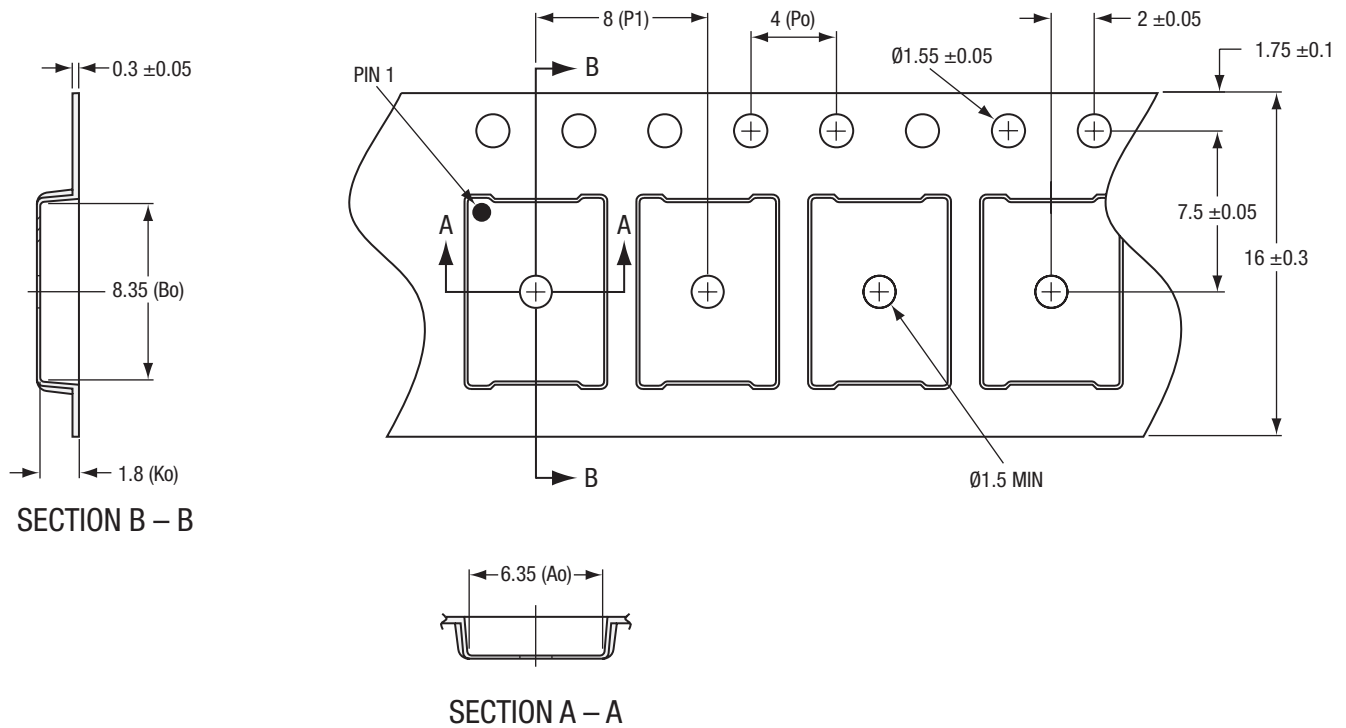
NOTES:

1. PIN 1 ORIENTATION SHALL BE "TOP LEFT" FOR ALL 6 x 6 mm RFLGA PRODUCTS & ONLY THE 6 x 6 mm MCM PRODUCTS LISTED BELOW:
SKY77535-XX SKY77536-XX SKY77537-XX SKY77538-XX
2. PIN 1 ORIENTATION SHALL BE "TOP RIGHT" FOR ALL 6 x 6 mm MCM PRODUCTS EXCEPT THOSE LISTED IN NOTE 1 ABOVE.
3. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
4. CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
5. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
6. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
7. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
8. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
9. ALL DIMENSIONS ARE IN MILLIMETERS.
10. PART NO.: eC3-LGA6x7-16-8-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
11. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD RFLGA / MCM 6 x 7 x 1.0 mm BODY SIZE GP01-D232-155E
101568_021

Figure 21. Carrier Tape Body Size: 6 x 7 x 1.0 mm – Overmold MCM / RFLGA



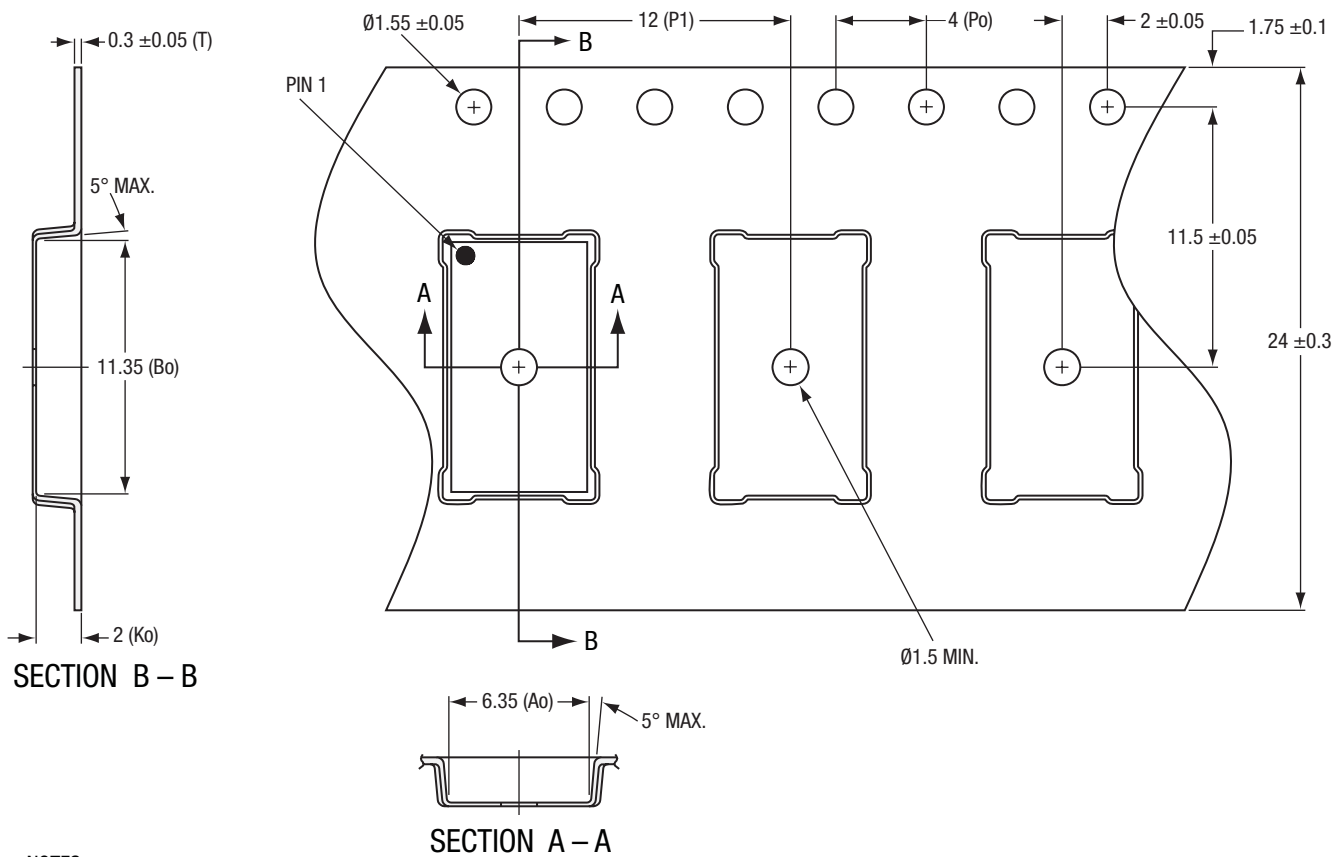
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE SENSITIVE ADHESIVE (PSA) MATERIAL W/13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ±0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM0608-16-8-F1-L REV. 0. PLEASE INDICATE ON PURCHASE ORDER.
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm wide REEL: 4000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 6 x 8 x 1.4 mm BODY SIZE GP01-D232-081D
101568_022

Figure 22. Carrier Tape Body Size: 6 x 8 x 1.4 mm – Overmold MCM



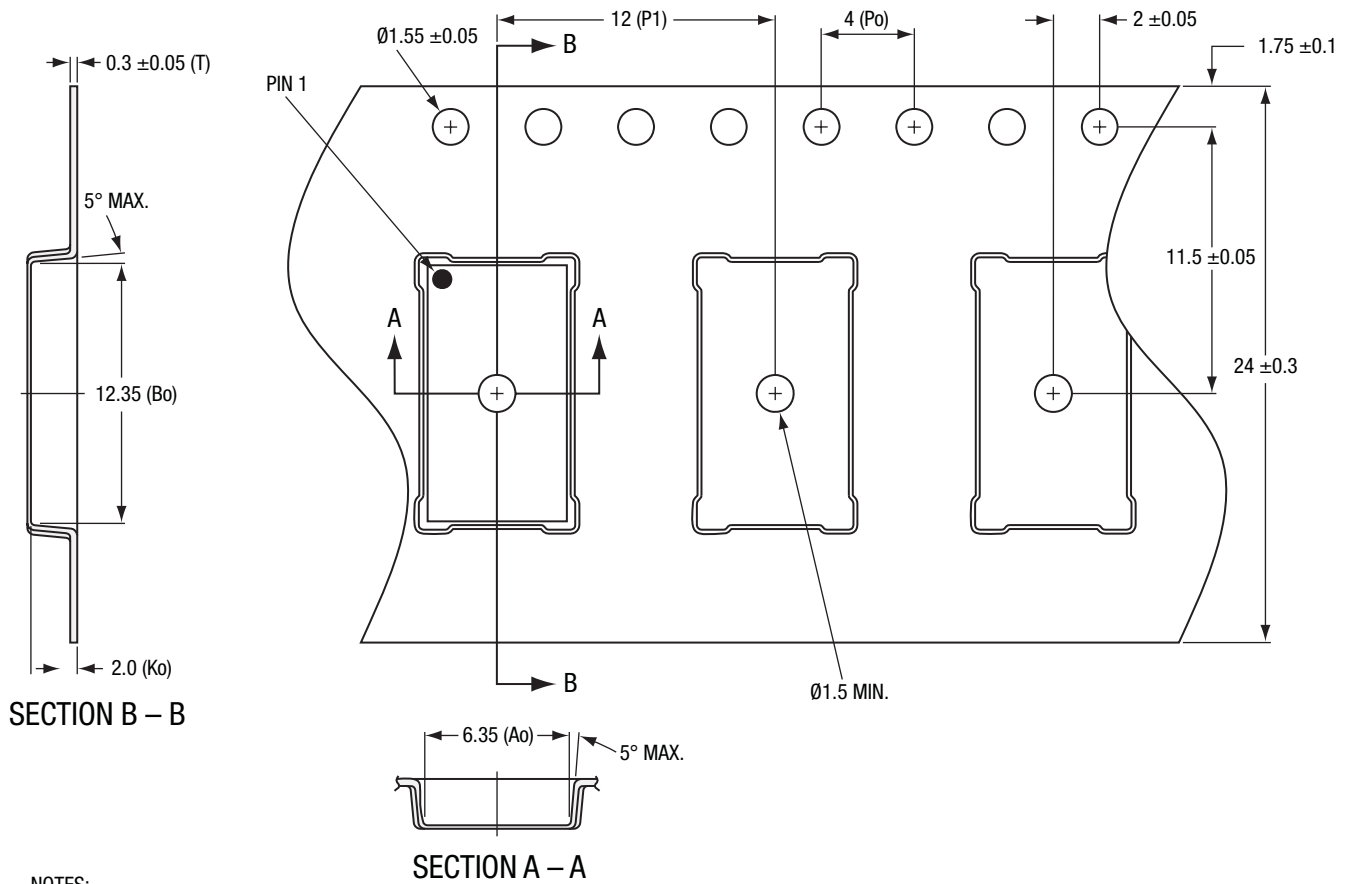
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ±0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM6x11-24-12-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 21 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 6 x 11 x 1.4 mm BODY SIZE GP01-D232-153A
101568_023

Figure 23. Carrier Tape Body Size: 6 x 11 x 1.4 mm – Overmold MCM



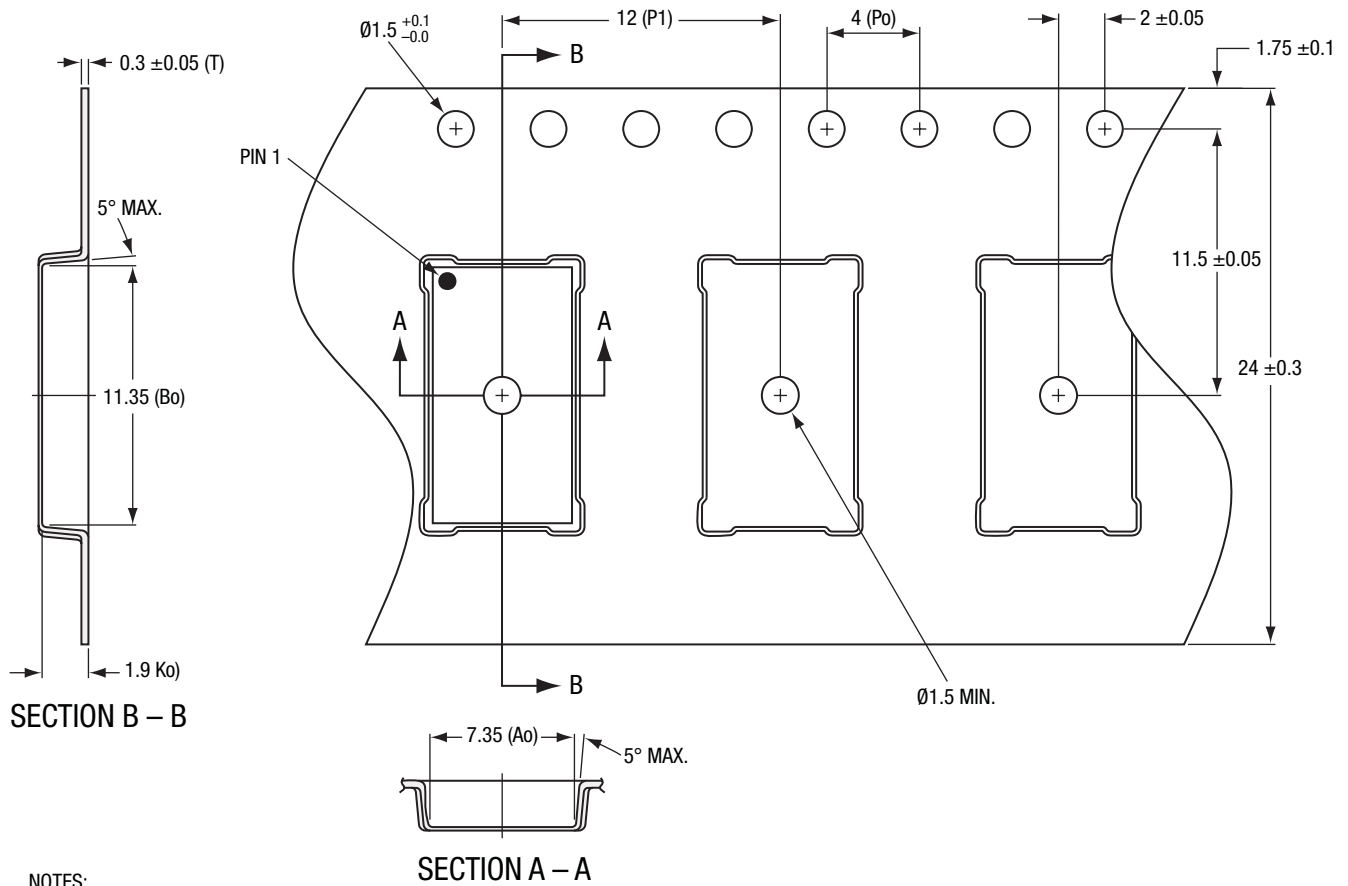
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
2. CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ±0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM6x12-24-12-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 2000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 6 x 12 x 1.4 mm BODY SIZE GP01-D232-167A
101568_024

Figure 24. Carrier Tape Body Size: 6 x 12 x 1.4 mm – Overmold MCM



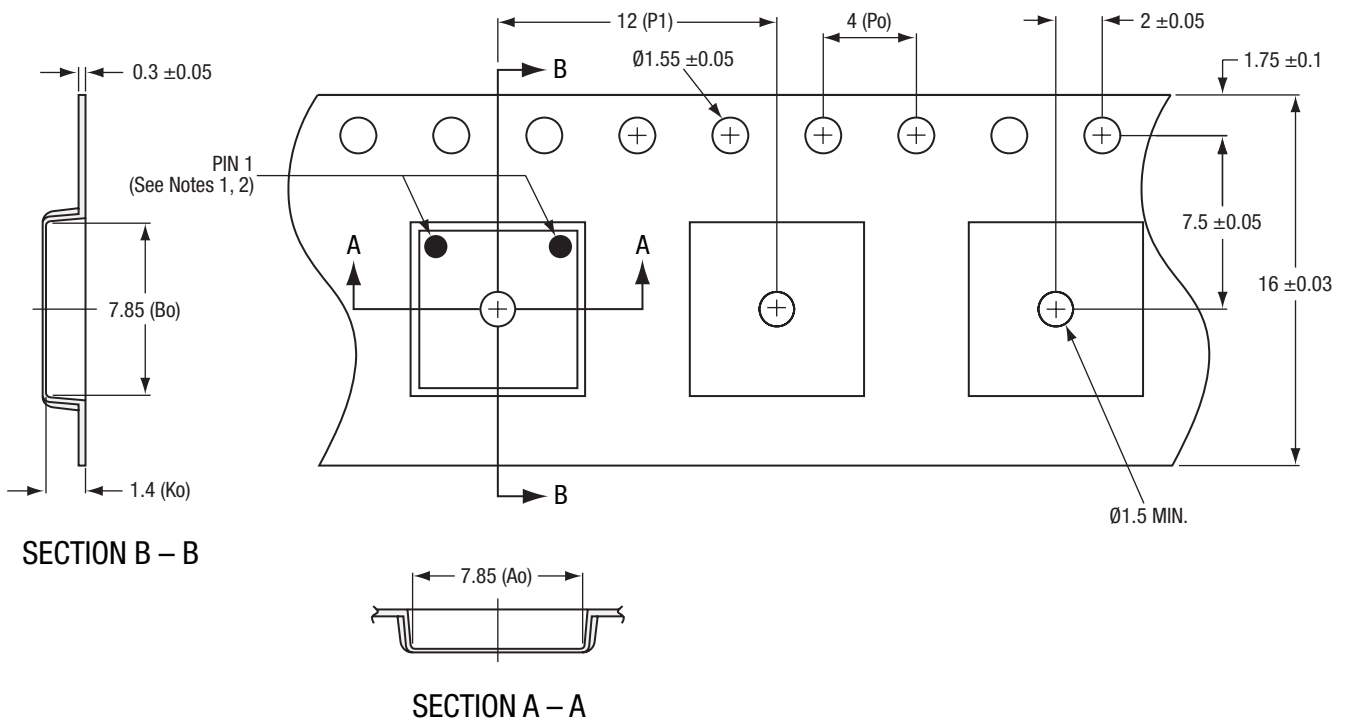
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM7x11-24-12-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 2000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 7 x 11 x 1.4 mm BODY SIZE GP01-D232-159A 101568_027

Figure 27. Carrier Tape Body Size: 7 x 11 x 1.4 mm – Overmold MCM



SECTION B – B

SECTION A – A

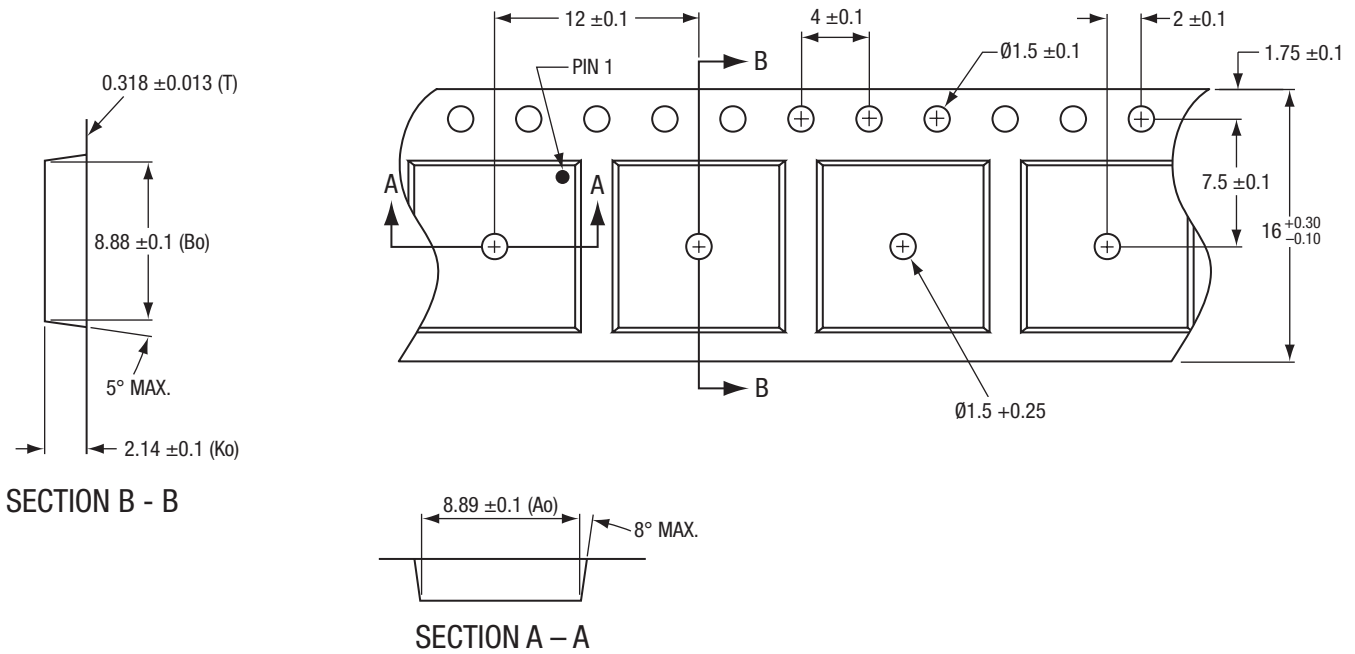
NOTES:

1. PIN 1 ORIENTATION SHALL BE "TOP LEFT" ONLY FOR ALL PRODUCTS WITH 7.5 x 7.5 mm BODY SIZE LISTED BELOW:
SKY77345
2. PIN 1 ORIENTATION SHALL BE "TOP RIGHT" FOR ALL PRODUCTS WITH 7.5 x 7.5 mm BODY SIZE EXCEPT ITEM LISTED IN NOTE 1.
3. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01-D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ④ CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
5. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 WIDTH.
6. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
7. Po/P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ±0.2 mm.
8. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
9. ALL DIMENSIONS ARE IN MILLIMETERS.
10. PART NO.: eC3-MCM7.5x7.5-16-12-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
11. NUMBER OF PARTS per 23-inch (DIAMETER) x 16 mm REEL: 2000.

ePAK CARRIER TAPE

CARRIER TAPE MCM 7.5 x 7.5 x 1.4 mm BODY SIZE GP01-D232-199B
101568_028

Figure 28. Carrier Tape Body Size: 7.5 x 7.5 x 1.4 mm – Overmold MCM



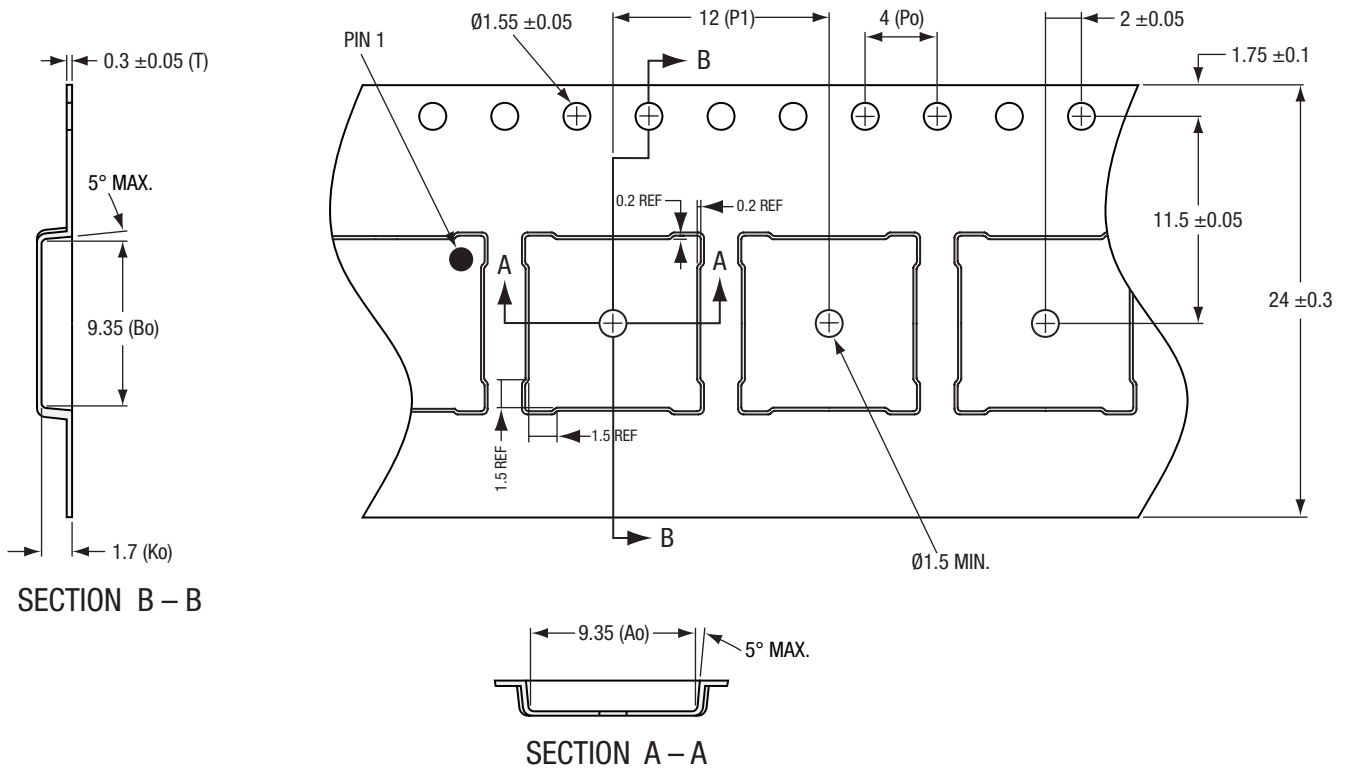
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE OR POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^8$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. TOLERANCES: .XX = ± 0.1
6. ALL DIMENSIONS ARE IN MILLIMETERS.
7. PART NO.: US039321 (PLEASE INDICATE ON PURCHASE ORDER).
8. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 2000.

3M CARRIER TAPE

CARRIER TAPE CERAMIC MCM 8.3 x 8.3 x 2.1 mm BODY SIZE GP01-D232-037D 101568_031

Figure 31. Carrier Tape Body Size: 8.3 x 8.3 x 2.1 mm – Ceramic MCM



SECTION B – B

SECTION A – A

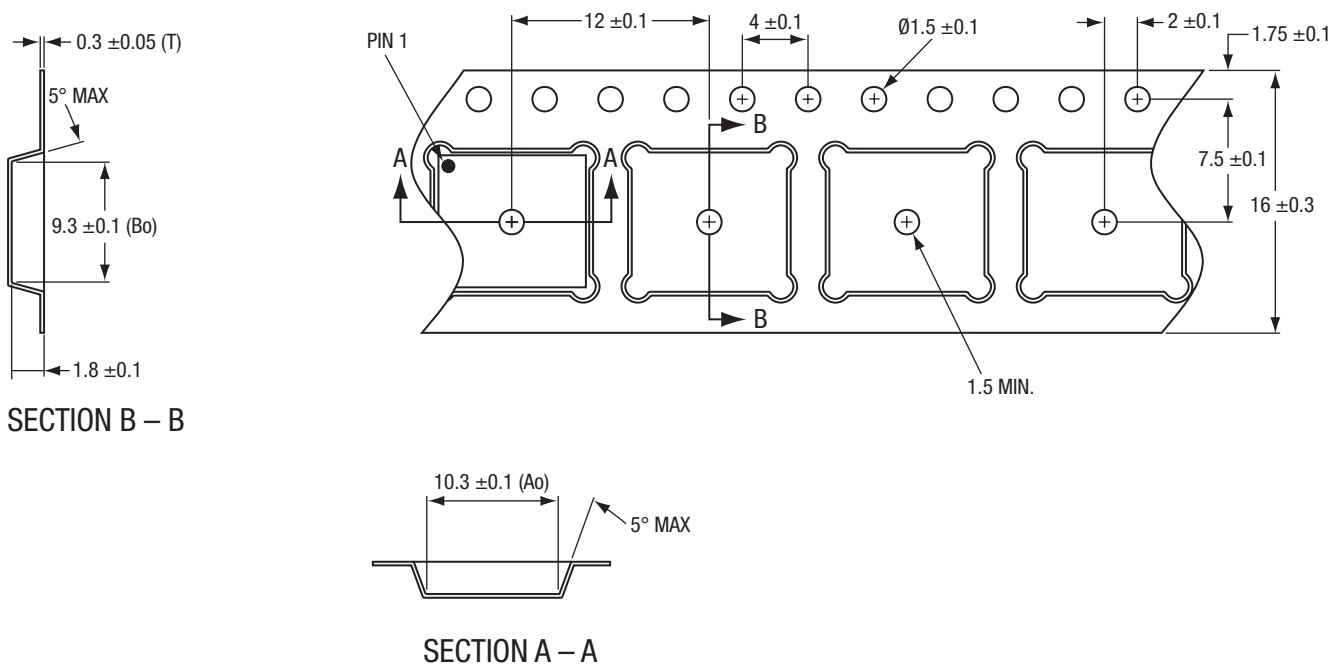
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. Po / P1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm
6. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-LGA0909-24-12-F1-L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 2000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD RFLGA 9 x 9 x 1.3 / 1.0 mm BODY SIZE GP01-D232-069D
101568_032

Figure 32. Carrier Tape Body Size: 9 x 9 x 1.3 / 1.0 mm – Overmold RFLGA



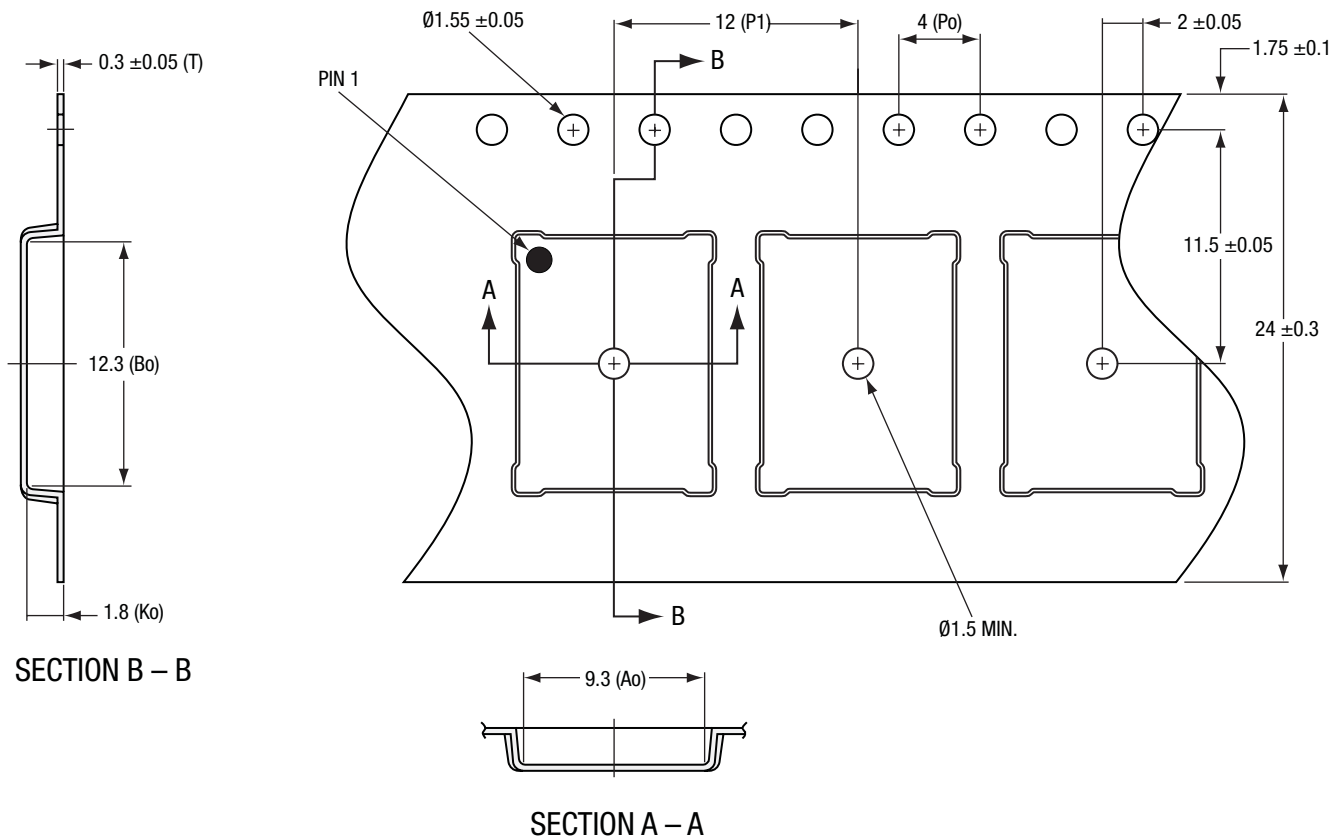
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 13.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. TOLERANCES: .XX = ± 0.1
6. ALL DIMENSIONS ARE IN MILLIMETERS.
7. PART NO.: KS1612-181 (PLEASE INDICATE ON PURCHASE ORDER).
8. NUMBER OF PARTS per 13 inch (DIAMETER) x 16 mm REEL: 2000.

KOSTAT CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 9 x 10 x 1.4 mm BODY SIZE GP01-D232-123C
101568_033

Figure 33. Carrier Tape Body Size: 9 x 10 x 1.4 mm – Overmold MCM



SECTION B – B

SECTION A – A

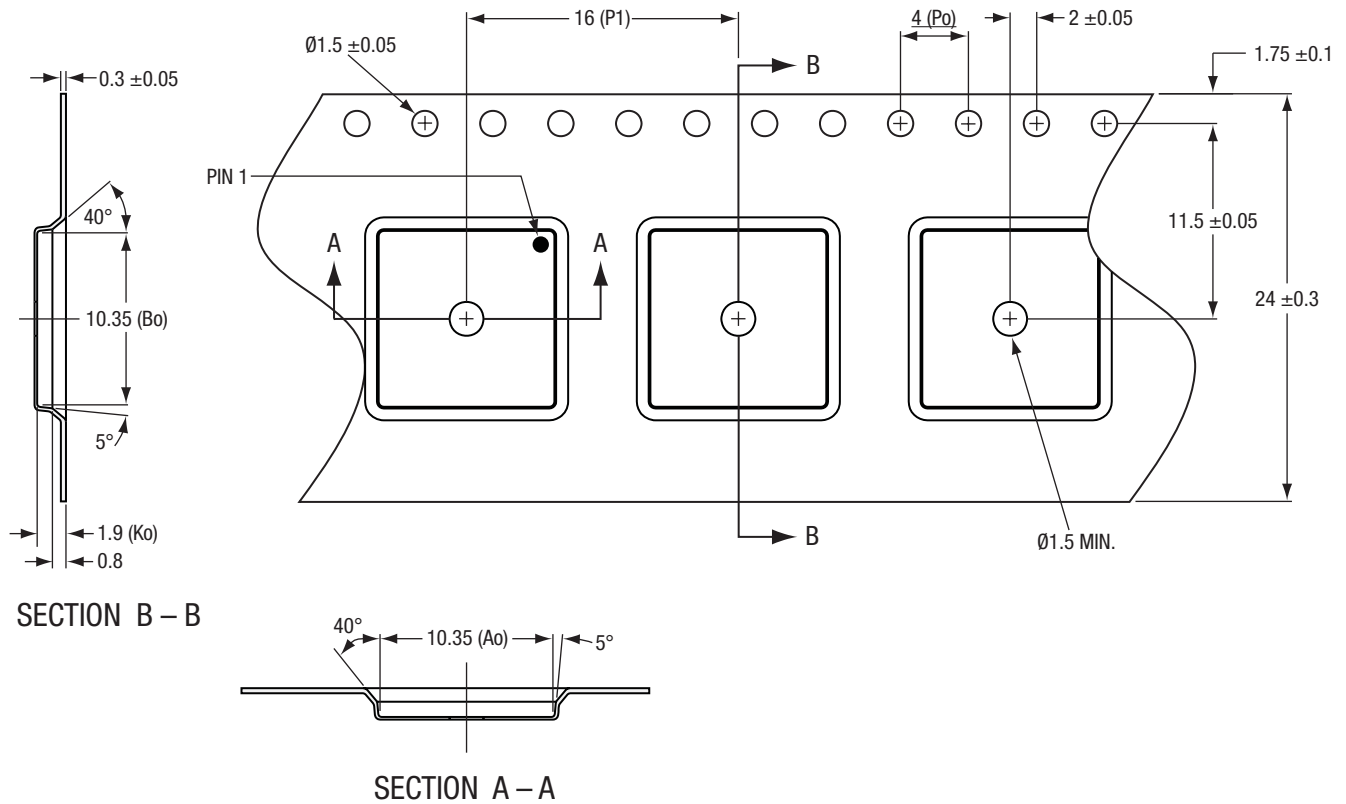
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYCARBONATE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. P_0 / P_1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 .
6. A_0 & B_0 MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-MCM0912-24-12-F1-L (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 2000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 9 x 12 x 1.4 mm BODY SIZE GP01-D232-135A 101568_034

Figure 34. Carrier Tape Body Size: 9 x 12 x 1.4 mm – Overmold MCM



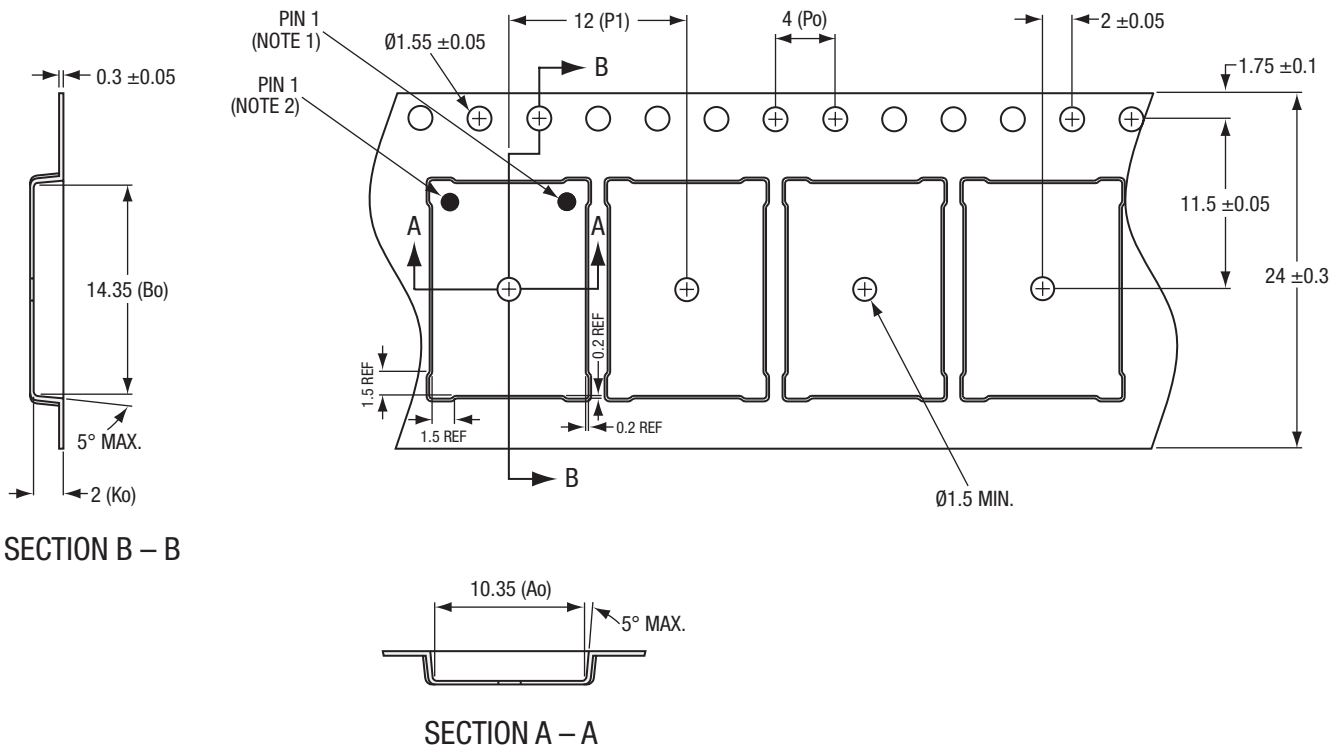
NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. P_0 / P_1 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ± 0.2 mm.
6. A_0 & B_0 MEASUREMENT POINT TO BE .03 mm FROM BOTTOM POCKET.
7. ALL DIMENSIONS ARE IN MILLIMETERS.
8. PART NO.: eC3-FPBGA1010-24-16-F1-L REV.0. (PLEASE INDICATE ON PURCHASE ORDER).
9. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 1000.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD RFLGA 10 x 10 x 1.0 mm BODY SIZE GP01-D232-051E
101568_036

Figure 36. Carrier Tape Body Size: 10 x 10 x 1.0 mm – Overmold FPBGA



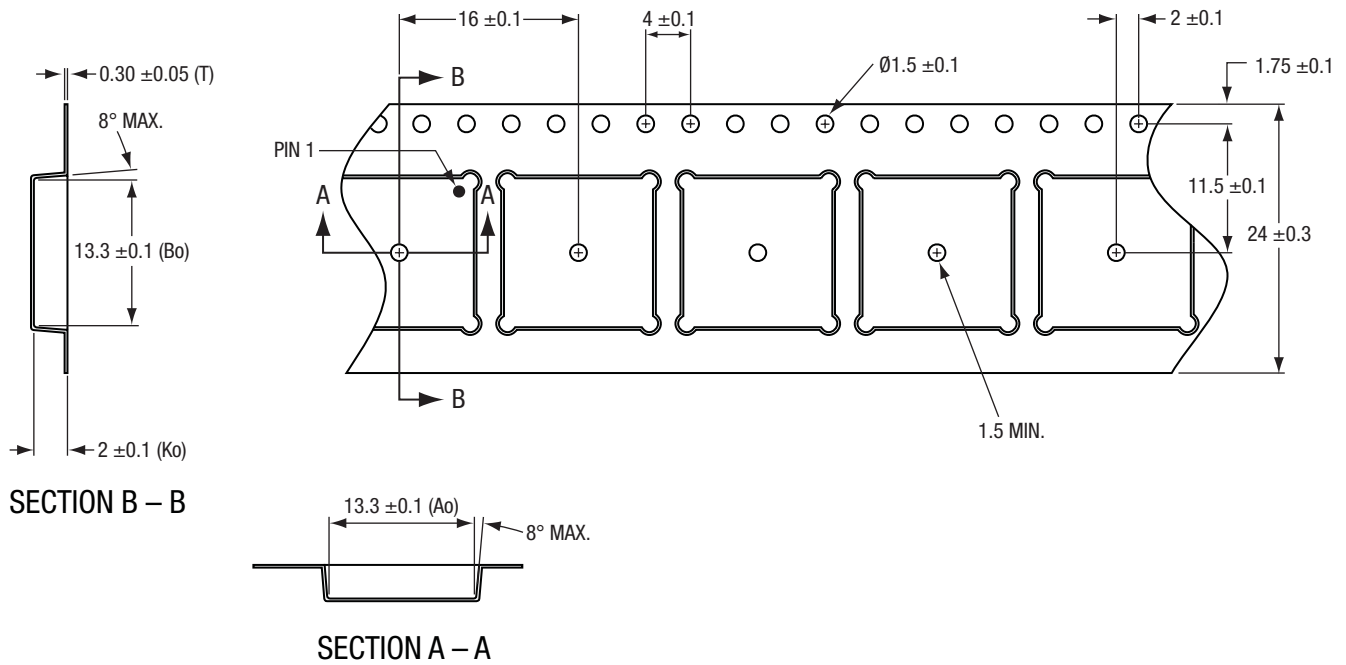
NOTES:

1. REFERS TO ORIENTATION OF PIN 1 OF A 10.04 X 14.04 mm PACKAGE WITH A 1.3 mm MOLD CAP.
2. REFERS TO ORIENTATION OF PIN 1 OF A 10.04 X 14.04 mm PACKAGE WITH A 0.5 mm OR 1.0 mm MOLD CAP.
3. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
4. CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
5. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
6. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
7. Po / P1, 10 PITCHES CUMULATIVE TOLERANCE ON TAPE: ±0.2 mm.
8. Ao & Bo MEASUREMENT POINT TO BE 0.3 mm FROM BOTTOM POCKET.
9. ALL DIMENSIONS ARE IN MILLIMETERS.
10. PART NO.: eC3–MCM10x14–24–12–F1–L REV. 0 (PLEASE INDICATE ON PURCHASE ORDER).
11. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 2500.

ePAK CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 10 x 14 x 1.4 BODY SIZE GP01-D232-063E
101568_037

Figure 37. Carrier Tape Body Size: 10 x 14 x 1.4 mm – Overmold MCM



NOTES:

1. CARRIER TAPES MUST MEET ALL REQUIREMENTS OF SKYWORKS GP01–D232 PROCUREMENT SPEC FOR TAPE AND REEL SHIPPING.
- ② CARRIER TAPE SHALL BE BLACK CONDUCTIVE POLYSTYRENE.
3. COVER TAPE SHALL BE TRANSPARENT CONDUCTIVE PRESSURE-SENSITIVE ADHESIVE (PSA) MATERIAL W/ 21.3 mm WIDTH.
4. ESD-SURFACE RESISTIVITY SHALL BE $\leq 1 \times 10^{10}$ OHMS/SQUARE PER EIA, JEDEC TNR SPECIFICATION.
5. TOLERANCE: .XX = ± 0.10
6. ALL DIMENSIONS ARE IN MILLIMETERS.
7. PART NO.: KS2416-139 (PLEASE INDICATE ON PURCHASE ORDER).
8. NUMBER OF PARTS per 13 inch (DIAMETER) x 24 mm REEL: 1000.

KOSTAT CARRIER TAPE

CARRIER TAPE OVERMOLD MCM 13 x 13 x 1.8 / 1.4 mm BODY SIZE GP01-D232-125B
101568_038

Figure 38. Carrier Tape Body Size: 13 x 13 x 1.8 / 1.4 mm – Overmold MCM

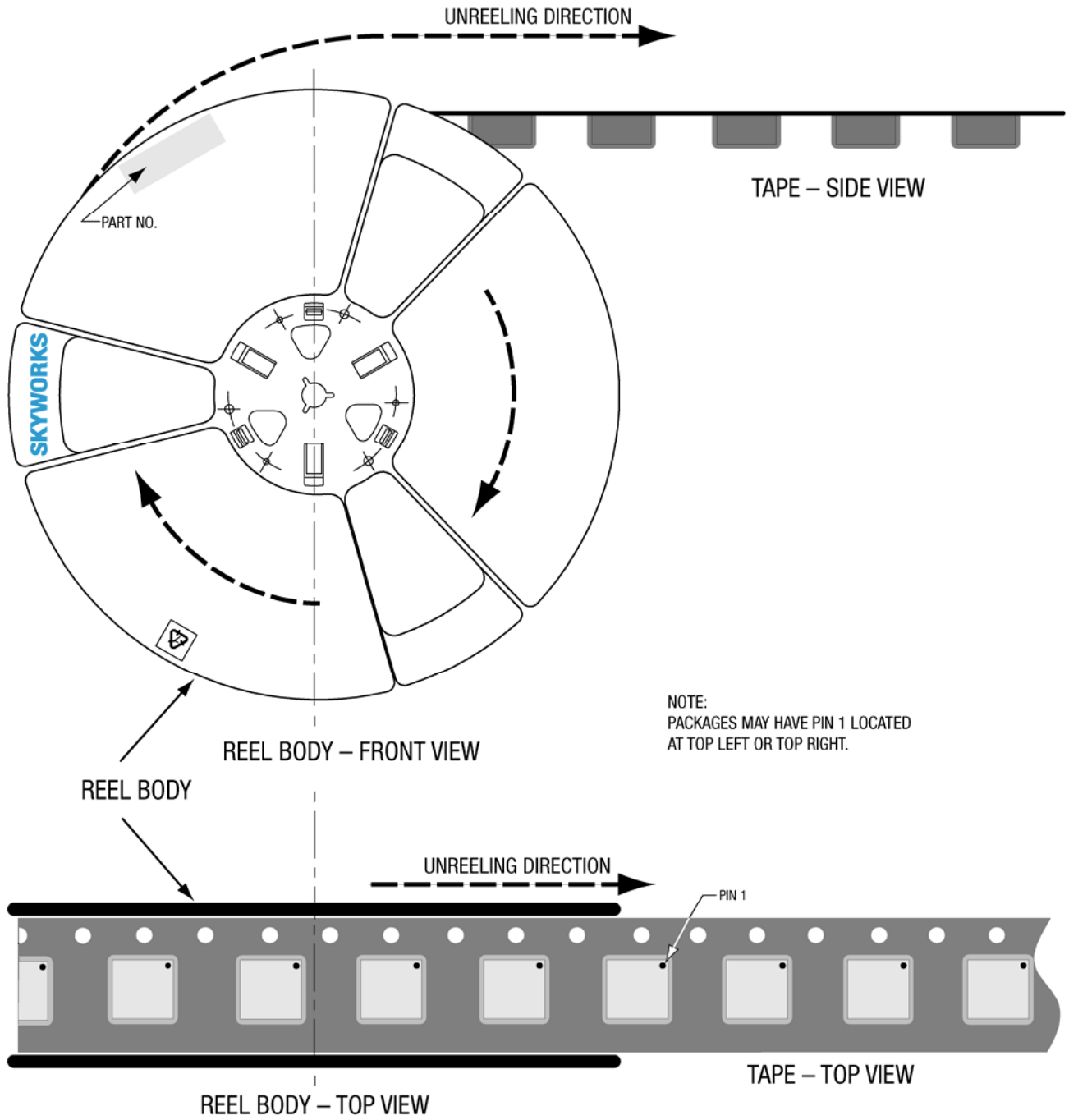


Figure 39. Typical Tape and Reel Showing Unreeing Direction

101568_999

General Information:
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