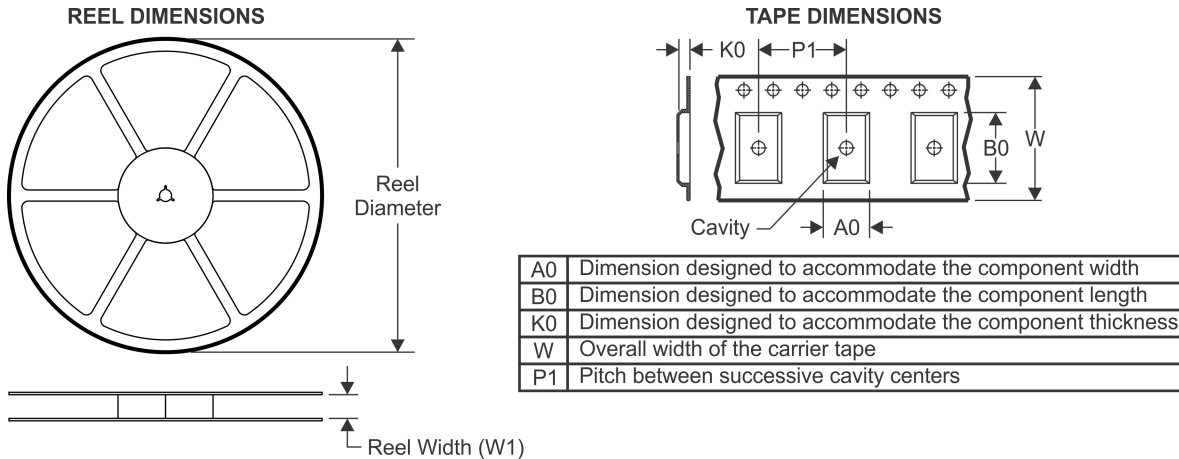
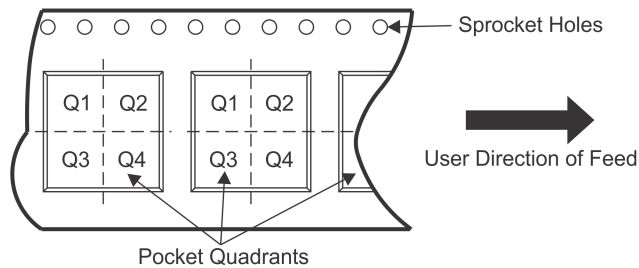


TAPE AND REEL INFORMATION



QUADRANT ASSIGNMENTS FOR PIN 1 ORIENTATION IN TAPE

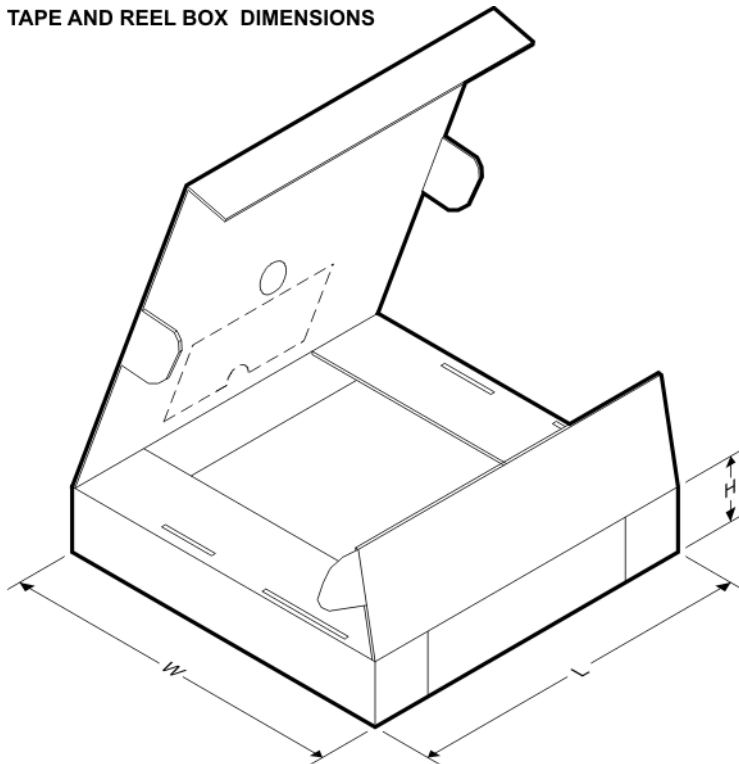


*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|-----------------|--------------|-----------------|------|------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| MSP430F133IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F133IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F135IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F135IRTD | VQFN | RTD | 64 | 2500 | 330.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F135IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F1471IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F1471IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F147IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F147IRTD | VQFN | RTD | 64 | 2500 | 330.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F147IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F1481IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F1481IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F148IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F148IRTD | VQFN | RTD | 64 | 2500 | 330.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F148IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F1491IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F1491IRTD | VQFN | RTD | 64 | 2500 | 330.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F1491IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |

| Device | Package Type | Package Drawing | Pins | SPQ | Reel Diameter (mm) | Reel Width W1 (mm) | A0 (mm) | B0 (mm) | K0 (mm) | P1 (mm) | W (mm) | Pin1 Quadrant |
|-----------------|--------------|-----------------|------|------|--------------------|--------------------|---------|---------|---------|---------|--------|---------------|
| MSP430F149IPAGR | TQFP | PAG | 64 | 1500 | 330.0 | 24.4 | 13.0 | 13.0 | 1.5 | 16.0 | 24.0 | Q2 |
| MSP430F149IPMR | LQFP | PM | 64 | 1000 | 330.0 | 24.4 | 13.0 | 13.0 | 2.1 | 16.0 | 24.0 | Q2 |
| MSP430F149IRTD | VQFN | RTD | 64 | 2500 | 330.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |
| MSP430F149IRTD | VQFN | RTD | 64 | 250 | 180.0 | 16.4 | 9.3 | 9.3 | 1.5 | 12.0 | 16.0 | Q2 |

TAPE AND REEL BOX DIMENSIONS



*All dimensions are nominal

| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|-----------------|--------------|-----------------|------|------|-------------|------------|-------------|
| MSP430F133IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F133IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F135IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F135IRTD | VQFN | RTD | 64 | 2500 | 853.0 | 449.0 | 35.0 |
| MSP430F135IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F1471IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F1471IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F147IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F147IRTD | VQFN | RTD | 64 | 2500 | 853.0 | 449.0 | 35.0 |
| MSP430F147IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F1481IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F1481IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F148IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |

| Device | Package Type | Package Drawing | Pins | SPQ | Length (mm) | Width (mm) | Height (mm) |
|------------------|--------------|-----------------|------|------|-------------|------------|-------------|
| MSP430F148IRTDR | VQFN | RTD | 64 | 2500 | 853.0 | 449.0 | 35.0 |
| MSP430F148IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F1491IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F1491IRTDR | VQFN | RTD | 64 | 2500 | 853.0 | 449.0 | 35.0 |
| MSP430F1491IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |
| MSP430F149IPAGR | TQFP | PAG | 64 | 1500 | 350.0 | 350.0 | 43.0 |
| MSP430F149IPMR | LQFP | PM | 64 | 1000 | 336.6 | 336.6 | 41.3 |
| MSP430F149IRTDR | VQFN | RTD | 64 | 2500 | 853.0 | 449.0 | 35.0 |
| MSP430F149IRTD | VQFN | RTD | 64 | 250 | 210.0 | 185.0 | 35.0 |