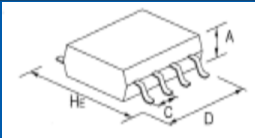
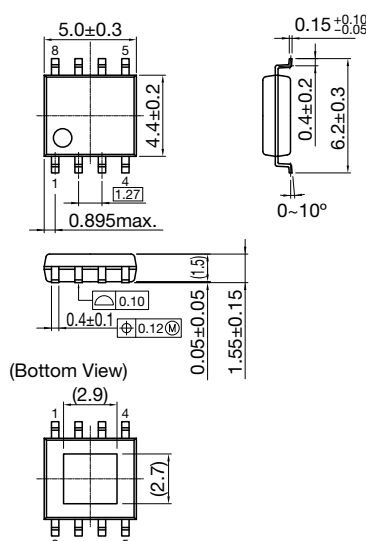
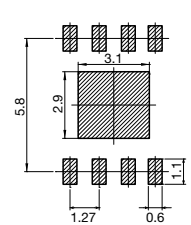
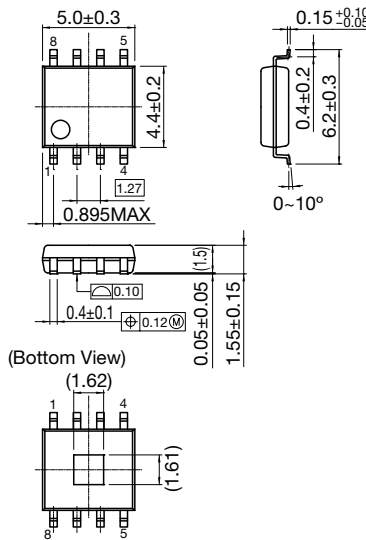
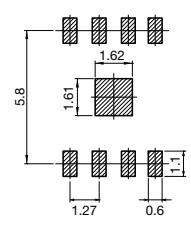


## Package Line-up



| Package Type      | Pin Count | Package Name | Package Size (mm) |       |       | Pin Pitch (mm) |
|-------------------|-----------|--------------|-------------------|-------|-------|----------------|
|                   |           |              | He                | D     | A     |                |
| Lead-through Type | 3         | TO-92A       | 5.40              | 3.80  | 7.50  | 2.50           |
| Flat Lead Type    | 6         | SON-6A       | 3.00              | 1.60  | 0.80  | 0.50           |
|                   | 6         | SON-6B       | 3.00              | 1.60  | 0.80  | 0.50           |
|                   | 6         | SON-6C       | 2.00              | 1.60  | 0.55  | 0.50           |
|                   | 6         | SON-6D       | 3.00              | 2.90  | 0.80  | 0.95           |
|                   | 5         | SOT89-5A     | 4.25              | 4.50  | 1.50  | 1.50           |
| Gullwing Type     | 4         | SC-82ABA     | 2.10              | 2.00  | 0.95  | 1.30           |
|                   | 4         | SC-82ABB     | 2.10              | 2.00  | 0.90  | 1.30           |
|                   | 6         | SC-88A       | 2.10              | 2.00  | 0.90  | 0.65           |
|                   | 3         | SOT-23A      | 2.80              | 2.90  | 1.15  | 1.90           |
|                   | 5         | SOT-25A      | 2.80              | 2.90  | 1.15  | 0.95           |
|                   | 6         | SOT-26A      | 2.80              | 2.90  | 1.15  | 0.95           |
|                   | 6         | SOT-26B      | 2.80              | 2.90  | 1.15  | 0.95           |
|                   | 7         | SOP-7B       | 6.20              | 5.00  | 1.55  | 1.27           |
|                   | 8         | SOP-8C       | 6.20              | 5.20  | 1.55  | 1.27           |
|                   | 8         | SOP-8D       | 6.20              | 5.00  | 1.55  | 1.27           |
|                   | 10        | SOP-10A      | 6.20              | 5.00  | 1.55  | 1.00           |
|                   | 16        | SOP-16B      | 6.20              | 10.20 | 1.55  | 1.27           |
|                   | 28        | SOP-28B      | 9.90              | 17.60 | 1.85  | 1.27           |
|                   | 8         | SSOP-8A      | 3.10              | 2.00  | 0.75  | 0.50           |
|                   | 24        | SSOP-24B     | 7.80              | 10.20 | 1.90  | 0.80           |
|                   | 34        | SSOP-34A     | 9.90              | 17.60 | 1.85  | 1.00           |
|                   | 36        | SSOP-36A     | 7.80              | 15.00 | 1.90  | 0.80           |
|                   | 42        | SSOP-42A     | 9.90              | 17.60 | 1.85  | 0.80           |
|                   | 16        | TSOP-16A     | 6.40              | 5.00  | 1.10  | 0.65           |
|                   | 16        | TSOP-16B     | 6.40              | 5.00  | 1.10  | 0.65           |
|                   | 16        | TSOP-16D     | 6.40              | 5.00  | 1.10  | 0.65           |
|                   | 20        | TSOP-20A     | 6.40              | 6.50  | 1.10  | 0.65           |
|                   | 20        | TSOP-20B     | 6.40              | 6.50  | 1.10  | 0.65           |
|                   | 20        | TSOP-20D     | 6.40              | 6.50  | 1.10  | 0.65           |
|                   | 20        | TSOP-20E     | 6.40              | 6.50  | 1.10  | 0.65           |
|                   | 20        | TSOP-20F     | 6.40              | 6.50  | 1.20  | 0.65           |
|                   | 8         | VSOP-8B      | 4.00              | 2.90  | 1.30  | 0.65           |
|                   | 8         | VSOP-8C      | 4.00              | 2.95  | 1.30  | 0.65           |
|                   | 8         | VSOP-8D      | 4.00              | 2.80  | 1.30  | 0.65           |
|                   | 8         | HSOP-8A      | 6.20              | 5.00  | 1.55  | 1.27           |
|                   | 8         | HSOP-8C      | 6.20              | 5.00  | 1.55  | 1.27           |
|                   | 28        | HSOP-28A     | 9.90              | 18.60 | 2.30  | 0.80           |
|                   | 28        | HSOP-28C     | 9.90              | 17.60 | 1.90  | 0.80           |
|                   | 36        | HSOP-36A     | 9.90              | 17.60 | 1.90  | 0.80           |
|                   | 64        | QFP-64E      | 16.00             | 16.00 | 1.20  | 0.80           |
|                   | 80        | QFP-80D      | 17.20             | 23.20 | 3.22  | 0.80           |
|                   | 100       | QFP-100A     | 17.20             | 23.20 | 3.22  | 0.65           |
|                   | 3         | TO-252C      | 9.90              | 6.60  | 2.30  | 2.30           |
|                   | 5         | TO-252-5A    | 9.90              | 6.60  | 2.30  | 1.27           |
| Non-Lead Type     | 4         | PLP-4A       | 1.00              | 1.00  | 0.60  | 0.65           |
|                   | 4         | PLP-4B       | 1.60              | 1.20  | 0.60  | 0.60           |
|                   | 6         | PLP-6A       | 2.00              | 1.80  | 0.60  | 0.50           |
|                   | 10        | PLP-10A      | 2.50              | 2.70  | 0.60  | 0.50           |
|                   | 16        | SQFN-16A     | 3.00              | 3.00  | 0.75  | 0.50           |
|                   | 32        | SQFN-32A     | 5.00              | 5.00  | 0.75  | 0.50           |
|                   | 4         | SSON-4B      | 1.40              | 1.10  | 0.55  | 0.50           |
|                   | 6         | SSON-6A      | 2.00              | 1.80  | 0.75  | 0.50           |
|                   | 6         | SSON-6E      | 1.60              | 1.80  | 0.55  | 0.50           |
|                   | 6         | SSON-6J      | 1.40              | 1.40  | 0.55  | 0.50           |
|                   | 6         | SSON-6L      | 2.00              | 2.00  | 0.75  | 0.65           |
|                   | 8         | SSON-8B      | 2.30              | 2.30  | 0.75  | 0.5            |
|                   | 8         | SSON-8C      | 3.00              | 3.00  | 0.55  | 0.65           |
|                   | 10        | SSON-10A     | 2.50              | 2.70  | 0.60  | 0.50           |
|                   | 20        | WLCSP-20A    | 1.936             | 1.936 | 0.345 | 0.40           |
|                   | 25        | WLCSP-25A    | 1.936             | 1.936 | 0.345 | 0.40           |
|                   | 48        | WLCSP-48A    | 3.47              | 3.47  | 0.40  | 0.50           |

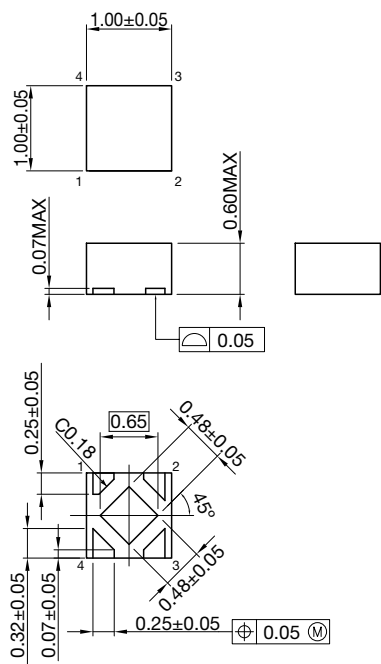
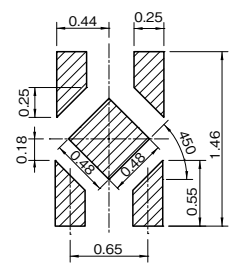
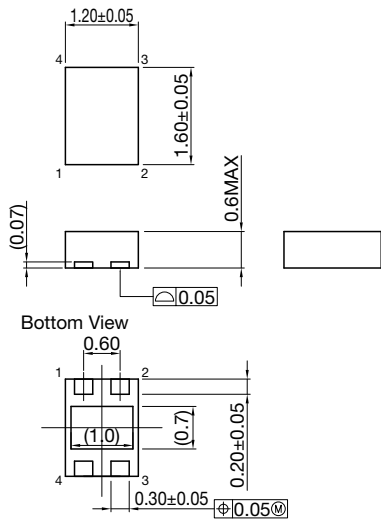
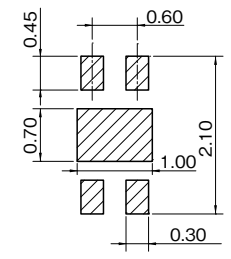
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern   |
|--------------|---|--|
| HSOP-8A      |  <p>Top View: 5.0±0.3, 4.4±0.2, 0.895max., 1.27, 0.4±0.1, 0.15<sup>+0.10</sup>/<sub>-0.05</sub>, 0~10°</p> <p>Side View: 0.4±0.2, 6.2±0.3, 0.15<sup>+0.10</sup>/<sub>-0.05</sub>, 0~10°</p> <p>Bottom View: (2.9), (2.7), 0.05±0.05 (1.5), 1.55±0.15, 0.4±0.1, 0.12</p>   |  <p>Land Pattern: 5.8, 2.9, 3.1, 1.27, 0.6, 1.1</p>     |
| HSOP-8C      |  <p>Top View: 5.0±0.3, 4.4±0.2, 0.895MAX, 1.27, 0.4±0.1, 0.15<sup>+0.10</sup>/<sub>-0.05</sub>, 0~10°</p> <p>Side View: 0.4±0.2, 6.2±0.3, 0.15<sup>+0.10</sup>/<sub>-0.05</sub>, 0~10°</p> <p>Bottom View: (1.62), (1.61), 0.05±0.05 (1.5), 1.55±0.15, 0.4±0.1, 0.12</p> |  <p>Land Pattern: 5.8, 1.62, 1.61, 1.27, 0.6, 1.1</p> |

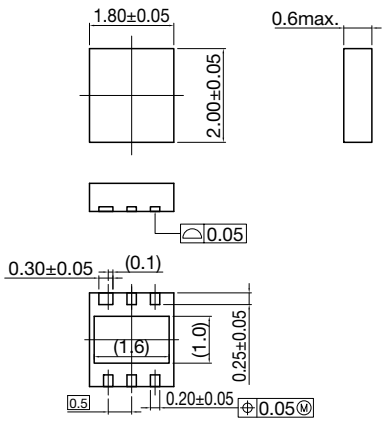
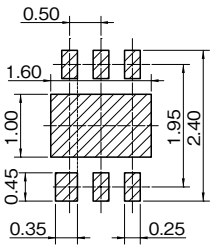
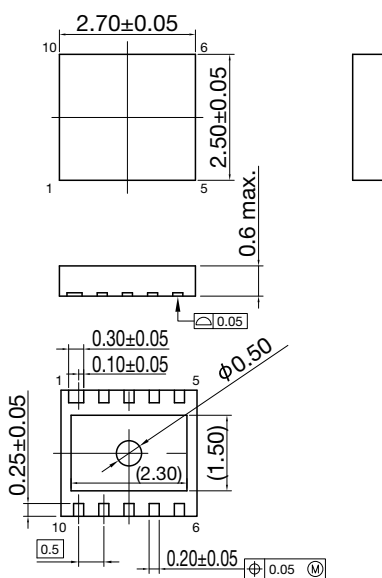
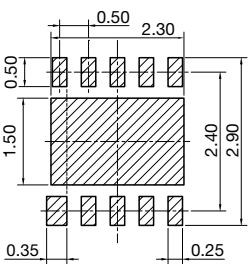
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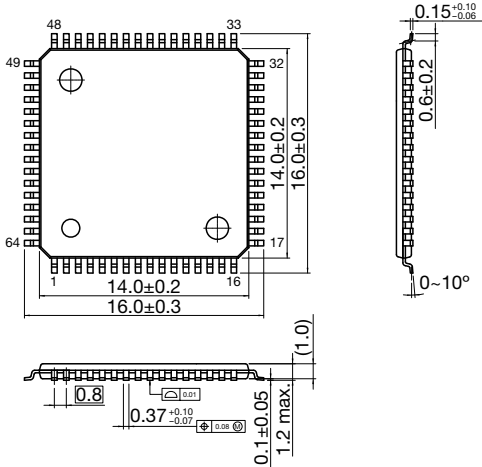
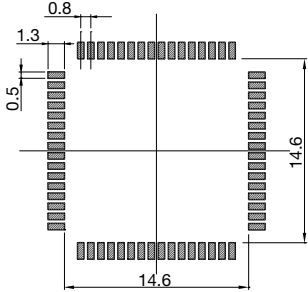
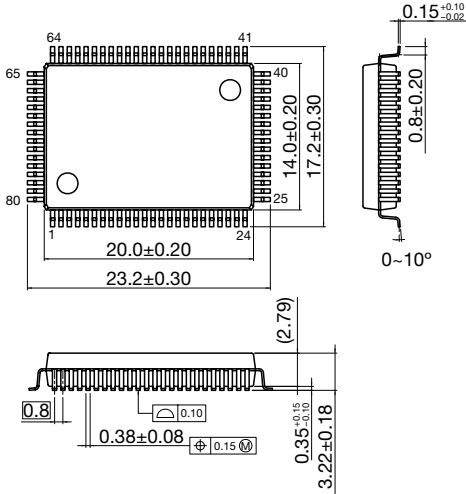
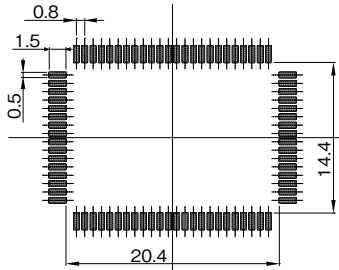
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| PLP-4A       |  <p>Top View: 1.00±0.05, 1.00±0.05, 0.60MAX, 0.07MAX, 0.05</p> <p>Side View: 0.25±0.05, 0.65, 0.48±0.05, 45°, 0.32±0.05, 0.07±0.05, 0.25±0.05, 0.05</p> <p>Bottom View: 0.25±0.05, 0.05</p> |  <p>0.44, 0.25, 0.25, 0.18, 0.65, 0.55, 1.46, 0.57</p> |
| PLP-4B       |  <p>Top View: 1.20±0.05, 1.60±0.05, 0.6MAX, 0.07, 0.05</p> <p>Side View: 0.6MAX, 0.05</p> <p>Bottom View: 0.60, 0.7, 0.20±0.05, 0.30±0.05, 0.05</p>  |  <p>0.45, 0.60, 0.70, 1.00, 2.10, 0.30</p>           |

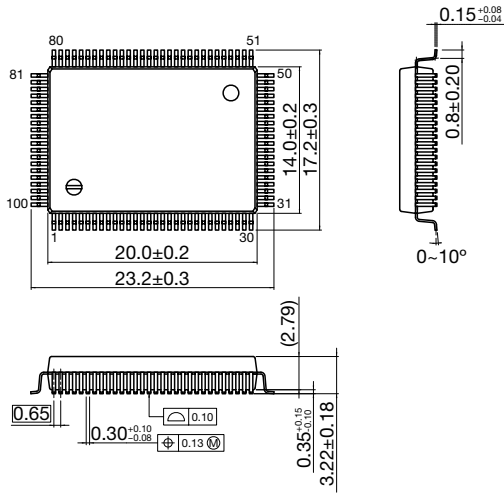
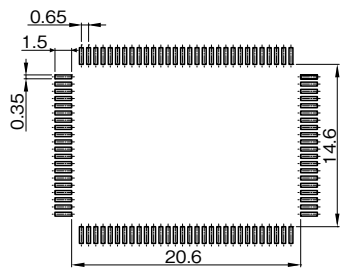
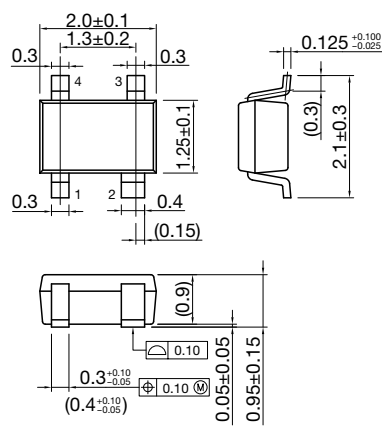
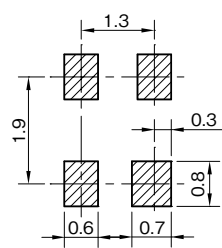
# Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern  |
|--------------|--|---|
| PLP-6A       |  <p>Top view: 1.80±0.05, 2.00±0.05, 0.6max.</p> <p>Side view: 0.05</p> <p>Bottom view: 0.30±0.05, (0.1), (1.0), 0.25±0.05, 0.20±0.05, 0.05 (M)</p>                                  |  <p>Dimensions: 0.50, 1.60, 1.00, 1.95, 2.40, 0.45, 0.35, 0.25</p>   |
| PLP-10A      |  <p>Top view: 2.70±0.05, 2.50±0.05, 0.6 max.</p> <p>Side view: 0.05</p> <p>Bottom view: 0.30±0.05, 0.10±0.05, 0.25±0.05, 0.20±0.05, 0.05 (M), 10, 6, 1, 5, 1.50, (2.30), 0.50</p> |  <p>Dimensions: 0.50, 2.30, 0.50, 1.50, 2.40, 2.90, 0.35, 0.25</p> |

# Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern   |
|--------------|--|--|
| QFP-64E      |  <p>Top view dimensions: 14.0±0.2, 16.0±0.3, 14.0±0.2, 16.0±0.3. Pin pitch: 0.6±0.2. Pin width: 0.15<sup>+0.10</sup>/<sub>-0.06</sub>. Pin angle: 0~10°. Bottom view dimensions: 0.8, 0.37<sup>+0.10</sup>/<sub>-0.07</sub>, 0.1±0.05, 1.2 max. (1.0).</p>           |  <p>Land pattern dimensions: 14.6, 14.6, 0.8, 1.3, 0.5.</p>   |
| QFP-80D      |  <p>Top view dimensions: 20.0±0.20, 23.2±0.30, 14.0±0.20, 17.2±0.30. Pin pitch: 0.8±0.20. Pin width: 0.15<sup>+0.10</sup>/<sub>-0.06</sub>. Pin angle: 0~10°. Bottom view dimensions: 0.8, 0.38±0.08, 0.35<sup>+0.10</sup>/<sub>-0.05</sub>, 3.22±0.18, (2.79).</p> |  <p>Land pattern dimensions: 20.4, 14.4, 0.8, 1.5, 0.5.</p> |

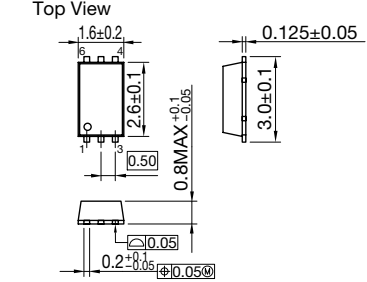
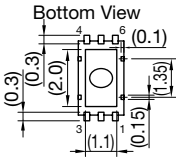
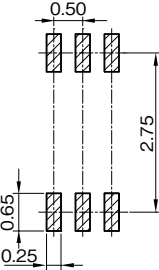
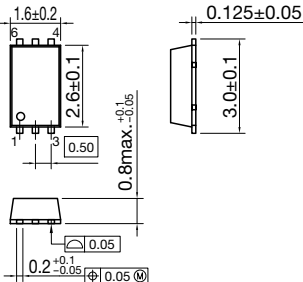
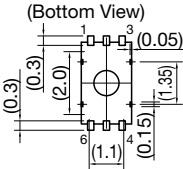
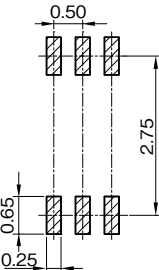
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| QFP-100A     |  <p>Top view dimensions: 20.0±0.2, 23.2±0.3, 14.0±0.2, 17.2±0.3, 80, 51, 81, 100, 1, 30, 50, 31.</p> <p>Side view dimensions: 0.15<sup>+0.08/-0.04</sup>, 0.8±0.20, 0~10°.</p> <p>Detail view dimensions: 0.65, 0.30<sup>+0.10/-0.08</sup>, 0.10, 0.13, 0.35<sup>+0.15/-0.10</sup>, 3.22±0.18, (2.79).</p>  |  <p>Land pattern dimensions: 0.65, 1.5, 0.35, 20.6, 14.6.</p>    |
| SC-82ABA     |  <p>Top view dimensions: 2.0±0.1, 1.3±0.2, 0.3, 0.3, 0.3, 0.3, 0.4, (0.15), 1.25±0.1.</p> <p>Side view dimensions: 0.125<sup>+0.100/-0.025</sup>, (0.3), 2.1±0.3.</p> <p>Detail view dimensions: 0.9, (0.9), 0.3<sup>+0.10/-0.05</sup>, (0.4<sup>+0.10/-0.05</sup>), 0.05±0.05, 0.10, 0.10, 0.95±0.15.</p> |  <p>Land pattern dimensions: 1.3, 0.3, 0.8, 0.7, 0.6, 1.9.</p> |

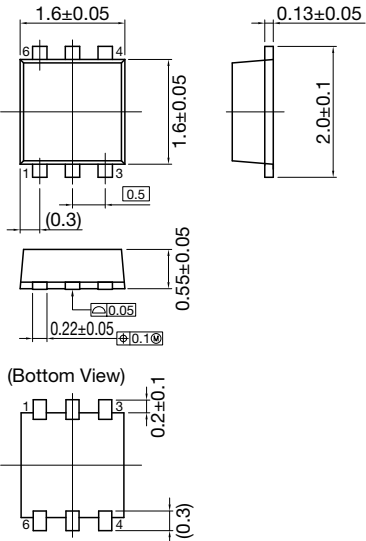
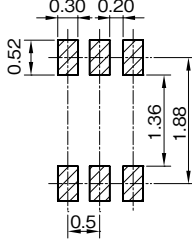
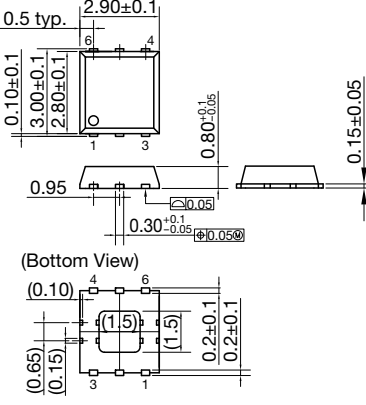
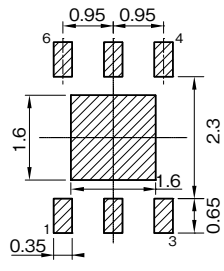


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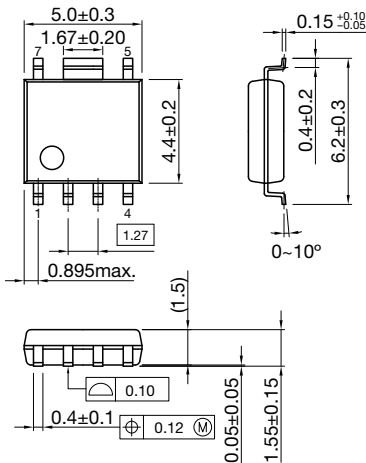
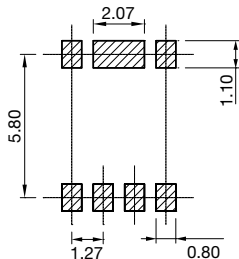
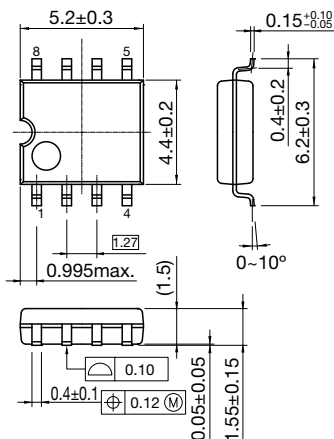
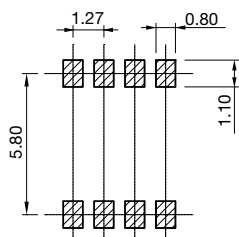
# Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern  |
|--------------|--|---|
| SON-6A       | <p>Top View</p>  <p>Bottom View</p>  |    |
| SON-6B       |  <p>(Bottom View)</p>            |  |

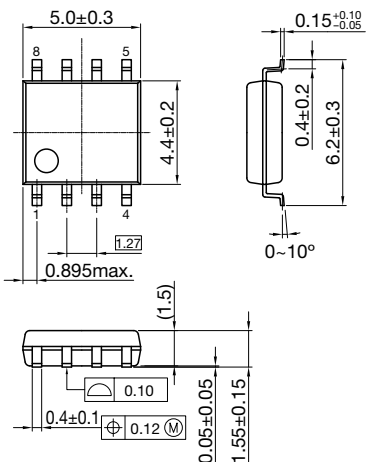
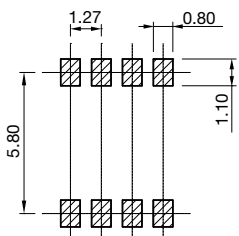
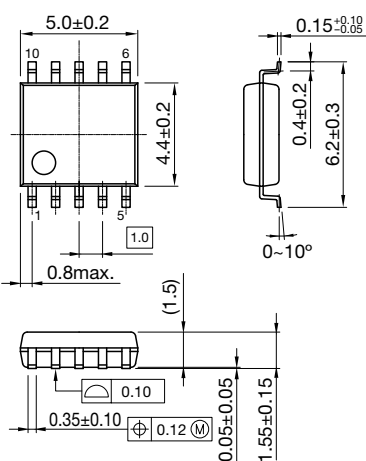
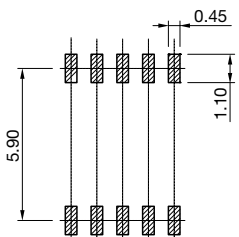
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SON-6C       |  <p>Top View: 1.6±0.05, 1.6±0.05, 0.13±0.05, 2.0±0.1, 0.5, (0.3)</p> <p>Side View: 0.55±0.05, 0.22±0.05, Ø0.10</p> <p>(Bottom View): 0.2±0.1, (0.3)</p>   |  <p>0.30, 0.20, 0.52, 1.36, 1.88, 0.5</p>  |
| SON-6D       |  <p>Top View: 0.5 typ., 2.90±0.1, 0.10±0.1, 3.00±0.1, 2.80±0.1, 0.80±0.05, 0.15±0.05</p> <p>Side View: 0.95, 0.30±0.05, Ø0.05</p> <p>(Bottom View): (0.10), (0.65), (0.15), (1.5), (1.5), 0.2±0.1, 0.2±0.1</p> |  <p>0.95, 0.95, 1.6, 2.3, 0.65, 0.35</p> |

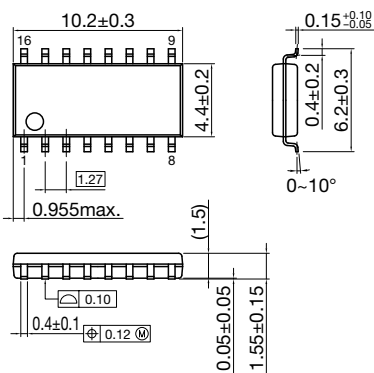
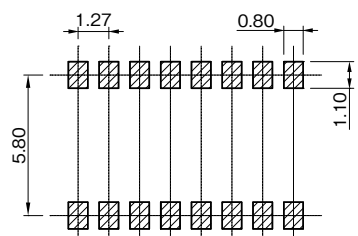
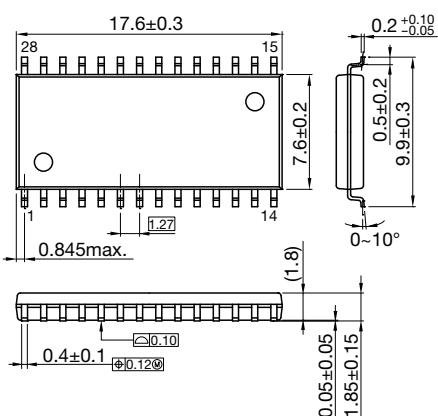
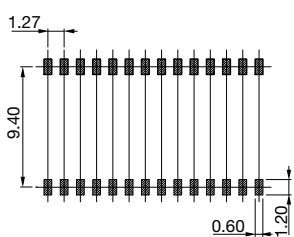
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SOP-7B       |  <p>Top view dimensions: 5.0±0.3, 1.67±0.20, 4.4±0.2, 0.895max., 1.27, 0.15<sup>+0.10/-0.05</sup>, 0.4±0.2, 6.2±0.3, 0~10°.</p> <p>Side view dimensions: 1.5, 0.10, 0.4±0.1, 0.05±0.05, 1.55±0.15, 0.12, 0.10.</p> |  <p>Land pattern dimensions: 2.07, 1.10, 5.80, 1.27, 0.80.</p> |
| SOP-8C       |  <p>Top view dimensions: 5.2±0.3, 4.4±0.2, 0.995max., 1.27, 0.15<sup>+0.10/-0.05</sup>, 0.4±0.2, 6.2±0.3, 0~10°.</p> <p>Side view dimensions: 1.5, 0.10, 0.4±0.1, 0.05±0.05, 1.55±0.15, 0.12, 0.10.</p>          |  <p>Land pattern dimensions: 1.27, 0.80, 5.80, 1.10.</p>     |

# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SOP-8D       |  <p>Top view dimensions: 5.0±0.3, 4.4±0.2, 0.895max., 1.27, 0.15<sup>+0.10/-0.05</sup>, 0.4±0.2, 6.2±0.3, 0~10°.</p> <p>Side view dimensions: 1.5, 0.10, 0.4±0.1, 0.05±0.05, 1.55±0.15, 0.12.</p>  |  <p>Land pattern dimensions: 1.27, 0.80, 5.80, 1.10.</p> |
| SOP-10A      |  <p>Top view dimensions: 5.0±0.2, 4.4±0.2, 0.8max., 1.0, 0.15<sup>+0.10/-0.05</sup>, 0.4±0.2, 6.2±0.3, 0~10°.</p> <p>Side view dimensions: 1.5, 0.10, 0.35±0.10, 0.05±0.05, 1.55±0.15, 0.12.</p> |  <p>Land pattern dimensions: 0.45, 5.90, 1.10.</p>     |

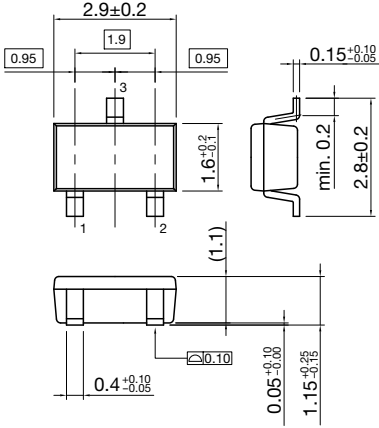
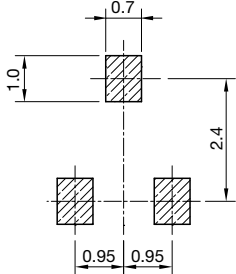
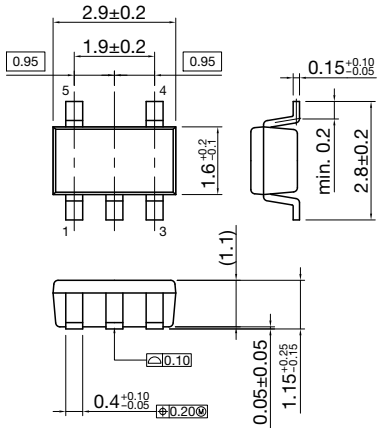
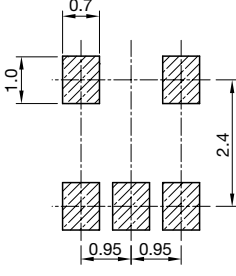
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SOP-16B      |  <p>Top view dimensions: 10.2±0.3, 4.4±0.2, 1.27, 0.955max., 0.4±0.1, 0.05±0.05, 1.55±0.15, 0.12, 0.10, 1.5, 0.15<sup>+0.10</sup><sub>-0.05</sub>, 0.4±0.2, 6.2±0.3, 0~10°.</p> <p>Side view dimensions: 0.05±0.05, 1.55±0.15, 1.5, 0.15<sup>+0.10</sup><sub>-0.05</sub>, 0.4±0.2, 6.2±0.3, 0~10°.</p> |  <p>Land pattern dimensions: 1.27, 0.80, 5.80, 1.10.</p>   |
| SOP-28B      |  <p>Top view dimensions: 17.6±0.3, 7.6±0.2, 1.27, 0.845max., 0.4±0.1, 0.05±0.05, 1.85±0.15, 0.12, 0.10, 1.8, 0.2<sup>+0.10</sup><sub>-0.05</sub>, 0.5±0.2, 9.9±0.3, 0~10°.</p> <p>Side view dimensions: 0.05±0.05, 1.85±0.15, 1.8, 0.2<sup>+0.10</sup><sub>-0.05</sub>, 0.5±0.2, 9.9±0.3, 0~10°.</p> |  <p>Land pattern dimensions: 1.27, 9.40, 0.60, 1.20.</p> |

for package

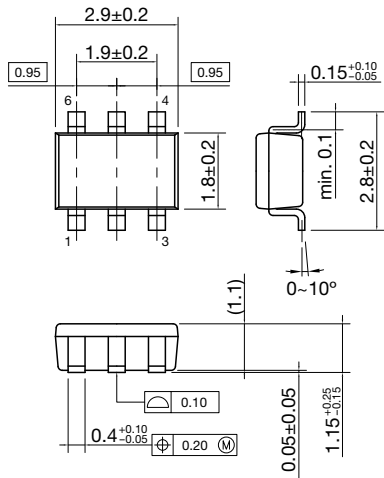
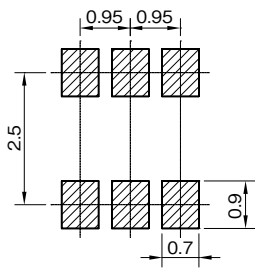
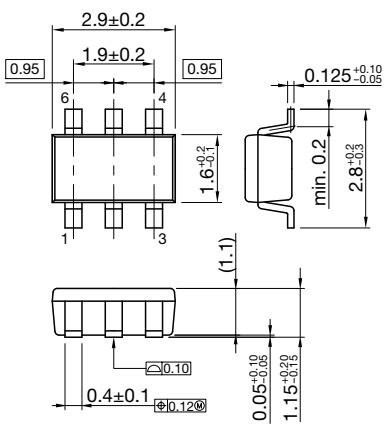
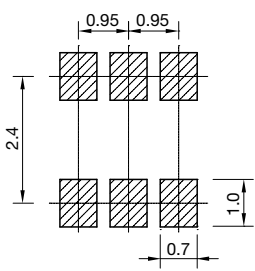
**Package**

# Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern   |
|--------------|--|--|
| SOT-23A      |  <p>Top view dimensions: 2.9±0.2, 1.9, 0.95, 0.95, 1.6<sup>+0.2</sup><sub>-0.1</sub>, 0.15<sup>+0.10</sup><sub>-0.05</sub>, min. 0.2, 2.8±0.2.</p> <p>Side view dimensions: (1.1), 0.4<sup>+0.10</sup><sub>-0.05</sub>, 0.05<sup>+0.10</sup><sub>-0.00</sub>, 1.15<sup>+0.25</sup><sub>-0.15</sub>.</p> |  <p>Land pattern dimensions: 0.7, 1.0, 2.4, 0.95, 0.95.</p>   |
| SOT-25A      |  <p>Top view dimensions: 2.9±0.2, 1.9±0.2, 0.95, 0.95, 1.6<sup>+0.2</sup><sub>-0.1</sub>, 0.15<sup>+0.10</sup><sub>-0.05</sub>, min. 0.2, 2.8±0.2.</p> <p>Side view dimensions: (1.1), 0.4<sup>+0.10</sup><sub>-0.05</sub>, 0.05±0.05, 1.15<sup>+0.25</sup><sub>-0.15</sub>, Ø0.20.</p>               |  <p>Land pattern dimensions: 0.7, 1.0, 2.4, 0.95, 0.95.</p> |

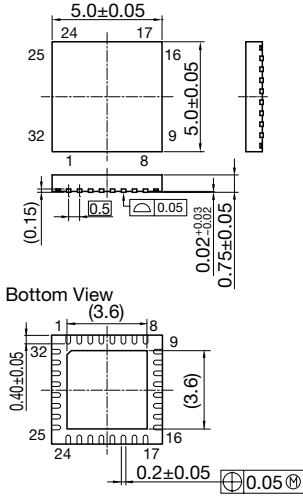
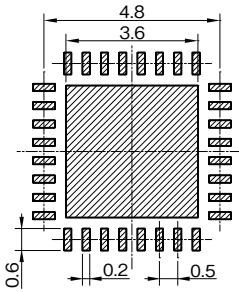
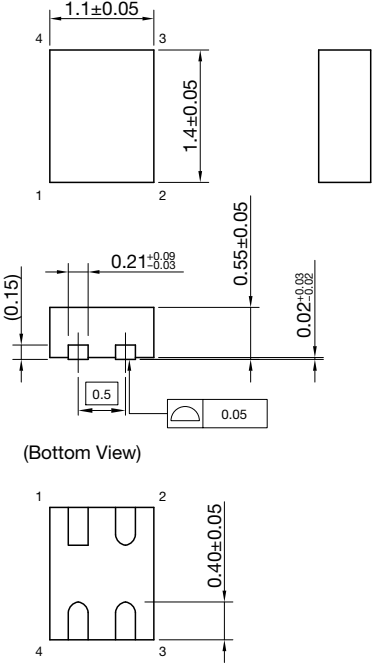
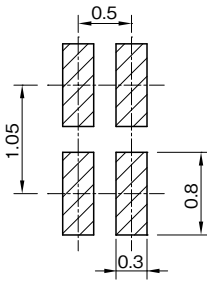


# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern   |
|--------------|---|--|
| SOT-26A      |  <p>Top view dimensions: 2.9±0.2, 1.9±0.2, 0.95, 0.95, 1.8±0.2, 1.1, 0.15<sup>+0.10/-0.06</sup>, min. 0.1, 2.8±0.2, 0~10°.</p> <p>Bottom view dimensions: 0.4<sup>+0.10/-0.05</sup>, 0.20, 0.05±0.05, 1.15<sup>+0.25/-0.13</sup>, 0.10.</p> |  <p>Land pattern dimensions: 0.95, 0.95, 2.5, 0.9, 0.7.</p>   |
| SOT-26B      |  <p>Top view dimensions: 2.9±0.2, 1.9±0.2, 0.95, 0.95, 1.6±0.2, 1.1, 0.125<sup>+0.10/-0.05</sup>, min. 0.2, 2.8<sup>+0.2/-0.3</sup>.</p> <p>Bottom view dimensions: 0.4±0.1, 0.10, 0.05±0.05, 1.15<sup>+0.20/-0.13</sup>, 0.12.</p>        |  <p>Land pattern dimensions: 0.95, 0.95, 2.4, 1.0, 0.7.</p> |

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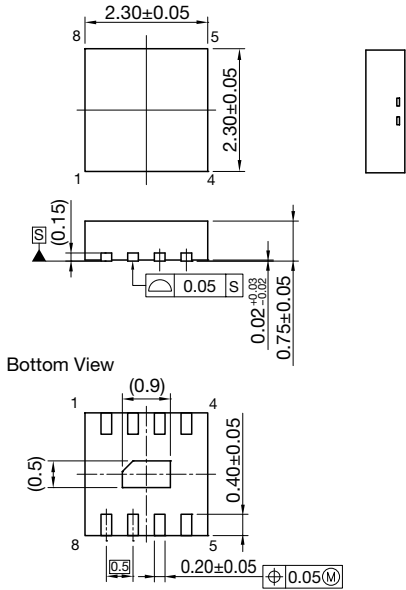
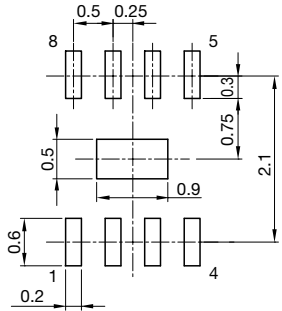
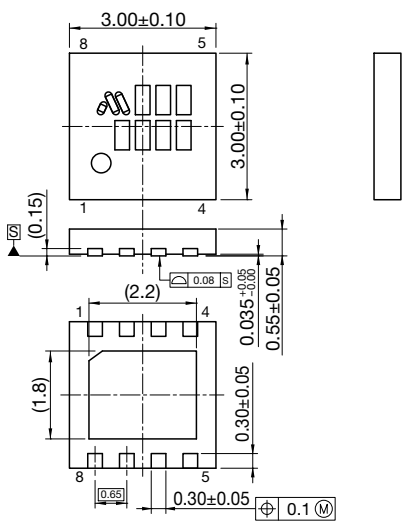
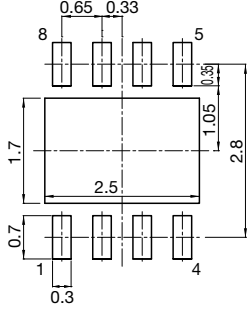
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SQFN-32A     |  <p>Top View: 5.0±0.05, 24, 17, 16, 9, 5.0±0.05, 1, 8, 0.02±0.02, 0.75±0.05, (0.15), 0.5, 0.05.</p> <p>Bottom View: (3.6), 1, 8, 9, 3.6, 0.40±0.05, 32, 25, 24, 17, 16, 0.2±0.05, 0.05.</p> |  <p>Land Pattern: 4.8, 3.6, 0.6, 0.2, 0.5.</p> |
| SSON-4B      |  <p>Top View: 1.1±0.05, 4, 3, 1.4±0.05, 1, 2.</p> <p>Bottom View: (0.15), 0.21±0.02, 0.55±0.05, 0.02±0.02, 0.5, 0.05.</p> <p>Side View: 0.40±0.05, 1, 2, 4, 3.</p>                         |  <p>Land Pattern: 0.5, 1.05, 0.8, 0.3.</p>   |

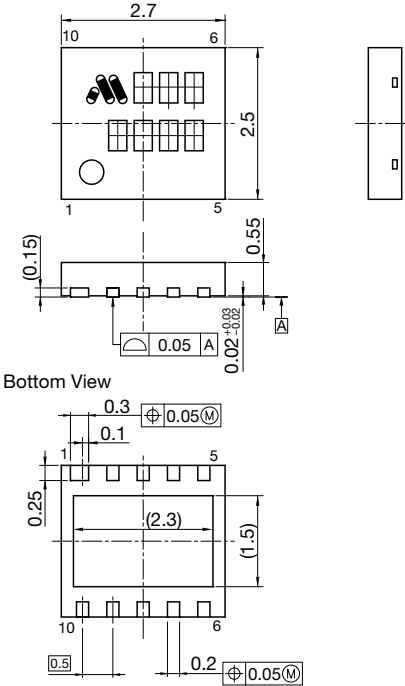
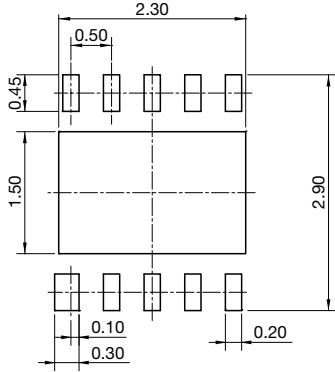
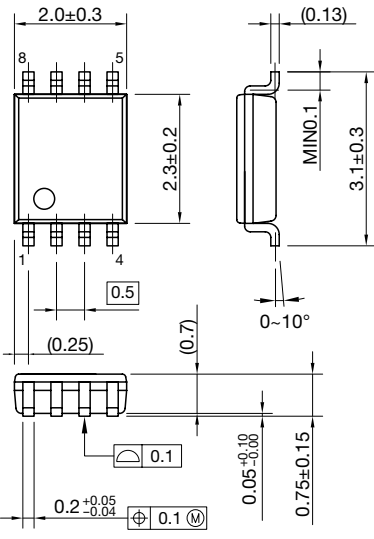
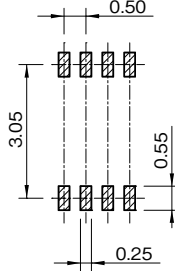
SSON-6A

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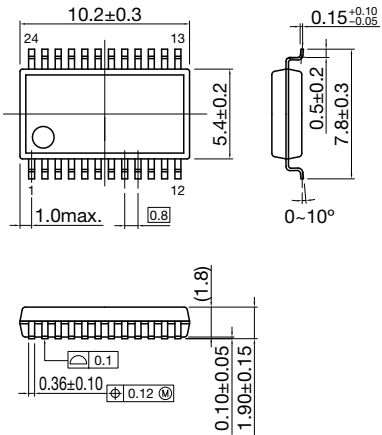
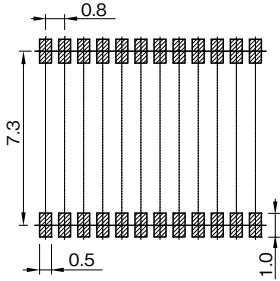
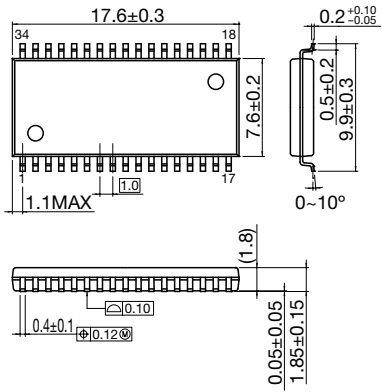
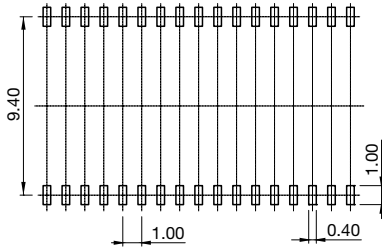
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern   |
|--------------|---|--|
| SSON-8B      |  <p>Top View: 2.30±0.05, 8, 5, 2.30±0.05, 1, 4</p> <p>Side View: (0.15), 0.05, 0.02±0.02, 0.75±0.05</p> <p>Bottom View: (0.9), (0.5), 0.40±0.05, 8, 5, 0.20±0.05, 0.05(M)</p>   |  <p>Pin dimensions: 0.5, 0.25, 0.3, 0.75, 2.1, 0.9, 0.6, 0.2</p>    |
| SSON-8C      |  <p>Top View: 3.00±0.10, 8, 5, 3.00±0.10, 1, 4</p> <p>Side View: (0.15), 0.08, 0.035±0.005, 0.55±0.05</p> <p>Bottom View: (2.2), (1.8), 0.30±0.05, 8, 5, 0.30±0.05, 0.1(M)</p> |  <p>Pin dimensions: 0.65, 0.33, 0.3, 1.05, 2.8, 2.5, 0.7, 0.3</p> |

# Package

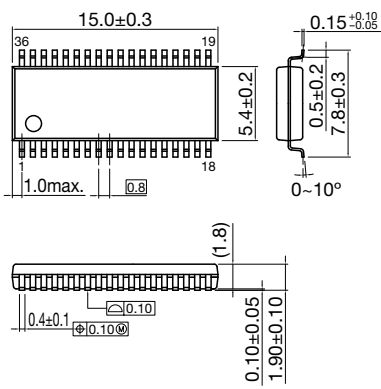
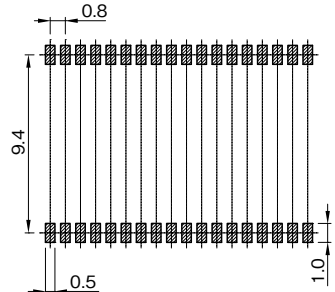
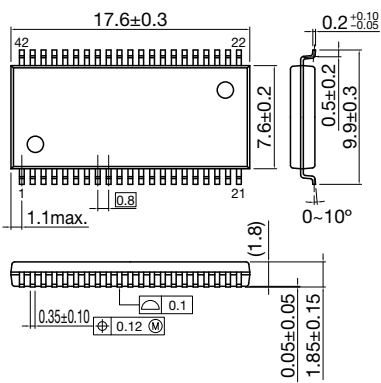
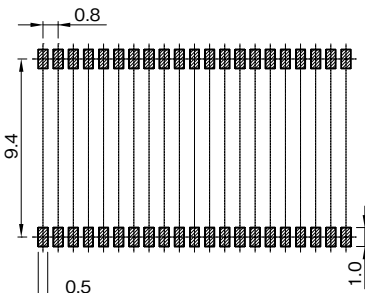
| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SSON-10A     |  <p>Top View: 2.7, 10, 6, 2.5, 1, 5, 0.55, 0.02<sup>+0.03</sup><sub>-0.02</sub>, 0.05, A</p> <p>Side View: (0.15), 0.55, 0.02<sup>+0.03</sup><sub>-0.02</sub>, A</p> <p>Bottom View: 0.3, 0.1, 0.25, 1, 5, 10, 6, 0.2, 0.05, (2.3), (1.5)</p> |  <p>Land Pattern: 2.30, 0.50, 0.45, 1.50, 2.90, 0.10, 0.30, 0.20</p> |
| SSOP-8A      |  <p>Top View: 2.0±0.3, 8, 5, 2.3±0.2, 1, 4, 0.5, (0.25), (0.7)</p> <p>Side View: (0.13), MIN 0.1, 3.1±0.3, 0~10°</p> <p>Bottom View: 0.2<sup>+0.05</sup><sub>-0.04</sub>, 0.1, 0.05<sup>+0.10</sup><sub>-0.00</sub>, 0.75±0.15, 0.1, 0.1</p> |  <p>Land Pattern: 0.50, 3.05, 0.55, 0.25</p>                       |

# Package

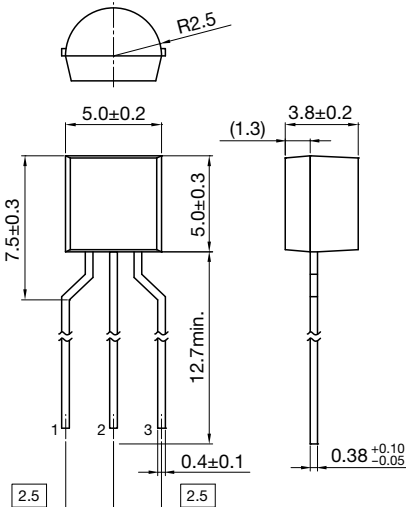
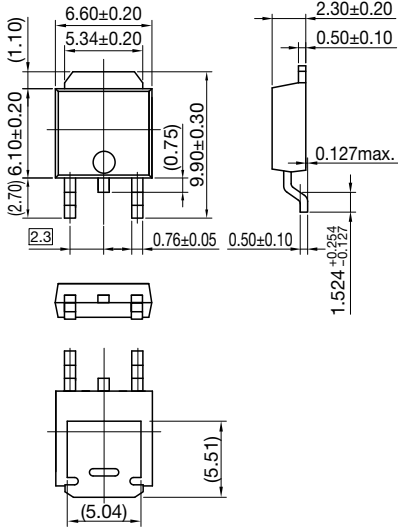
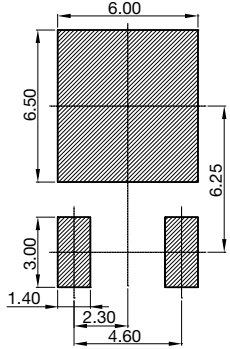
| Package Name | Dimensional Drawing   | Recommended Land Pattern  |
|--------------|---|---|
| SSOP-24B     |  <p>Top view dimensions: 10.2±0.3, 24 pins, 13 pins, 1.0max., 0.8, 5.4±0.2, 1.0±0.05, 1.90±0.15, 0.10±0.05, 0.36±0.10, 0.12, 0.1, 1.8.</p> <p>Side view dimensions: 0.15<sup>+0.10</sup><sub>-0.05</sub>, 0.5±0.2, 7.8±0.3, 0~10°.</p> |  <p>Land pattern dimensions: 0.8, 7.3, 0.5, 1.0.</p> |
| SSOP-34A     |  <p>Top view dimensions: 17.6±0.3, 34 pins, 18 pins, 1.1MAX, 1.0, 7.6±0.2, 0.05±0.05, 1.85±0.15, 0.4±0.1, 0.10, 0.12, 1.8.</p> <p>Side view dimensions: 0.2<sup>+0.10</sup><sub>-0.05</sub>, 0.5±0.2, 9.9±0.3, 0~10°.</p>            |  <p>Land pattern dimensions: 9.40, 1.00, 0.40.</p> |



# Package

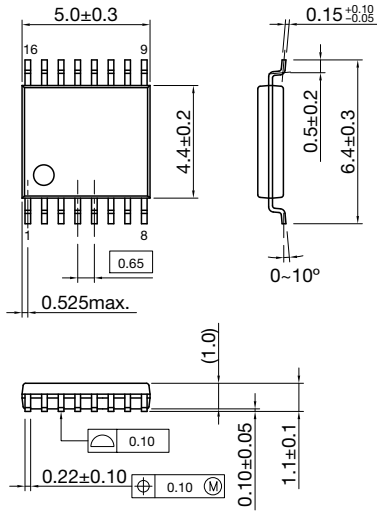
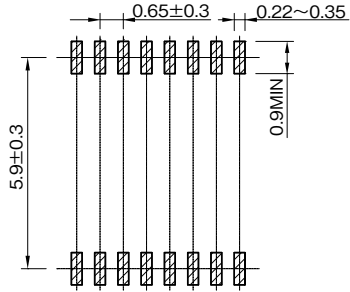
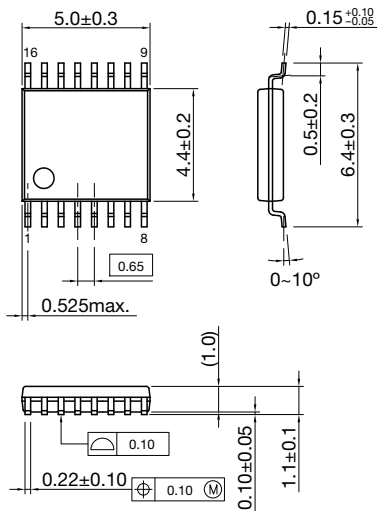
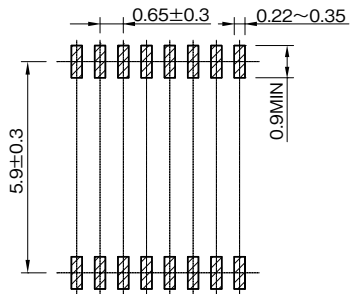
| Package Name | Dimensional Drawing  | Recommended Land Pattern  |
|--------------|--|---|
| SSOP-36A     |  <p>Top view dimensions: 15.0±0.3, 1.0max., 0.8, 0.15<sup>+0.10/-0.05</sup>, 0.5±0.2, 7.8±0.3, 5.4±0.2, 0~10°.</p> <p>Side view dimensions: 1.8, 0.4±0.1, 0.10±0.05, 1.90±0.10, 0.10, 0.10.</p>   |  <p>Land pattern dimensions: 0.8, 9.4, 0.5, 1.0.</p>   |
| SSOP-42A     |  <p>Top view dimensions: 17.6±0.3, 1.1max., 0.8, 0.2<sup>+0.10/-0.05</sup>, 0.5±0.2, 9.9±0.3, 7.6±0.2, 0~10°.</p> <p>Side view dimensions: 1.8, 0.35±0.10, 0.1, 0.05±0.05, 1.85±0.15, 0.12.</p> |  <p>Land pattern dimensions: 0.8, 9.4, 0.5, 1.0.</p> |

# Package

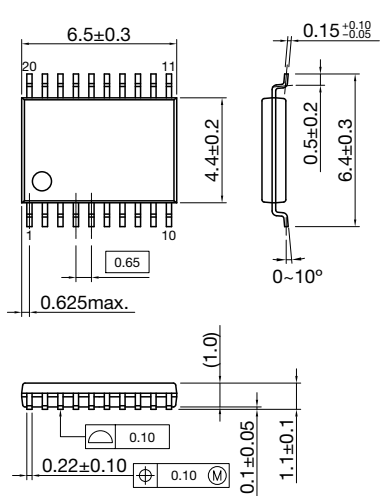
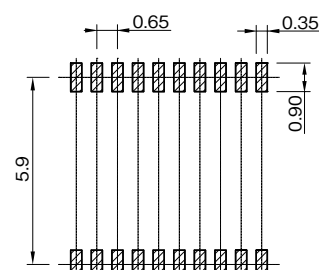
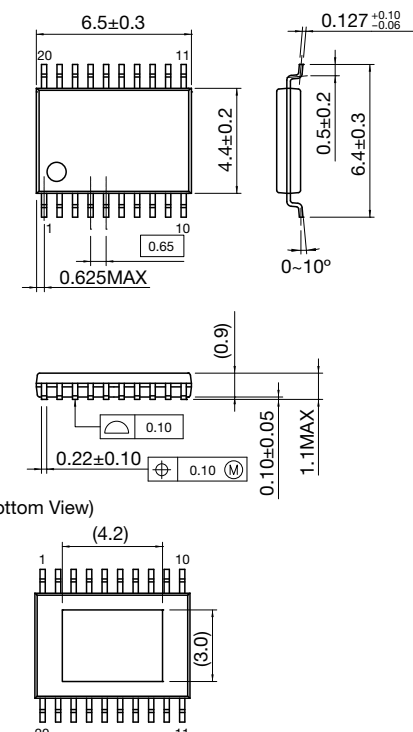
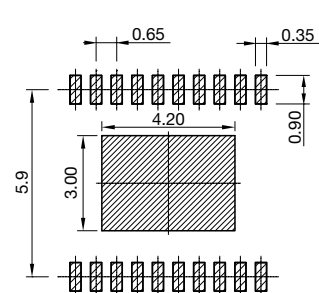
| Package Name | Dimensional Drawing  | Recommended Land Pattern  |
|--------------|--|---|
| TO-92A       |  <p>Top view: R2.5, 5.0±0.2, 7.5±0.3, 5.0±0.3, 12.7min., 0.4±0.1, 2.5, 2.5.</p> <p>Side view: 3.8±0.2, (1.3), 0.38<sup>+0.10</sup><sub>-0.05</sub>.</p>  |   |
| TO-252C      |  <p>Top view: 6.60±0.20, 5.34±0.20, 6.10±0.20, (1.10), (2.70), 0.76±0.05, 0.50±0.10, 1.524<sup>+0.254</sup><sub>-0.127</sub>, 5.04, (5.51).</p> <p>Side view: 2.30±0.20, 0.50±0.10, 0.127max., 9.90±0.30, (0.75).</p> |  <p>Land pattern dimensions: 6.00, 6.50, 6.25, 3.00, 1.40, 2.30, 4.60.</p> |

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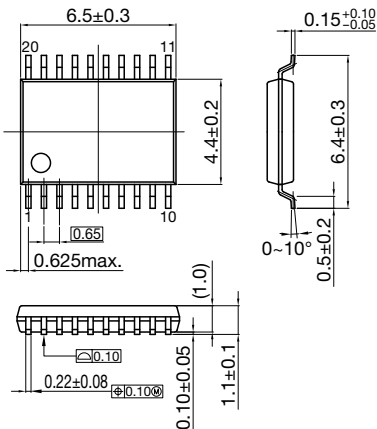
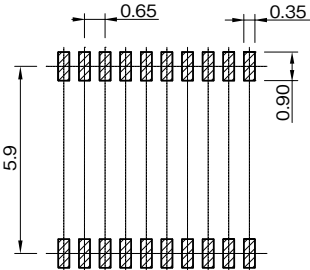
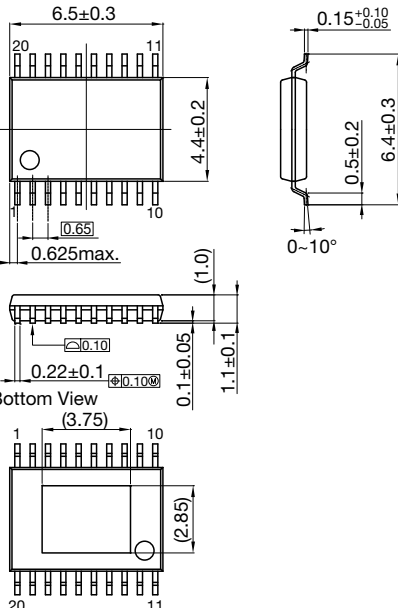
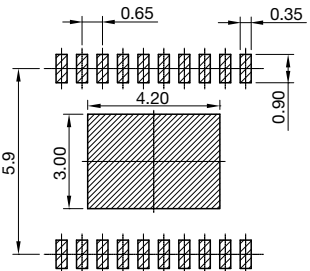
# Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern  |
|--------------|--|---|
| TSOP-16B     |  <p>Top view dimensions: 5.0±0.3, 4.4±0.2, 0.65, 0.525max., 16, 9, 8.</p> <p>Side view dimensions: 0.15<sup>+0.10/-0.05</sup>, 0.5±0.2, 6.4±0.3, 0~10°.</p> <p>Bottom view dimensions: (1.0), 0.10, 1.1±0.1, 0.10±0.05, 0.22±0.10, 0.10, 0.22±0.10.</p>  |  <p>Pin pitch: 0.65±0.3, 0.22~0.35.</p> <p>Pin width: 0.9MIN.</p> <p>Overall width: 5.9±0.3.</p>   |
| TSOP-16D     |  <p>Top view dimensions: 5.0±0.3, 4.4±0.2, 0.65, 0.525max., 16, 9, 8.</p> <p>Side view dimensions: 0.15<sup>+0.10/-0.05</sup>, 0.5±0.2, 6.4±0.3, 0~10°.</p> <p>Bottom view dimensions: (1.0), 0.10, 1.1±0.1, 0.10±0.05, 0.22±0.10, 0.10, 0.22±0.10.</p> |  <p>Pin pitch: 0.65±0.3, 0.22~0.35.</p> <p>Pin width: 0.9MIN.</p> <p>Overall width: 5.9±0.3.</p> |

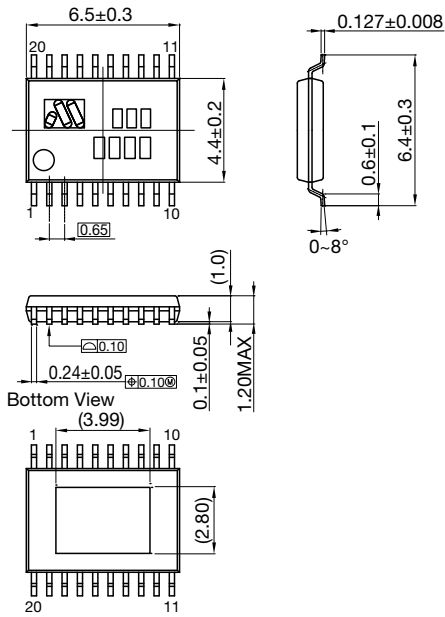
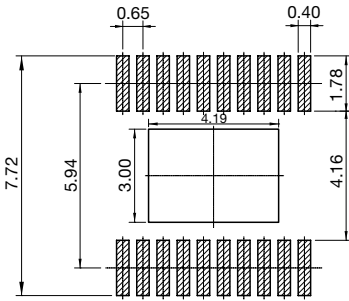
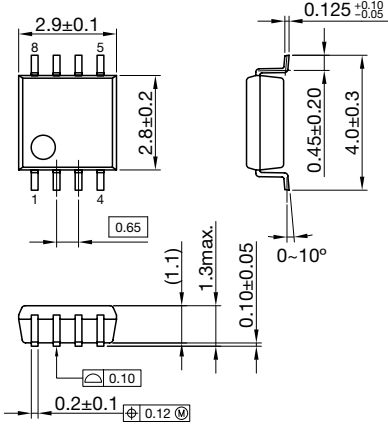
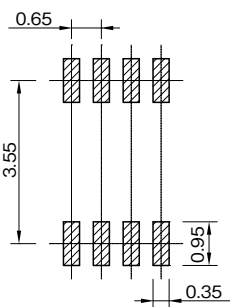
# Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern   |
|--------------|--|--|
| TSOP-20A     |  <p>Top View: 6.5±0.3, 4.4±0.2, 0.65, 0.625max., 11, 20, 10.</p> <p>Side View: 0.15<sup>+0.10</sup><sub>-0.05</sub>, 0.5±0.2, 6.4±0.3, 0~10°.</p> <p>Bottom View: 1.0, 0.10, 0.22±0.10, 0.1±0.05, 1.1±0.1, 0.10, 0.10.</p>                                   |  <p>Pin Pitch: 0.65, 0.35. Total Width: 5.9, 0.90.</p>                            |
| TSOP-20B     |  <p>Top View: 6.5±0.3, 4.4±0.2, 0.65, 0.625MAX, 11, 20, 10.</p> <p>Side View: 0.127<sup>+0.10</sup><sub>-0.06</sub>, 0.5±0.2, 6.4±0.3, 0~10°.</p> <p>Bottom View: (0.9), 0.10±0.05, 1.1MAX, 0.10, 0.10.</p> <p>Bottom View (4.2): 1, 10, 20, 11, (3.0).</p> |  <p>Pin Pitch: 0.65, 0.35. Total Width: 5.9, 0.90. Shaded Area: 4.20, 3.00.</p> |

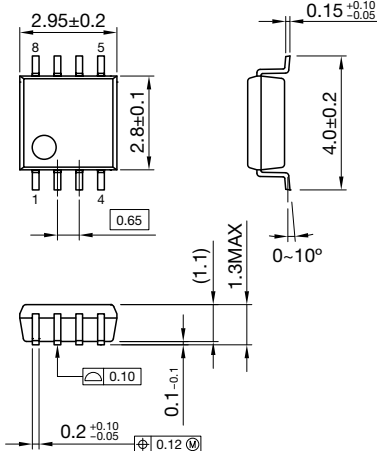
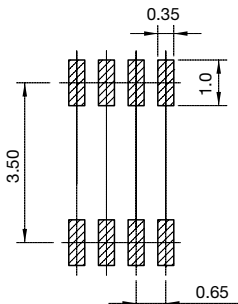
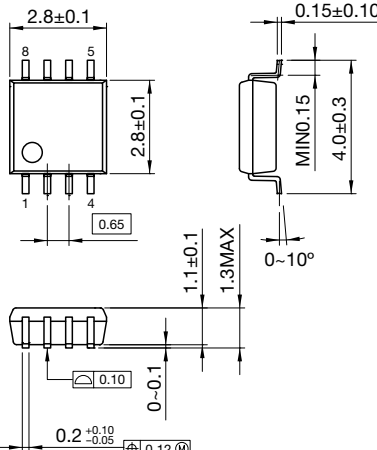
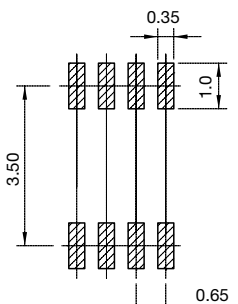
# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern   |
|--------------|---|--|
| TSOP-20D     |  <p>Top View: 6.5±0.3, 4.4±0.2, 0.65, 0.625max., 1.1±0.1, 0.10±0.05, 0.22±0.08, 0.10, 1.0, 20, 11, 10, 1.</p> <p>Side View: 0.15<sup>+0.10</sup><sub>-0.05</sub>, 6.4±0.3, 0.5±0.2, 0~10°.</p> <p>Bottom View: 0.1±0.05, 1.1±0.1, 0.22±0.1, 0.10, 1.0, 10, 11, 20, 1.</p>  |  <p>Pin Pitch: 0.65, 0.35. Dimensions: 5.9, 0.90.</p>               |
| TSOP-20E     |  <p>Top View: 6.5±0.3, 4.4±0.2, 0.65, 0.625max., 1.1±0.1, 0.10±0.05, 0.22±0.1, 0.10, 1.0, 20, 11, 10, 1.</p> <p>Side View: 0.15<sup>+0.10</sup><sub>-0.05</sub>, 6.4±0.3, 0.5±0.2, 0~10°.</p> <p>Bottom View: 0.1±0.05, 1.1±0.1, 0.22±0.1, 0.10, 1.0, 10, 11, 20, 1.</p> <p>Bottom View (3.75): 3.75, 2.85, 10, 11, 20, 1.</p> |  <p>Pin Pitch: 0.65, 0.35. Dimensions: 5.9, 0.90, 4.20, 3.00.</p> |

# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern   |
|--------------|---|--|
| TSOP-20F     |  <p>Top View: 6.5±0.3, 11, 10, 4.4±0.2, 0.65, 0.127±0.008, 0.6±0.1, 6.4±0.3, 0-8°.</p> <p>Side View: 1.0, 0.1±0.05, 1.20MAX, 0.24±0.05, 0.10, 0.10.</p> <p>Bottom View (3.99): 1, 10, 20, 11, (2.80).</p>                 |  <p>Dimensions: 0.65, 0.40, 7.72, 5.94, 3.00, 4.16, 1.78, 3.19.</p> |
| VSOP-8B      |  <p>Top View: 2.9±0.1, 8, 5, 2.8±0.2, 0.65, 0.125<sup>+0.10</sup>/<sub>-0.05</sub>, 0.45±0.20, 4.0±0.3, 0-10°.</p> <p>Side View: 1.1, 1.3max., 0.10±0.05, 0.10, 0.2±0.1, 0.12.</p> <p>Bottom View: 1, 4, 0.10, 0.12.</p> |  <p>Dimensions: 0.65, 3.55, 0.95, 0.35.</p>                       |

# Package

| Package Name | Dimensional Drawing   | Recommended Land Pattern   |
|--------------|---|--|
| VSOP-8C      |  <p>Top view dimensions: 2.95±0.2, 2.8±0.1, 0.65, 0.15<sup>+0.10/-0.05</sup>, 4.0±0.2, 0.15<sup>+0.10/-0.05</sup>, 0~10°.</p> <p>Side view dimensions: 1.3MAX, 0.1, 0.2<sup>+0.10/-0.05</sup>, 0.12.</p> |  <p>Land pattern dimensions: 3.50, 0.35, 1.0, 0.65.</p>   |
| VSOP-8D      |  <p>Top view dimensions: 2.8±0.1, 2.8±0.1, 0.65, 0.15±0.10, 4.0±0.3, 0.15±0.10, 0~10°.</p> <p>Side view dimensions: 1.1±0.1, 1.3MAX, 0.1, 0.2<sup>+0.10/-0.05</sup>, 0.12.</p>                         |  <p>Land pattern dimensions: 3.50, 0.35, 1.0, 0.65.</p> |



WLCSP-20AWLCSP-25A

## Package

| Package Name | Dimensional Drawing  | Recommended Land Pattern   |
|--------------|--|--|
| WLCSP-48A    | <p>Top View Dimensions:</p> <ul style="list-style-type: none"><li>Overall width: <math>3.47 \pm 0.03</math></li><li>Overall height: <math>3.47 \pm 0.03</math></li><li>Pin pitch: <math>0.4 \pm 0.025</math></li><li>Pin width: <math>0.24 \pm 0.03</math></li><li>Lead thickness: <math>0.03 \pm 0.005</math></li></ul> <p>(Bottom View)</p> <p>Bottom View Dimensions:</p> <ul style="list-style-type: none"><li>Pin pitch: <math>0.32 \pm 0.05</math></li><li>Pin width: <math>0.50</math></li><li>Lead thickness: <math>0.05</math></li><li>Marking: <math>\oplus 0.05 \text{ (M) S AB}</math></li></ul> | <p>Recommended Land Pattern Dimensions:</p> <ul style="list-style-type: none"><li>Pin pitch: <math>0.5</math></li><li>Pad pitch: <math>0.25</math></li><li>Pad width: <math>0.5</math></li></ul> |