Part No. Explanation

- When ordering, specify the part number.
- Check each code against the tables shown below.
- Fill in from the left, leaving any extra boxes empty on the right.

> Part No. Explanation

<table>
<thead>
<tr>
<th>Code</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA4558F</td>
<td>Custom Specification code Alphabetical symbols specify custom product. Standard product has no symbols.</td>
</tr>
<tr>
<td>DX</td>
<td>Packaging and forming specification</td>
</tr>
<tr>
<td>E2</td>
<td>Embossed tape and reel Pin 1 fed last</td>
</tr>
<tr>
<td>(E1)</td>
<td>Embossed tape and reel Pin 1 fed first</td>
</tr>
<tr>
<td>TR</td>
<td>Embossed tape and reel Pin 1 fed first</td>
</tr>
<tr>
<td>(TL)</td>
<td>Embossed tape and reel Pin 1 fed last</td>
</tr>
</tbody>
</table>

For example:

1. A packaging specification is not required for packaging other than taping.
2. A packaging specification is required for tape packaging.

- Example of E2-oriented embossed taping: BA4558F-E2 or BA4558F-DX2

*Take E2 as standard if no special request is made.
## Package Ordering Units

### Embossed tape packaging <Package specification name: E2 (E1)>

<table>
<thead>
<tr>
<th>Package ordering unit quantity</th>
<th>Non-Lead Gull Wing Packages</th>
<th>SOP Packages</th>
<th>Power Packages</th>
<th>QFP Packages</th>
<th>BGA/QFN</th>
</tr>
</thead>
<tbody>
<tr>
<td>5,000</td>
<td>SSON004X1216*, SSON004X1010</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>4,000</td>
<td>WSON008X2120, VSON008X2020, VSON008X2030, VSON010X3020, VSON010X3030, VMMP008Z130*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>3,000</td>
<td>VSOF5*, HVSOF5/6*, HSON8*, WSOF5/6*, WSON008V2030*, VSON010V3030, VQFN016V3030, WL-CSP (2.8mm and under)</td>
<td>TSSOP-B8, SOP4*, SOP3/5/6*, MSOP8/10*</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>2,500</td>
<td>VQFN020V4040, VQFN024V4040, VQFN028V5050, VQFN032V5050, VQFN036V5050, UQFN040V5050, WL-CSP (over 2.81mm³)</td>
<td>SOP8/14/16, SSOP-A16, TSSOP-B14J, SSOP-B8/16/20, SOP-J8/J14, HTSSOP-16/20/29, HTSOP-J8, TSSOP-B8J</td>
<td>—</td>
<td>—</td>
<td>4x4mm</td>
</tr>
<tr>
<td>2,000</td>
<td>VQFN040V6060, UQFN044V6060</td>
<td>SOP18/20/24, SSOP-A20/24/32, SSOP-B34/28/40, HTSSOP-B34/30/40, HSOP25</td>
<td>—</td>
<td>HRP5/7; TO252-3/5, SOT223-4, TO263-7, TO252-J3/J5</td>
<td>—</td>
</tr>
<tr>
<td>1,500</td>
<td>VQFN048V7070, UQFN056V7070</td>
<td>SSOP-A44, HTSSOP-A44/A44R/B54, HSOP28/-M29/-M36</td>
<td>—</td>
<td>QFP32, TQFP48V, VQFP48C, HTQFP48V, UQFP64, TQFP64U</td>
<td>—</td>
</tr>
<tr>
<td>1,000</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>SQFP-T52, QFP44, VQFP64, VQFP80, UQFP90, TQFP64V, HTQFP64V, HTQFP64BV</td>
<td>—</td>
</tr>
<tr>
<td>500</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>TO263-3/5</td>
<td>VQFP100, TQFP100V</td>
</tr>
</tbody>
</table>

1) Package specification: TR (TL)  
2) Specification differ by package size of WL-CSP  
3) WL-CSP Package Specification: E2 (standard)

### Tray packaging

<table>
<thead>
<tr>
<th>Pin pitch: 0.8 mm</th>
<th>Pin pitch: 0.65 mm</th>
<th>Pin pitch: 0.5 mm</th>
<th>Pin pitch: 0.4 mm</th>
<th>Dimensions d x e (mm)</th>
<th>Interaction package quality</th>
<th>Tray quantity</th>
<th>Package ordering unit quantity</th>
<th>Silicon Case dimensions A x B x C [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>QFP32</td>
<td>—</td>
<td>VQFP48C</td>
<td>—</td>
<td>175x166</td>
<td>100</td>
<td>10</td>
<td>1,000</td>
<td>60x200x200</td>
</tr>
<tr>
<td>QFP44</td>
<td>SQFP-T52/64</td>
<td>VQFP64/80, TQFP48V/64V</td>
<td>UQFP80</td>
<td>216x116</td>
<td>50</td>
<td>20</td>
<td>1,000</td>
<td>70x130x510</td>
</tr>
<tr>
<td>QFP-A64, QFP90/T50</td>
<td>—</td>
<td>VQFP100, TQFP100V, HTQFP100V</td>
<td>TQFP128U</td>
<td>256x166</td>
<td>50</td>
<td>10</td>
<td>500</td>
<td>75x200x290</td>
</tr>
<tr>
<td>QFP120</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>322.6x135.9</td>
<td>24</td>
<td>10</td>
<td>240</td>
<td>75x140x338</td>
</tr>
</tbody>
</table>
QFP Packages

**VQFP <Pin Pitch: 0.5mm>**

- **VQFP84C**
  - Tray: 1,000pcs
  - Embossed carrier tape: 1,500pcs

- **VQFP64**
  - Tray: 1,000pcs
  - Embossed carrier tape: 1,500pcs

- **VQFP80**
  - Tray: 1,000pcs
  - Embossed carrier tape: 1,500pcs

- **VQFP100**
  - Tray: 500pcs
  - Embossed carrier tape: 500pcs

**UQFP <Pin Pitch: 0.4mm>**

- **UQFP80**
  - Tray: 1,000pcs
  - Embossed carrier tape: 1,500pcs

**TQFPU <Pin Pitch: 0.4mm>**

- **TQFP128U**
  - Tray: 500pcs

**HTQPV <Pin Pitch: 0.5mm>**

- **HTQFP48V**
  - Tray: 1,000pcs
  - Embossed carrier tape: 1,500pcs

- **HTQFP100V**
  - Tray: 500pcs

**VMMP Package**

**VMMP <Pin Pitch: 0.5mm>**

- **VMMP008Z1830**
  - Embossed carrier tape: 4,000pcs
Please refer packages from page 128 for LAPIS Semiconductor products.

SON Packages

SSON-X <Pin Pitch: 0.65mm>

- **SSON004X1010**
  - Embossed carrier tape: 5,000pcs

- **SSON004X1216**
  - Embossed carrier tape: 5,000pcs

VSON-V <Pin Pitch: 0.5mm>

- **VSON008V2030**
  - Embossed carrier tape: 3,000pcs

- **VSON010V3030**
  - Embossed carrier tape: 3,000pcs

VSON-X <Pin Pitch: 0.5mm>

- **VSON008X2020**
  - Embossed carrier tape: 4,000pcs

- **VSON008X2030**
  - Embossed carrier tape: 4,000pcs

- **VSON010X3020**
  - Embossed carrier tape: 4,000pcs

- **VSON010X3030**
  - Embossed carrier tape: 4,000pcs

SON Packages (Unit: mm)

Please refer to page 128 for LAPIS Semiconductor products.
QFN Packages

QFN028 <Pin Pitch: 0.4mm>

QFN028 (Powervation series)

QFN032 <Pin Pitch: 0.5mm>

QFN032 (Powervation series)

Tape: 250, 500, 1,000, 5,000pcs

VQFN-V <Pin Pitch: 0.5mm>

VQFN016V3030

VQFN020V4040

VQFN024V4040

VQFN028V5050

VQFN032V5050

VQFN040V6060

VQFN048V7070

Embossed carrier tape: 3,000pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,000pcs

Embossed carrier tape: 1,500pcs

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QFN Packages

**UQFN-V <Pin Pitch: 0.4mm>**

- **UQFN036V5050**
- **UQFN040V5050**
- **UQFN044V6060**
- **UQFN056V7070**

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,000pcs

Embossed carrier tape: 1,500pcs

SOP Packages

**SOP <Pin Pitch: 1.27mm>**

- **SOP8**
- **SOP14**
- **SOP16**
- **SOP18**
- **SOP20**
- **SOP24**
- **SOP28**

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,500pcs

Embossed carrier tape: 2,000pcs

Embossed carrier tape: 2,000pcs

Embossed carrier tape: 2,000pcs

Embosed carrier tape: 1,500pcs
Please refer packages from page, 128 for LAPIS Semiconductor products.
Non-Lead Packages

Optical Non-Lead

WSOF5 (Clear type)

WSOF6 (Clear type)

WSON008X2120 (Clear type)

Power Packages

POWER-3PIN

TO220CP-3

TO252-3

TO252-J3

TO263-3

POWER-4PIN

SOT223-4
Please refer packages from page, 128 for LAPIS Semiconductor products.

**BGA Packages**

VBGA-W <Pin Pitch: 0.5mm>

- **VBGA048W040**
- Embossed carrier tape: 2,500pcs

- **VBGA099W060**
- Embossed carrier tape: 2,000pcs

**WL-CSP Packages**

VCSP <Pin Pitch: 0.5mm>

- **VCSP85H**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs

- **VCSP50L**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs

- **VCSP35L**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs
  - Embossed carrier tape: 3,000pcs

- **VCSP30L**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs
  - Embossed carrier tape: 3,000pcs

**UCSP <Pin Pitch: 0.4mm**

- **UCSP75M**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs

- **UCSP50L**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs

- **UCSP35L**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs
  - Embossed carrier tape: 3,000pcs

- **UCSP30L**
  - 2.8mm and under: 3,000pcs
  - Over 2.81mm: 2,500pcs
  - Embossed carrier tape: 3,000pcs

**XCSP <Pin Pitch: 0.35mm>**

- **XCSP30L**
  - Embossed carrier tape: 3,000pcs