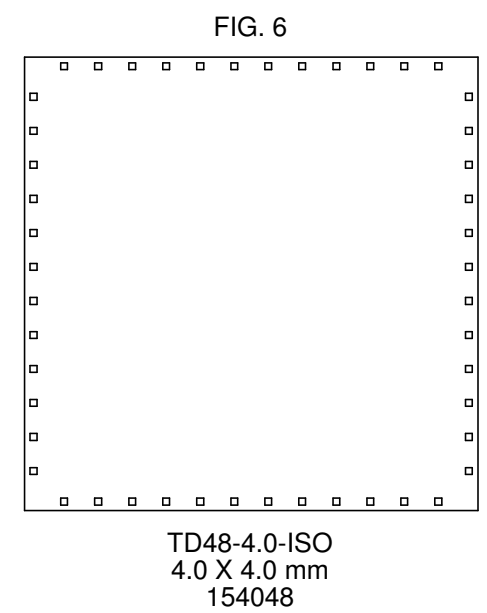
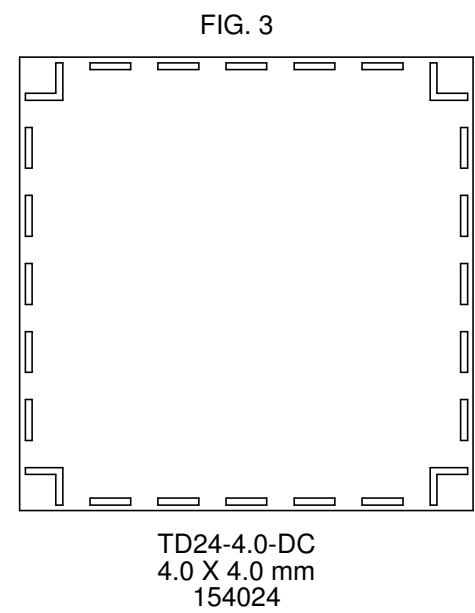
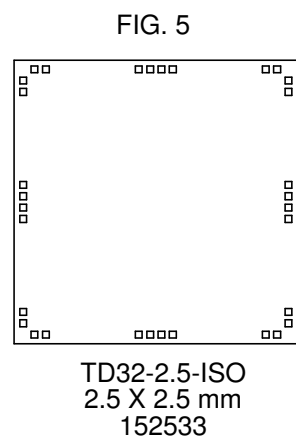
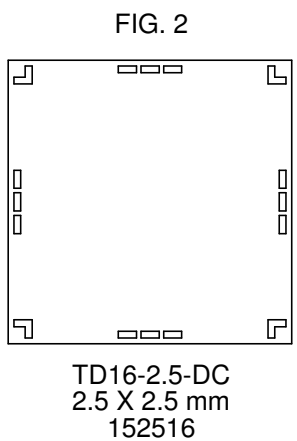
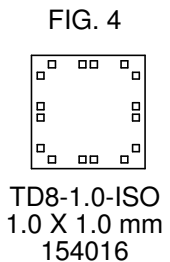
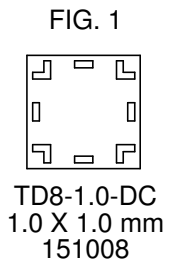


## RECOMMENDED QFN PACKAGE

| WIRE BONDABLE TEST DIE |      |              |                |          | QFN<br>3X3mm<br>PAD 1.4mm |              |              | QFN<br>4X4mm<br>PAD 2.4mm |              |              | QFN<br>5X5mm<br>PAD 3.4mm |              | QFN<br>6X6mm<br>PAD 4.4mm |              | QFN<br>7X7mm<br>PAD 5.4mm | QFN<br>8X8mm<br>PAD 6.4mm | QFN<br>9X9mm<br>PAD 7.4mm | QFN<br>10X10mm<br>PAD 8.4mm | QFN<br>12X12mm<br>PAD 10mm |  |
|------------------------|------|--------------|----------------|----------|---------------------------|--------------|--------------|---------------------------|--------------|--------------|---------------------------|--------------|---------------------------|--------------|---------------------------|---------------------------|---------------------------|-----------------------------|----------------------------|--|
| SIZE SQUARE            | PADS | PART NUMBER  | DRAWING NUMBER | DIE FIG. | 8L<br>0.65mm              | 12L<br>0.5mm | 16L<br>0.5mm | 16L<br>0.65mm             | 20L<br>0.5mm | 24L<br>0.5mm | 32L<br>0.5mm              | 40L<br>0.4mm | 40L<br>0.5mm              | 48L<br>0.4mm | 48L<br>0.5mm              | 56L<br>0.5mm              | 64L<br>0.5mm              | 72L<br>0.5mm                | 80L<br>0.5mm               |  |
| 1.0mm                  | 8    | TD8-1.0-DC   | 151008 (A2)    | 1        | X                         | X            | X            |                           |              |              |                           |              |                           |              |                           |                           |                           |                             |                            |  |
|                        | 16   | TD16-1.0-ISO | 151016 (A1)    | 4        |                           |              |              | X                         | X            | X            |                           |              |                           |              |                           |                           |                           |                             |                            |  |
| 2.5mm                  | 16   | TD16-2.5-DC  | 152516 (B2)    | 2        |                           |              |              | X                         | X            | X            | X                         |              |                           |              |                           |                           |                           |                             |                            |  |
|                        | 32   | TD32-2.5-ISO | 152533 (B1)    | 5        |                           |              |              |                           |              |              | X                         | X            | X                         |              |                           |                           |                           |                             |                            |  |
| 4.0mm                  | 24   | TD24-4.0-DC  | 154024 (C3)    | 3        |                           |              |              |                           |              |              |                           |              | X                         | X            | X                         |                           |                           |                             |                            |  |
|                        | 48   | TD48-4.0-ISO | 154048 (C1)    | 6        |                           |              |              |                           |              |              |                           |              |                           |              |                           | X                         | X                         | X                           | X                          |  |

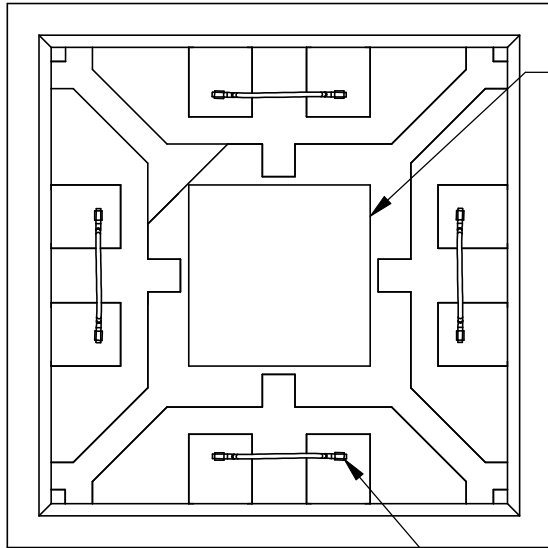


|                           |           |                        |  |           |  |                       |  |      |  |              |  |     |  |
|---------------------------|-----------|------------------------|--|-----------|--|-----------------------|--|------|--|--------------|--|-----|--|
| TOLERANCE UNLESS NOTED    |           | APPROVALS              |  | DATE      |  |                       |  |      |  |              |  |     |  |
| X.X                       | +/- 0.3   | DRAWN J. Hines         |  | 2/18/2011 |  |                       |  |      |  | TITLE        |  |     |  |
| X.XX                      | +/- 0.03  |                        |  |           |  | TD TEST DIE           |  |      |  |              |  |     |  |
| X.XXX                     | +/- 0.003 |                        |  |           |  | QFN PACKAGE REFERENCE |  |      |  |              |  |     |  |
| ANGLES +/- 0.5°           |           | ENG                    |  | MFG       |  | SCALE                 |  | SIZE |  | DRAWING NO.  |  | REV |  |
| ALL DIMENSIONS IN         |           | THIRD ANGLE PROJECTION |  | QA        |  | 15:1                  |  | A    |  | 151000       |  | A   |  |
| □ INCHES    □ MILLIMETERS |           | CUST                   |  | REVISED   |  | DO NOT SCALE DRAWING  |  |      |  | SHEET 1 OF 1 |  |     |  |

DAISY CHAIN TYPE 1  
WIRE BOND TO LEAD FRAME

(STANDARD)

N 7



DUMMY DIE (Si)  
WITHOUT PATTERNS

WIRE BOND DIE  
TO LEAD FRAME

NET LIST:

- 1-2
- 3-4
- 5-6
- 7-N
- ETC

1  
2

6  
5

3 4

APPLICATION (TYPE 1):

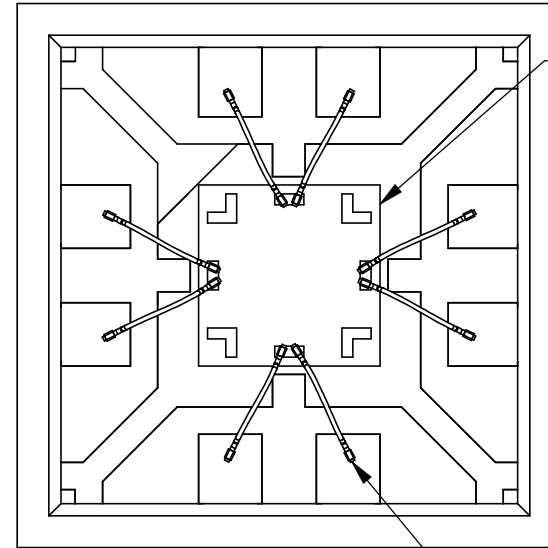
- 1) VERIFY REFLOW TEMPERATURE PROFILE.
- 2) EVALUATION OF SOLDER PASTE.
- 3) SIMULATE SMT BOARD LEVEL ASSEMBLY PROCESS.
- 4) DUMMY DIE ADDS WEIGHT AND DISTRIBUTES HEAT.
- 5) CONTINUITY TESTING.

PRICE: LOW

DAISY CHAIN TYPE 2  
WIRE BOND TO DIE PADS

(SPECIAL)

N 7



DUMMY DIE (Si)  
WITH PATTERNS

WIRE BOND DIE  
TO LEAD FRAME

NET LIST:

- 1-2
- 3-4
- 5-6
- 7-N
- ETC

6  
5

3 4

APPLICATION (TYPE 2):

- 1) EVALUATION OF SILICON INSIDE PACKAGE.
- 2) SIMULATES ELECTRICALLY FUNCTIONAL PACKAGE.
- 3) ENVIRONMENTAL PROCESS.
- 4) WIRE BOND PRACTICE.
- 5) CONTINUITY TESTING.

PRICE: HIGH

PACKAGE Notes: (Unless Otherwise Specified).

- 1) TYPES: QFN.
- 2) CONSTRUCTION: OVERMOLDED OR OPEN-CAVITY.
- 3) STANDARD DAISY CHAIN PATTERN: PIN 1-2, 3-4, 5-6, 7-N, ETC.
- 4) CUSTOMIZED DAISY CHAIN PATTERNS AVAILABLE.

|                                                                                 |           |                |  |           |  |                             |  |  |  |
|---------------------------------------------------------------------------------|-----------|----------------|--|-----------|--|-----------------------------|--|--|--|
| TOLERANCE UNLESS NOTED                                                          |           | APPROVALS      |  | DATE      |  | <b>TopLine</b> <sup>®</sup> |  |  |  |
| X.X                                                                             | +/- 0.3   | DRAWN J. Hines |  | 2/18/2011 |  |                             |  |  |  |
| X.XX                                                                            | +/- 0.03  | ENG            |  |           |  | SCALE<br>24:1               |  |  |  |
| X.XXX                                                                           | +/- 0.003 | MFG            |  |           |  |                             |  |  |  |
| ANGLES +/- 0.5°                                                                 |           | QA             |  |           |  | DRAWING NO.<br>150900       |  |  |  |
| ALL DIMENSIONS IN                                                               |           | CUST           |  |           |  |                             |  |  |  |
| <input type="checkbox"/> INCHES <input checked="" type="checkbox"/> MILLIMETERS |           | REVISED        |  |           |  | DO NOT SCALE DRAWING        |  |  |  |
| THIRD ANGLE PROJECTION                                                          |           |                |  |           |  |                             |  |  |  |
|                                                                                 |           |                |  |           |  |                             |  |  |  |