



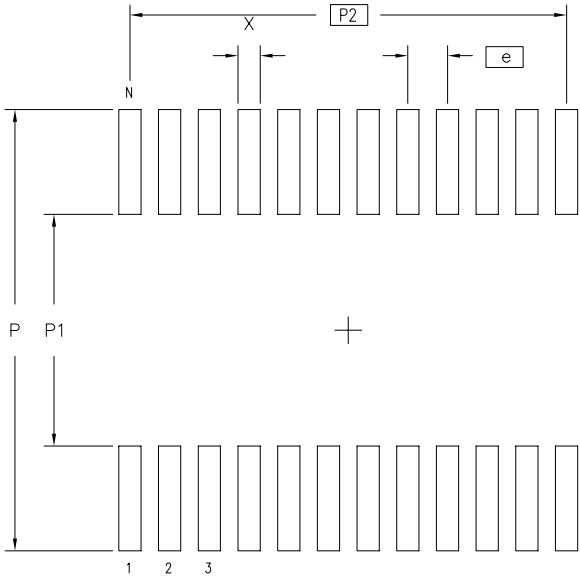
| REVISIONS |     |                              |          |          |
|-----------|-----|------------------------------|----------|----------|
| DCN       | REV | DESCRIPTION                  | DATE     | APPROVED |
| 28047     | 02  | ADD 28 LD                    | 08/15/95 | T. VU    |
|           | 03  | CHANGE TO QSOP               | 12/15/99 | S.SUE    |
|           | 04  | ADD "GREEN" PCG NOMENCLATURE | 10/08/04 | TU VU    |
|           | 05  | CHANGE RADIUS DIM            | 11/15/11 | CK LEE   |

| SYMBOL | JEDEC VARIATION |      |      | NOTE | JEDEC VARIATION |      |      | NOTE | JEDEC VARIATION |      |      | NOTE | JEDEC VARIATION |      |      | NOTE |
|--------|-----------------|------|------|------|-----------------|------|------|------|-----------------|------|------|------|-----------------|------|------|------|
|        | AB              |      |      |      | AD              |      |      |      | AE              |      |      |      | AF              |      |      |      |
|        | MIN             | NOM  | MAX  |      | MIN             | NOM  | MAX  |      | MIN             | NOM  | MAX  |      | MIN             | NOM  | MAX  |      |
| A      | .061            | .064 | .068 |      | .061            | .064 | .068 |      | .061            | .064 | .068 |      | .061            | .064 | .068 |      |
| A1     | .004            | .006 | .010 |      | .004            | .006 | .010 |      | .004            | .006 | .010 |      | .004            | .006 | .010 |      |
| A2     | .055            | .058 | .061 | 11   | .055            | .058 | .061 | 11   | .055            | .058 | .061 | 11   | .055            | .058 | .061 | 11   |
| D      | .189            | .194 | .196 | 4,5  | .337            | .342 | .344 | 4,5  | .337            | .342 | .344 | 4,5  | .386            | .390 | .394 | 4,5  |
| E      | .230            | .236 | .244 | 3    | .230            | .236 | .244 | 3    | .230            | .236 | .244 | 3    | .230            | .236 | .244 | 3    |
| E1     | .150            | .155 | .157 | 4,6  | .150            | .155 | .157 | 4,6  | .150            | .155 | .157 | 4,6  | .150            | .155 | .157 | 4,6  |
| N      | 16              |      |      |      | 20              |      |      |      | 24              |      |      |      | 28              |      |      |      |

# NOTES:

- ALL DIMENSIONING AND TOLERANCING CONFORM TO ANSI Y14.5M-1982
- DATUMS -A- AND -B- TO BE DETERMINED AT DATUM PLANE -H-
- DIMENSION E TO BE DETERMINED AT SEATING PLANE -C-
- DIMENSIONS D AND E1 ARE TO BE DETERMINED AT DATUM PLANE -H-
- DIMENSION D DOES NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. MOLD FLASH, PROTRUSIONS AND GATE BURRS SHALL NOT EXCEED .006 PER SIDE
- DIMENSION E1 DOES NOT INCLUDE INTERLEAD FLASH OR PROTRUSIONS. INTERLEAD FLASH OR PROTRUSIONS SHALL NOT EXCEED .010 PER SIDE
- THESE DIMENSIONS APPLY TO THE FLAT SECTION OF THE LEAD BETWEEN .005 AND .010 FROM LEAD TIP
- LEAD WIDTH DIMENSION DOES NOT INCLUDE DAMBAR PROTRUSION. ALLOWABLE DAMBAR PROTRUSION IS .004 IN EXCESS OF THE LEAD WIDTH DIMENSION AT MAXIMUM MATERIAL CONDITION. DAMBAR CANNOT BE LOCATED ON THE LOWER RADIUS OR THE FOOT
- THE CHAMFER ON THE PACKAGE BODY IS OPTIONAL. IF IT IS NOT PRESENT, A VISUAL INDEX FEATURE MUST BE LOCATED WITHIN THE ZONE INDICATED
- ALL DIMENSIONS ARE IN INCHES
- THIS OUTLINE CONFORMS TO JEDEC PUBLICATION 95 REGISTRATION MO-137, VARIATION AB, AD, AE & AF. EXCEPTIONS: JEDEC DIMENSION A2 MAX IS .059

# LAND PATTERN DIMENSIONS



|    | MIN      | MAX  | MIN      | MAX  | MIN      | MAX  | MIN      | MAX  |
|----|----------|------|----------|------|----------|------|----------|------|
| P  | .274     | .282 | .274     | .282 | .274     | .282 | .274     | .282 |
| P1 | .142     | .150 | .142     | .150 | .142     | .150 | .142     | .150 |
| P2 | .175 BSC |      | .225 BSC |      | .275 BSC |      | .325 BSC |      |
| X  | .010     | .018 | .010     | .018 | .010     | .018 | .010     | .018 |
| e  | .025 BSC |      | .025 BSC |      | .025 BSC |      | .025 BSC |      |
| N  | 16       |      | 20       |      | 24       |      | 28       |      |

|                                |             |                                                                                                                                                                                 |  |
|--------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| TOLERANCES<br>UNLESS SPECIFIED |             |  2975 Stender Way<br>Santa Clara, CA 95054<br>PHONE: (408) 727-6116<br>FAX: (408) 492-8674 |  |
| DECIMAL                        | ANGULAR     |                                                                                                                                                                                 |  |
| XX±                            | ±           |                                                                                                                                                                                 |  |
| XXX±                           |             |                                                                                                                                                                                 |  |
| XXXX±                          |             | www.IDT.com                                                                                                                                                                     |  |
| APPROVALS                      | DATE        | TITLE PC/PCG PACKAGE OUTLINE<br>.150" BODY WIDTH QSOP<br>.025" PITCH                                                                                                            |  |
| DRAWN                          |             |                                                                                                                                                                                 |  |
| CHECKED                        |             |                                                                                                                                                                                 |  |
| SIZE                           | DRAWING No. | REV                                                                                                                                                                             |  |
| C                              | PSC-4040    | 05                                                                                                                                                                              |  |
| DO NOT SCALE DRAWING           |             | SHEET 2 OF 2                                                                                                                                                                    |  |