

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
AXIAL QUAD FAMILY	
1.56 mm (.065") Pitch Pins: 12	MO-010
2.54 mm (.100") Pitch Pins: 52, 64	MO-017
BALL GRID ARRAY (BGA) FAMILY	
Tape BGA 1, 1.27. 1.5 mm Pitch Pins: 100 thru 2401	MO-149
Plastic BGA 1, 1.27, 1 .5mm Pitch Pins: 16 thru 1089	MO-151
Ceramic BGA Square 1mm, 1.27 mm, 1.5 mm Pitch Pins: 49, 64, 100, 121, 144, 196, 225, 423, 361, 400, 441, 484, 576, 625, 676, 784, 900, 1024	MO-156
Ceramic BPA Rectangular	MO-157
Ceramic CGA Rectangular	MO-159
Plastic BGA 1 .27mm Pitch Pins: 119, 153	MO-163
Low Profile BGA Family	MO-192
TFBGA 0.5mm Pitch	MO-195
LFBGA .80 mm Pitch (Square & Rectangular) Pins: 64, 81, 96, 100, 114, 121, 126, 135, 140, 144, 150, 169, 196, 225, 289, 324, 361	MO-205
Chip-Size BGA (Rectangular) Pins: 24, 32, 40, 48, 64	MO-207
Thin Fine Pitch BGA (Rectangular) Pins: 60	MO-210
Die Size BGA Pins: 4, 6, 9, 16, 20, 25, 36	MO-211
TFBGA 1.0mm & .80 mm Pitch	MO-216
LFBGA .80 mm Pitch (Square & Rectangular) Pins: 64, 65, 68, 72, 73, 76, 77	MO-219
XF-XBGA Two Row .50 mm Pitch Pins: 48, 64, 80, 96, 112, 128, 144, 160, 176	MO-221
Very Thin Profile, fine Pitch BGA .50 & .65 mm Pitch Pins: 16, 35, 36, 48, 49, 60, 64, 81, 104, 144, 169, 256, 289	MO-225
TF-XBGA Dual Pitch (Square) Pins: 54, 62	MO-228

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

BALL GRID ARRAY (BGA) FAMILY (cont'd)

TFR-XBGA-N (Rectangular) Pins: 60, 72	MO-233
R-LBGA-B Pins: 80, 165	MO-234
Rectangular Die Size Stacked BGA 0.80mm Pitch Pins: 63, 87, 95, 71	MO-242
Rectangular Fine Pitch Thin BGA 0.65 mm Pitch Thick & Very Thick Fine-Pitch Rectangular BGA Family 0.80 mm Pitch	MO-246
Upper POP Square Fine Pitch BGA Pins: 104, 112, 128, 136, 152, 160, 168, 176 184, 188, 200, 216, 232, 248	MO-273
Low Profile Fine Pitch BGA Pins: 36, 49 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400, 441, 484, 529, 576, 625, 676, 729, 784, 841, 900, 961, 1024, 1089, 1156, 1225, 1296, 1369, 1444, 1521,	MO-275
Low Profile, Rectangular Fine Pitch BGA 0.50mm Pitch Pins: 153,169	MO-276
Ultra Thin & Very Very Thin Profile Fine Pitch BGA (SQ.) Pins: 81, 100, 121, 225, 324, 361	MO-280
Thin, Fine-Pitch, Rectangular Dual Pitch BGA 0.80mm x 1.00mm Pitch	MO-284
Very Thin Fine-Pitch BGA Rectangular 0.50/0.65/0.80 mm Pitch Pins: 20, 35, 36, 48, 54, 60, 90, 104, 148	MO-285
Thin Profile Interstitial Fine Pitch BGA (SQ) Pins: 313, 421, 545, 685, 800, 1105	MO-295
Thin Very Thin Very Very Thin Profile BGA (SQ) 0.40 mm Pitch Pins: 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400, 441, 484, 529, 625, 676, 729, 784, 900, 961, 1024, 1089, 1225, 1296, 1369, 1444, 1600, 1681, 1764, 1849, 2025, 2116, 2209, 2304, 2500, 2601,	MO-298
Standard & Low, Fine Pitch Rectangular BGA Family 0.65mm Pitch	MO-301
Very Thin Fine-Pitch Fully Overmolded Stackable BGA 0.4mm Ball Pitch	MO-302

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

BALL GRID ARRAY (BGA) FAMILY (cont'd)

100/170 BGA Rectangular 1.0mm Pitch Pins: 136, 100, 132, 170 152	MO-304
Dual-Pitch Rectangular BGA Pins: 253	MO-307
Thick Thermally Enhanced Fine Pitch Square BGA	MO-308
Dual-Pitch Very Thin Profile Rectangular Fine Pitch BGA 0.80 mm X 0.65 mm Pitch Pins: 221	MO-311
Fine Pitch BGA Square 0.50mm Pitch Pins: 432	MO-313
Dual Pitch Number BGA, Square, 0.80 mm Major, 0.65 mm Minor Pitch Pins: 312	MO-315
Upper POP BGA, Square, 0.40 mm Pitch Pins: 376	MO-317
BGA, Square, 1.00 MM Pitch Pins: 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256 289, 324, 361, 400, 441, 484, 529, 576, 625, 676, 729, 784 841, 900, 961, 1024, 1088, 1089, 1156, 1296, 1369, 1521 1681, 1764, 1849, 1936, 2116, 2209, 2304, 2401, 2601, 2704 2809, 2916, 3136, 3249, 3364, 3481	MO-318
Upper PoP BGA Family Square 0.50 MM Pitch (S-XBGA) Pins: 104, 120, 136, 152, 168, 184, 200, 216, 232, 248, 288	MO-321
Upper PoP BGA Family Square 0.65 MM Pitch (S-XBGA) Pins: 96, 112, 128, 136, 152, 160, 176, 184	MO-322
Upper PoP BGA Family Square 0.40 MM Pitch (R-XBGA) Pins: 144	MO-323
Lower PoP BGA Family Square 0.50 MM Top 0.50 MM Bottom Pitch (S-XBGA) Pins: 136, 152, 168, 184, 200, 216, 304, 336, 361, 368, 441,841	MO-324
Lower PoP BGA Family Square 0.65 MM Top 0.50 MM Bottom Pitch (S-XBGA) Pins: 96, 112, 128, 136, 152, 160, 305, 337, 353, 361, 441, 841	MO-325
Lower PoP BGA Family Square 0.80 MM Top 0.50 MM Bottom Pitch (S-XBGA) Pins: 120, 372	MO-326

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

BALL GRID ARRAY (BGA) FAMILY (cont'd)

Ball Grid Array Family, Rectangle, 0.755 mm Pitch Pins: 180	MO-328
Ball Grid Array Family Rectangular, 0.60 mm x 0.70 mm Pitch Pins: 6, 13	MO-330
Bottom Grid Array, Square Family, 1.00 mm Pitch Pins: 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 576, 625, 676	MO-331
Plastic Bottom Grid Array, Ball 0.70 mm Pitch, Square	MO-336

CERAMIC CHIP CARRIER

1.27 mm (.050") Center Square Ledged Pins: 68, 84	MO-044
.635 mm (.025") Center Square Leadless Pins: 52, 68, 84, 100, 132, 146, 164, 244	MO-056
.508 mm (.020") Center Square Leadless Pins: 64, 104, 124, 164, 204, 244, 264	MO-057
.635 mm (.025") Center Square Leadless Pins: 148	MO-062
.635 mm (.050") Center Square J-lead Pins: 28, 44, 52, 68, 84	MO-107
J-lead Round Lead Pins: 16, 18, 20, 24, 28, 44, 52, 68, 84, 22, 32	MO-110
Gull-wing Round Lead Pins: 16, 18, 20, 24, 28, 44, 52, 68, 84, 22, 32	MO-111
.400 Body (.050") Pitch Small Outline Pins: 26, 28, 32	MO-126
Square (.020") Top Brazed Ledged Pins: 256, 340 Non-Conduct Tiebar	MO-129
Square (.015") Top Brazed Ledged Pins: 340 Non-Conduct Tiebar	MO-130
Square (.025") Top Brazed Ledged Pins: 132, 144, 196, 224	MO-131
.350" Body (.050") Pitch Small Outline Pins: 26	MO-144

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

CERAMIC DIP

7.62 mm (.300") Row Spacing Pins: 8, 14, 16, 18	MO-036
10.16 mm (.400") Row Spacing Pins: 22	MO-037
7.62 mm (.300") Row Spacing Cerdip Pins: 24, 28	MO-058

DUAL-IN-LINE (DIP) FAMILY

Row Spacing 7.62 mm (.300") Pins: 6, 8, 14, 16	MO-001
Row Spacing 15.24 mm (.600") Pins: 16, 24, 28, 32, 36, 40, 42	MO-015
Row Spacing 22.86 mm (.900") Pins: 36, 50, 52, 64	MO-016
Row Spacing 12.7 mm (.500") Pins: 24	MO-024
Row Spacing 10.1 mm (.400") Pins: 22, 28	MO-026
Row Spacing 5.08 mm (.200") Pins: 10	MO-028
Row Spacing 19.05 mm (.750") Pins: 64	MO-043
Row Spacing 7.62 mm (.300") Pins: 8, 14, 16, 18, 20, 22, 24, 28, 32	MO-095
Row Spacing .050" (.300") Pins: 14, 16, 20	MO-122

FLANGE MOUNTED FAMILY AXIAL LEAD

7.62/8.25 mm (.300/.325") Pin Circle Pins: 4,8,10	MO-014
12.7 mm (.500") Pin Circle Pins: 11	MO-025
3.81 mm (.125") Flange Family 6/12 Leads Pins: 12	MO-079
15.24 mm (.600") Pin Circle Pins: 15	MO-097

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

FLATPACK FAMILY

Width 5.08 mm (.200") Pitch 1.27mm (.050") Pins: 10, 14	MO-003
Width 7.62 mm (.300") Pitch 1.27 mm (.050") Pins: 10, 14, 16	MO-004
Width 10.16 mm (.400") Pitch .89 mm (.035") Pins: 40	MO-018
Width 10.16 mm (.400") Pitch 1.27mm (.050") Pins: 24, 28, 18	MO-019
Width 12.70 mm (.500") Pitch 1.27 mm (.050") Pins: 36, 40	MO-020
Width 15.24 mm (.600") Pitch 1.27mm (.050") Pins: 16, 24, 36	MO-021
Width 12.78 mm (.700") Pitch 1.27 mm (.050") Pins: 20, 24, 28, 42, 40	MO-022
Width 22.86 mm (.900") Pitch 1.27 mm (.050") Pins: 36, 50	MO-023
Width 16.64 mm (.650") Pitch 1.27 mm (.050") Pins: 42, 52	MO-032
Width 6.35 mm (.300") CERPAK 1.27mm (.050") Pins: 10, 14, 16, 18	MO-092
(.260") Pitch Braze-Lead (.050") Pins 10, 14, 16, 18	MO-098
Width (.550") Pitch (.050") Top-Braze Pins: 48	MO-101
(.535") Pitch .76 mm (.030") Pins 22, 24, 28	MO-106
Width (.480") Pitch (.050") Pins: 32	MO-115

FLOPPY DISK CARD

FDC Pins: 22	MO-186
-----------------	--------

GRID ARRAY FAMILY (PGA)

3.81 mm (.125") Pitch Pins: 16	MO-005
-----------------------------------	--------

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

GRID ARRAY FAMILY (PGA) (cont'd)

2.54 mm (.100") Pitch Pins: 40	MO-011
2.54 mm (.100") Pitch Ceramic SO Pins: 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400	MO-066
2.54 mm (.100") Pitch Ceramic Large Outline Pins: 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400	MO-067
2.54 mm (.100") Plastic Pins: 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400	MO-083
2.54 mm (.100") Ceramic Staggered Pins Pins: 145, 181, 221, 265, 313, 365, 421, 481, 545, 613, 685, 761, 841, 1013, 1301	MO-128
1.27 mm (.050") Ceramic Surface Mount Pins: 288, 323, 360, 399, 440, 483, 528, 575, 624, 675, 728, 783	MO-145
Ceramic CGA Pins: 361, 400, 441, 529, 625, 767, 784, 900,	MO-158
SQ Bump Grid Array Pins: 5, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225, 256, 289, 324, 361, 400, 441, 484, 529, 576, 625, 676, 729, 784, 841, 900, 961, 1024, 1089, 1225, 1296, 1369, 1444, 1600, 1681	MO-294
Plastic Bottom Grid Array Ball, 0.80 MM x 0.70 MM Pitch Rectangular Pins: 315	MO-338

HEADER FAMILY

Pin Circle 5.08 mm (.200") Pins: 8, 10, 12	MO-002
Pin Circle 5.84 mm (.230") Pins 8, 10, 12	MO-006
Pin Circle 3.58 mm (.141") Pins: 8	MO-007
Pin Circle 2.54 mm (.100") Pins: 8	MO-008
Pin Circle 5.08 mm (.200") Pins: 10	MO-009

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

HEADER FAMILY (cont'd)

Pin Circle 1.65 mm (.065") Pins: 12	MO-010
Pin Circle 11.89 mm (.468") Pins: 9	MO-013
Plastic Surface-Mounted Header Pins: 3, 5, 7, 11, 15	MO-169
Plastic Staggered Header Pins: 7, 9	MO-218
Plastic Surface Mounted Header Pins: 15	MO-231
Surface Mounted Peripheral Pins: 5	MO-235
Surface Mount (Peripheral Terminals) Pins: 8	MO-306

HEAT SLUG PACKAGES

Plastic Flatpack Pins: 48	MO-162
Plastic SO Pins: 20, 24, 30, 36	MO-166
Plastic SO Pins: 10, 12, 16, 29	MO-184
Power PQFP with Heatslug Pins: 20, 32, 26, 40, 42, 52, 64	MO-188

INTERNAL STACKING MODULE

Extra Thin Profile Fine Pitch ISM with Single Interconnect Array Pins: 56, 72, 96, 99, 104, 112, 132, 154, 156, 182, 221, 224, 272	MO-270
---	--------

LAND GRID ARRAY

Land Grid Array, Rectangular, 0.5 mm Pitch Pins: 52	MO-303
--	--------

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

MICROPILLAR GRID ARRAY

Wide I/O Micropillar Grid Array Package (MPGA)	MO-305
HBM Micropillar Grid Array Package (MPGA)	MO-316

MULTICHIP MODULE (MCM-C)

Multichip Module (MCM-C)	MO-148
--------------------------	--------

MULTIMEDIA CARD (MMC)

13 Pin Reduced Size MultimediaCard (MMC) MMCmobile 18 X 24 X 1.4mm Pins: 13	MO-277
10 Pin Micro Size MultimediaCard (MMC) MMCmicro 14 X 12 X 1.1mm Pins: 13	MO-278
10 Pin Micro Size MultimediaCard (MMC) MMCmicro 14 X 12 X 1.1mm Pins: 10	MO-279

NON-HERMETIC LEADLESS CHIP CARRIER

1.27 mm (.050") Lead Spacing Quad Pins: 20, 24, 28, 44, 68, 84	MO-075
1.27 mm (.050") Lead Spacing SO Pins: 8, 14, 16, 20, 24, 28	MO-076
Very Very Thin Quad Bottom Terminal Chip Carrier Pins: 24, 32, 48, 64	MO-217

PLASTIC CHIP CARRIER

1.27 mm (.050") Lead Spacing Square Pins: 20, 28, 44, 52, 68, 84, 100, 124	MO-047
.635 mm (.025") Lead Spacing Square	MO-069

PLASTIC DUAL FLAT NO LEAD

V-PDFP-N & W-PDFP-N Pins: 4, 6, 8, 10, 12, 14, 16, 18	MO-229
L-PDFP-N	MO-232

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

PLASTIC DUAL FLAT NO LEAD (cont'd)

HL-PDFP-N	MO-240
HE-PDFP-N	MO-245
Pin: 6, 8, 10, 12, 16	

PLASTIC FLANGE MOUNTED HEADER FAMILY

1.27 mm (.050") Lead Spacing	MO-048
Pin: 11, 15, 17, 23	
2.54 mm (.100") Lead Spacing 5 Lead	MO-078
Pin: 5	
Flange-Mounted 5-Lead	MO-093
Pin: 5	
Flange-Mounted 7 lead	MO-096
Pin: 7	

PLASTIC SINGLE SIDED HARDWARE

Plastic Single Sided Hardware 7 Wire 1.2 mm P-PSXH	MO-334
--	--------

POWER MODULE

5 Terminal	MO-040
Pin: 5	
Power Dip	MO-127
Pin: 12	
16 Lead Type 1 Ceramic Power Pkg.	MO-138
Pin: 16	
16 Lead Type 2 Ceramic Power Pkg.	MO-139
Pin: 16	
18 Lead Ceramic Power Pkg.	MO-140
16 Lead Screw Mount Power Pkg.	MO-253
Pin: 10, 16	
Surface Mount Power Package	MO-299
Pin: 8	
4 Lead Flat Gull Wing Surface Mount Power Package	MO-312
Pin: 4, 10	
6 Lead Surface Mount Power Package with Fused Leads	MO-319
Pin: 6	

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

POWER MODULE (cont'd)

9 Lead Surface Mount Power Package, 1.2 mm Pitch. H-PSOF Pins: 9	MO-327
---	--------

QUAD FLATPACK FAMILY

Leadless QFP 1.27 mm Pitch Pins: 28	MO-027
Ceramic or Glass QFP (.040") Pitch Pins: 132	MO-060
Plastic QFP .025 Pitch Gull-wing Pins: 52, 68, 84, 100, 132, 164, 146, 244	MO-069
Plastic QFP (.020") Pitch Gull-wing Pins: 40, 52, 68, 84, 132, 220	MO-071
Ceramic QFP (.050") Pitch Straight-Leads Pins: 68	MO-081
.635 mm (.025") Cerquad Gullwing Pins: 68, 84, 100, 132, 164, 196	MO-082
1.27 mm (.050") Cerquad Gullwing Pins: 36, 44, 52, 68, 84, 100	MO-084
.635 mm (.025") Plastic Quadpack Pins: 44, 52, 68, 84, 100, 132, 148, 164	MO-086
1.27 mm (.050") Ceramic Cerquad J-Lead) Pins: 28, 44, 52, 68, 84	MO-087
1.27 mm (.050") plastic quadpack gullwing Pins: 28, 44, 52, 68, 84	MO-089
.635 mm (.025") Ceramic leaded Pins: 84, 100, 132, 144, 172, 196	MO-090
.508 mm (.020") Ceramic QFP Pins: 256	MO-100
Ceramic QFP .025 Pitch Gull-wing Pins: 196	MO-104
Plastic Metric QFP 3.2 mm Footprint Gull-wing Pins: 44, 52, 64, 80, 100, 120, 128, 144, 160, 184, 232	MO-108
Plastic Metric QFP 3.9 mm Footprint Gull-wing Pins: 44, 52, 64, 80, 100, 120, 128, 144, 160, 184, 232	MO-112
Ceramic QFP with Tie Bar .025 Pitch Pins: 164, 146	MO-113
Ceramic QFP .65, .80 Pitch Gull-wing Pins: 120, 128, 144, 160	MO-114

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
QUAD FLATPACK FAMILY (cont'd)	
Ceramic QFP .025 Pitch Gull-wing Pins: 132	MO-125
.50 mm Pitch Ceramic QFP Pins: 224, 256, 288, 320, 351	MO-134
Thin QFP 1.0 and 1.4mm Thick Pins: 32, 40, 48, 52, 64, 80, 100, 112, 120, 128, 144, 160, 176, 208, 216, 256	MO-136 Replaced by MS-026
.4 & .5 mm Fine Pitch QFP Pins: 64, 80, 100, 120, 128, 144, 176, 216, 208, 240, 256, 272, 292, 296, 304, 336, 376	MO-143
Thin QFP with Heat Spreader Pins: 208, 240, 256, 296, 304, 376	MO-173
Plastic QFP Heat Slug Pins: 16, 20, 24, 32, 40, 48	MO-189
PQFP-B 3 Tier Family Pins: 216, 264, 312, 360, 408, 456	MO-198
QFP with Heat Sink Pins: 52, 64, 80, 100	MO-204
PQFP No Lead Pins: 7, 8, 12, 16, 20, 24, 28, 36, 48	MO-208
Rectangular PQFP 1.0mm Thick Body 3.20 Foot Print Pins: 100	MO-212
QFP No-Lead-Thermally Enhanced .80, .65, .50, Pitch Pins: 4, 8, 12, 14, 16, 18, 20, 22, 24, 28, 32, 36, 38, 40, 44, 48, 52, 56	MO-220
Very Thin PQFP No-Lead Thermally Enhanced .50 Pitch Pins: 64, 80, 96, 112, 128, 144, 160, 176, 192	MO-239
Dual Compatible Thermally Enhanced -PQFP/PSO-N Pins: 14, 16, 20	MO-241
Thermally Enhanced Plastic Bumped QFP Pins: 16, 24, 32, 40, 48, 56, 64, 72	MO-243
Plastic Quad No-Lead Staggered Multi-Row Pins: 60, 68, 76, 84, 92, 100, 108, 116, 124, 132, 136, 140, 156, 164, 172, 180, 196, 204, 220, 228, 232, 252, 292, 316	MO-247
Thermally Enhanced Plastic Ultra Thin and Extremely Thin Fin Pitch QFP No Lead Pins: 8, 12, 16, 20, 22, 24, 28, 32, 36, 40, 44, 48, 52, 56, 60, 64	MO-248

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

QUAD FLATPACK FAMILY (cont'd)

Thermally Enhanced Plastic Bumped Very Thin and Very Very Thin QFP No Lead Pins: 24, 32, 36, 40, 44, 48, 52, 56, 64, 72	MO-250
Thermally Enhanced Plastic Very Thick QFP No Lead Pins: 12, 16, 20, 24, 28, 32, 36, 40, 42, 46, 48, 52	MO-251
Thermally Enhanced Plastic Low and Thin Profile Fine Pitch Quad Flat No Lead Package Pins: 16, 20	MO-254
Thermally Enhanced Plastic Fine Pitch Quad No-Lead Staggered Two Row Pins: 44, 60, 76, 92, 108, 124, 156	MO-257
Thermal Enhanced Plastic Very Thin Very Very Thin Fine Pitch Quad Flat No Lead Plastic Very Thin and Very Very Thin Fine Pitch Quad Flat No Lead	MO-262
Thermally Enhanced Plastic Very Thin Fine Pitch Quad Flat No Lead Including Corner Terminals Pins: 52	MO-263
Thermally Enhanced Plastic Very Thin Fine Pitch Quad Flat No Lead Pins: 108, 116, 124, 132, 156, 164	MO-265
Small Scale Plastic Ultra Extra and Super Thin QFP Pins: 8, 10, 12, 14, 16, 20, 24	MO-267
Very Thin Fine Pitch Plastic QFP Pins: 64	MO-288
Very Thin Fine Pitch Plastic QFP Pins: 100	MO-291
Scalable Quad Flat No-Lead Sq. & Rect. Pins: 68, 74	MO-292
Plastic Bottom Flatpack 35 Terminal	MO-296
Plastic Bottom Flatpack 28 Terminal	MO-333
Plastic Quad Flatpack 8 Terminal 1.27MM Pitch	MO-339
MO-341	

QUAD HEADER FAMILY

2.54 mm (.100") Pitch Pins: 12	MO-012
-----------------------------------	--------

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

QUAD IN-LINE (QUIP) FAMILY

5.08/10.16 mm (.200/.400") Row Spacing Pins: 16	MO-029
19.05/23.50 mm (.750/9.25") Row Spacing Pins: 42	MO-030
5.08/10.16 mm (.200/.400") Row Spacing Pins: 14	MO-031
17.78/22.86 mm (.700/.900") Row Spacing Pins: 42, 52, 64	MO-033

RECTANGULAR CHIP CARRIER

19.05/23.49 mm (.750/.925") Row Spacing Pins: 42, 64, 52	MO-034
1.27 mm (.050") Center Type E Pins: 18, 20, 28, 32	MO-041
1.27 mm (.050") Center Type F Pins: 18, 20	MO-042

RFID

1.02 mm (.040") Center Leadless Staggered Pins: 32	MO-085
Plastic Super-Thin and Die Thin Profiles RFID Dipole Straps	MO-283

SHRINK SMALL OUTLINE (SSOP) FAMILY

SSOP .300" Body Width (.025") Pitch Pins: 28, 48, 56, 64	MO-118
SSOP .150" Body Width (.025") Pitch Pins: 14, 16, 18, 20, 24, 28	MO-137
SSOP 5.3 mm Body Width (.65mm) Pitch Pins: 8, 14, 16, 18, 20, 22, 24, 28, 30	MO-150
SSOP .4mm, .5mm, .65mm Pitch Family	MO-152
TSSOP 4.4, 5.1, 8 mm Body Width Pitch Pins: 8, 14, 16, 20, 24, 28, 36, 40, 48, 52, 56, 60, 64, 68	MO-153
SSOP 3.9mm Body Width .4mm Pitch	MO-154
SSOP No Lead Pins: 6, 8, 10, 20, 24, 28, 36, 48	MO-209

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
SIMM/DIMM FAMILY	
2.54 mm (.100") Centers 30-Pin SIMM Pins: 30	MO-064
1.27 mm (.050") Pitch SIMM Pins: 72	MO-116
1.27 mm (.050") Pitch DIMM Pins: 72, 84, 88	MO-160
1.27 mm (.050") Pitch DIMM Pins: 100, 168	MO-161
1.27 mm (.050") Pitch DIMM Pins: 128	MO-167
1.27 mm (.050) Pitch DIMM Pins: 112, 200	MO-172
0.65 mm Pitch SO-DIMM Pins: 200	MO-177
1 mm Pitch DIMM Pins: 278	MO-179
1.27 mm (.050) SDIMM Pins: 72	MO-185
0.8 mm SO DIMM Pins: 144	MO-190
1.27 mm Pitch DIMM Pins: 160	MO-191
1.27 mm Pitch DDR DIMM Pins: 184	MO-206
0.5 mm Pitch Micro-DIMM Pins: 144	MO-214
1.00 mm Pitch SDRAM DIMM Pins: 210	MO-215
.60 mm Pitch DDR SO-DIMM Pins: 200	MO-224
1.00 mm Pitch DDR SDRAM Pins: 232	MO-227
1.00mm DDRII SDRAM Pins: 240	MO-237
DDR2 Mini DIMM 0.60 Lead Centers Pins: 244	MO-244
FB DIMM 1.00mm Pins: 240	MO-256

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

SIMM/DIMM FAMILY (cont'd)

DDR Mini DIMM 0.60 Lead Centers Pins: 200	MO-258
DDR DDR2 Micro DIMM Mezzanine Pins: 214	MO-260
DDR3 SO DIMM 0.60 Lead Centers Pins: 204	MO-268
DDR3 SDRAM DIMM 1.00mm Contact Centers Pins: 240	MO-269
DDR1/DDR2 16b/32b SO DIMM 0.8 Lead Centers	MO-274
DDR2 SDRAM DIMM Flex-Based, 1.00mm Pins: 240	MO-281
FB DIMM Family, Flex Based, 1.00 mm Contact Centers Pins: 240	MO-282
DDR3 SDRAM DIMM Flex-Based, 1.00mm Contact Centers Pins: 8	MO-290
284 Pin DDR4 DIMM 0.85mm Pitch Pins: 284	MO-309
256 Pin DDR4 SODIMM and GDDR5M Outline 0.50 mm Pitch Pins: 256	MO-310
288 Pin DDR4 Mini DIMM 0.50mm Pitch Pins: 288	MO-314
288 Pin DDR5 DIMM, 0.85 MM Pitch	MO-329
262 Pin SODIMM, 0.50 mm Pitch Package	MO-337

SINGLE-IN-LINE (SIP) FAMILY

2.54 mm (.100") Row Spacing Pins: 11	MO-035
3.81 mm (.150") Row Spacing Pins: 9	MO-045
2.54 mm (.100") Row Spacing Ceramic Pins: 11, 16	MO-055
2.54 mm (.100") Row Spacing Edge Clip Pins: 22, 24, 30, 40	MO-068
0.50 mm Lead Pitch Vertical Surface Mount	MO-141

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
SMALL OUTLINE (SO) FAMILY	
5.3 mm (.200") Body Width Gull-wing Pins: 14, 16, 20	MO-046
8.54 mm (.330") Body Width Gull-wing Pins: 24, 28	MO-059
9.6 mm (.400") Body Width SOJ Pins: 28, 32, 36, 40, 44	MO-061
9.0 mm (.350") Body Width SOJ Pins: 22	MO-063
7.62 mm (.300") Body Width SOJ Pins: 24, 26	MO-065
7.62 mm (.300") Body Width SOJ Pins: 24, 25, 28, 32	MO-077
7.62 mm (.300") Body Width SOJ Pins: 14, 16, 18, 20, 24, 28	MO-088
9.0 mm (.350") Body Width SOJ Pins: 26, 28	MO-091
TSOJ Pins: 22, 24, 28	MO-105
12 mm Body Width SO Gull-wing .8 mm Pitch Pins: 64	MO-117
SOJ 0.300" Body Width Pins: 24, 28, 32, 36	MO-119
SOJ 0.350" Body Width Pins: 24, 28, 32, 36	MO-120
SOJ 0.330" Body Width Pins: 24, 28, 32, 36	MO-121
SOJ 12mm Body Width 0.8 mm Pitch Pins: 64	MO-123
SOJ 12.7 mm Body Width 1.27 Pitch Pins: 32, 34, 36, 40, 70	MO-124
9.6 mm (.400") Body Width SO 50 mm Pitch Pins: 28, 32	MO-126
Plastic SO .8mm pitch Pins: 70	MO-174
SOP 12.6 mm Body Width Pins: 44, 48	MO-175
SO Gull Wing 13.30 mm Body Width Pins: 44, 56	MO-180

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

SMALL OUTLINE (SO) FAMILY (cont'd)

SOJ Metric 16 mm Body Width Pins: 40	MO-181
Metric Thin SO 16 mm Body Width Pins: 40, 62, 88, 100	MO-182
6 Lead Thin SO Pins: 6	MO-193
Plastic Thin Shrink SO Pins: 14, 16, 20, 24, 48, 56, 80, 100	MO-194
Plastic Leadless SO (SON) Pins: 28	MO-196
Plastic USON 0.5mm Pitch Pins: 40, 46	MO-197
LSOJ Pins: 28, 32, 36, 40, 42, 44, 50, 54, 70	MO-199
SOJ 2High/4High Pins: 32, 44	MO-200
Plastic SO Heat Slug 7.5 mm Body Width 1.0 mm Pitch	MO-226
Plastic SO Exposed Heat Sink Pins: 20, 30, 36	MO-230
Plastic USON Pins: 2, 3, 4	MO-236
P-WFDSO, P-UFDSON, P-XFDSON Pin: 6	MO-252
P-WFQFN, P-UFQFN, P-XFQFN Pins: 8, 10	MO-255
Exposed Pad Plastic 7.60mm Body Width Pins: 20, 24, 28, 36	MO-271
Plastic SO Wide Body SOIC 7.5 Body Width Pins: 32, 54	MO-286
Plastic Dual SO No Lead Pins: 6, 8	MO-287
Plastic Dual SO Flat Leaded Pins: 3, 5, 6	MO-293
Plastic Multi SO 17 Terminal, 1.20 mm Pitch	MO-332
Plastic Dual Small Outline Surface Terminal Wettable Flank	MO-340

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

SMALL OUTLINE TRANSISTOR FAMILY

Low Profile Exposed Pad Plastic 3.90mm Body Width Pins: 10, 12, 14, 16	MO-272
5-pin SOT	MO-178
Shrink SOT Pins: 5, 6	MO-203
Shrink SOT Pins: 5, 6, 8	MO-223

SSD ASSEMBLY

Slim Lite	MO-297
mSATA	MO-300
Pins: 52	

TAPEPAK

Molded Carrier Ring Family Pins: 192, 256, 312, 376, 440, 446, 248, 328, 408, 488, 568, 648, 408, 512, 608, 712, 808, 416, 552, 680, 816, 952, 1080	MO-076
Molded Carrier Ring Family	MO-109

THIN SMALL OUTLINE (TSOP) FAMILY

7.62 mm Body TSOP 2 Pins: 20, 24, 24	MO-132
10.16 mm Body TSOP 2 Pins: 28, 32, 44	MO-133
12.70 mm Body TSOP 2 Pins: 32, 34, 50, 54	MO-135
TSOP 1 Pins: 24, 32, 40, 48, 56	MO-142
TSOP2 16 mm Body Width	MO-182
TSOP 1 .55 Pitch Pins: 28	MO-183
TSSOP Pins: 8	MO-187
TSOP II 2 High/4 High Pins: 32	MO-201

**INDEX BY DEVICE TYPE OF REGISTERED
MICROELECTRONIC OUTLINES (MO)**

FAMILY	REGISTRATION NO.
---------------	-------------------------

THIN SMALL OUTLINE (TSOP) FAMILY (cont'd)

TSOP II 2 High Pins: 54, 66	MO-238
Thin SO 8.89 Body Pins: 28, 32, 36, 40, 44, 52, 56, 64, 68	MO-249
Very Very Thin SO Package Type 1 Pins: 48	MO-259

UFS CARD

12 Pin UFS Card 0.91 MM Pitch	MO-320
-------------------------------	--------

ZIG-ZAG (ZIP) FAMILY

2.54 mm (.100") Row Spacing Pins: 16	MO-054
1.27 mm (.050") Row Spacing Pins: 19, 20, 24, 28, 40	MO-072
2.54 mm (.100") Row Spacing Pins: 23, 26	MO-080
Ceramic 2.54mm (.050) Row Spacing Pins: 20, 24, 28	MO-176
R-PZIP .40 mm Pitch Pins: 64	MO-202
PZIP .40 mm Pitch Pins: 64	MO-213