

MQFP-d

Heat Spreader Metric Quad Flat Pack

- 14 x 14mm to 32 x 32mm
- 64 to 240 lead count
- Lead pitch range from 0.80mm to 0.50mm



FEATURES

- Body Sizes: 14 x 14mm to 32 x 32mm
- Package Height: 2.0mm to 3.4mm (same as QFP)
- Lead Counts: 64L to 240L
- Lead Pitch: 0.80mm to 0.50mm
- Moisture Sensitivity: JEDEC Level 3
- Wide range of open tool leadframe and die pad sizes available
- JEDEC standard compliant
- Lead-free and Green material sets available

APPLICATIONS

- ASIC
- DSP
- FPGA
- PLD
- High speed logic, high power microprocessors / controllers
- 3D graphics, telecom, wireless, audio, CPU / GUI

DESCRIPTION

STATS ChipPAC's Heat Spreader Metric Quad Flat Pack (MQFP-d) is a thermally enhanced version of the QFP package. Thermal enhancement is achieved by an embedded anodized aluminum heat spreader which is dropped in during the mold process. This process allows the use of standard leadframe while offering an added margin of thermal performance for high power applications. The QFP-d package offers 30% improvement (typical) in thermal performance over standard MQFP packages.



MQFP-d

Heat Spreader Metric Quad Flat Pack

SPECIFICATIONS

 Die Thickness
 380-560μm (15-22mils) range preferred

 Gold Wire
 25/30μm (1.0/1.2mils) diameter, 99.999% Au

Lead Finish 85/15 Sn/Pb or Matte Tin

Marking Laser / ink

Packing Options JEDEC tray / tape and reel

RELIABILITY

Moisture Sensitivity Level JEDEC Level 3

Temperature Cycling -65°C/150°C, 1000 cycles

High Temperature Storage 150°C, 500 hrs **Pressure Cooker Test** 121°C 100% RF

121°C 100% RH, 2 atm, 168 hrs

Liquid Thermal Shock (opt) -55°C/125°C, 1000 cycles

THERMAL PERFORMANCE, θja (°C/W)

Package	Body Size (mm)	Pad Size (mm)	Die Size (mm)	Thermal Performance, 0ja (°C/W)	
100L	14 x 20 x 2.7	9.0 x 9.0	7.8 x 7.8	26.6	
208L	28 x 28 x 3.4	14.0 x 14.0	10.2 x 10.2	18.4	

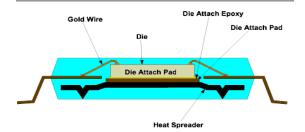
Note: Simulation data for package mounted on 4 layer PCB (per JEDEC JESD51-7) under natural convection as defined in JESD51-2.

ELECTRICAL PERFORMANCE

Package	Body Size (mm)	Pad Size (mm)	Frequency	Self Inductance (nH) Self Capacitance(pF)
100L	14 x 20 x 2.7	9.0 x 9.0	100MHz	6.3~8.7	0.56~1.11
208L	28 x 28 x 3.4	10.5 x 10.5	100MHz	11.6~14.7	1.43~1.56

Notes: *Results are simulated. Data is available through 2.5GHz.

CROSS-SECTION



PACKAGE CONFIGURATIONS

Package Size (mm)	Lead Count
14 x 14 x 2.0	64, 80
14 x 14 x 2.7	64, 80
14 x 20 x 2.7	80, 100, 128
28 x 28 x 3.4	120, 128, 144, 160, 208
32 x 32 x 3.4	240

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