

MQFP-ed

Exposed Drop-in Heat Slug Metric Quad Flat Pack

- 14 x 20mm to 32 x 32mm
- 100 to 240 lead count
- Lead pitch range from 0.80mm to 0.50mm



FEATURES

- Body Sizes: 14 x 20mm to 32 x 32mm
- Package Height: 3.4mm
- Lead Counts: 100L to 240L
- Lead Pitch: 0.80mm to 0.50mm
- JEDEC standard compliant
- Lead-free and Green material sets available

APPLICATIONS

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

DESCRIPTION

STATS ChipPAC's Exposed Drop-In Heat Slug Metric Quad Flat Pack (MQFP-ed) is a thermally enhanced version of the QFP package. Thermal enhancement is achieved by adding a drop-in exposed anodized aluminum heat spreader during the molding process, using a standard leadframe. MQFP-ed typically has 60% higher thermal performance over the standard MQFP and the QFP-d for higher power applications.

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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% RH, 2 atm, 168 hrs
Liquid Thermal Shock (opt)	-55°C/125°C, 1000 cycles

THERMAL PERFORMANCE, θ_{ja} (°C/W)

Package	Body Size (mm)	Pad Size (mm)	Die Size (mm)	Thermal Performance, θ_{ja} (°C/W)
208L	28 x 28 x 3.4	14.0 x 14.0	10.2 x 10.2	14.9

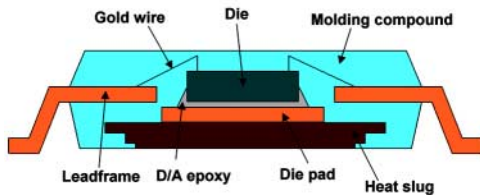
Note: Simulation data for package mounted on 4 layer PCB (per JEDEC JESD51-7) under natural convection as defined in JESD51-2.

ELECTRICAL PERFORMANCE

Package	Body Size (mm)	Pad Size (mm)	Frequency	Self Inductance (nH)	Self Capacitance (pF)
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 20	100, 128
28 x 28*	128, 144, 160, 208
32 x 32	160, 240

Note: *Cavity down configuration available.

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