



# VQFN

Very Thin Quad Flat No-lead Package

## DESCRIPTION

Lingsen Quad Flat No-lead (QFN) package is a plastic encapsulated package with exterior leads around the bottom periphery of the package to provide short electrical connection to the PWB. The package also provides excellent thermal performance by having the die attach paddle exposed on the bottom of the package surface to provide efficient heat path when soldering directly to the PWB.

## SPECIFICATIONS

• Gold Wire	99.99% Au
• Mold Compound	G770 (Green)
• Plating	Matte Tin
• Marking	Laser Mark
• Packing	Antistatic Tube or Tray

## APPLICATIONS

- Telecommunication Products, Cellular Phone Wireless LAN
- Low to medium lead count packages Information appliances
- Portable Products, PDA, Digital Camera, MP3 player, Pagers

## RELIABILITY

MSL Level	JEDEC Level 3 @ 260°C
Pressure Cook Test	168 hrs (121°C, 100%RH, 2atm)
Temperature Cycling	1,000 cycles (-65°C/+150°C)
HAST	100 hrs (130°C, 85%RH)
Temperature & Humidity Test	1,000 hrs (85°C, 85%RH)
High Temperature Storage	1,000 hrs (150°C)

## FEATURES

- Reduce electrical parasitic
- Driven by high frequency for telecom
- Lower thermal resistance
- Improved board space efficiency
- Reduced mounted height
- Reduced package mass (Handsets, PDAs)

## DEFINITION

- QFN (Quad Flat No-lead Package):  
Exterior leads are around the bottom periphery of the package
- SON (Small Outline No-lead Package) :  
Exterior leads are only in the bottom dual side of the package
- V type: Package thickness is 0.9 mm
- W type: Package thickness is 0.75 mm
- U type : Package thickness is 0.55 mm

### THERMAL PERFORMANCE

Package	Body Size (mm)	Pad Size (mm)	Die Size (mm)	Thermal Performance $\theta_{ja}$ (°C/W)
VQFN 16L	4x4	2.45x2.45	1.872x1.9545x0.36	26.4
VQFN 48L	7x7	5.40x5.40	2.5x4.0x0.2286	10.1

Note: Simulated with JEDEC Standard 4-layer test board under still air condition, ambient temperature 45°C

### ELECTRICAL PERFORMANCE

Package	Body Size (mm)	Pad Size (mm)	Frequency (MHz)	Self Inductance (nH)	Self Capacitance (pF)	Resistance (mohm)
VQFN 16L	4x4	2.45x2.45	100	0.5893~0.8255	0.1370~0.1583	48.13~169.9
VQFN 48L	7x7	5.40x5.40	100	1.0840~2.4560	0.1605~0.2113	133.6~448.8

Note: Results are simulated. Data is available through 100 MHz.

### CROSS-SECTION

