



# TQFP

Thin Quad Flat Package

## DESCRIPTION

TQFP is a quad-sided lead frame based plastic package with body thickness of only 1.0mm. It is available in different body sizes and pin counts from 32L to 128L. The broad pin count range and body size choices of the TQFP make it a very versatile package for wide range of devices from ASIC, gate arrays to memory and mixed signal devices. Its low package profile is well suited for portable and consumer products that demands thin and light components.

The package meets JEDEC Moisture Sensitivity Level 3 standard that ensures reliability in its functions.

## SPECIFICATIONS

• Die Thickness	279um (11mils) maximum
• Gold Wire	99.99% Au
• Mold Compound	EME G700 (Green) EME 7372 (Non-Green)
• Plating	Matte Tin
• Marking	White Ink / Laser Mark
• Packing	Tray

## APPLICATIONS

- DSP/ Base Band ICs
- Gate Arrays
- Logic/ ASIC
- Micro-controllers/ Micro
- Processors
- Chipsets/ Graphics Chip
- Mixed Signal/ Analog ICs

## RELIABILITY

MSL Level: MSL 3 @ 240°C for Sn/Pb  
 MSL Level: MSL 3 @ 260°C for Pb-Free & Green  
 Pressure Cook Test: 168hrs (121°C, 100%RH, 2atm)  
 Temperature Cycling: 500cycles (-65°C/+150°C)  
 HAST: 100hrs (130°C, 85%RH)  
 Temperature & Humidity Test: 1,000hrs (85°C, 85%RH)  
 High Temperature Storage: 1,000hrs (150°C)

## FEATURES

- Available body from 7x7mm to 14x14mm
- 32L to 128L lead counts
- Thin body profile (1.0mm)
- JEDEC standard compliant
- JEDEC MSL level 3 qualified for all pin counts

### THERMAL PERFORMANCE

Package	Body Size (mm)	Pad Size (mm)	Die Size (mm)	Thermal Performance $\theta_{ja}$ (°C/W)
TQFP 32L	7x7	5.207x5.207	2.57x2.84	48.43
TQFP 128L	14x14	6x6	3.009x3.074	36.31

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)
TQFP 32L	7x7	5.207x5.207	100	2.325~3.323	0.391~0.448	86.53~210.8
TQFP 128L	14x14	6x6	100	4.962~6.839	0.812~1.034	141.9~331.6

Note: Results are simulated. Data is available through 2.5GHz.

### CROSS-SECTION

