



SOP

Small Outline Package

DESCRIPTION	SPECIFICATIONS
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Lingsen SOP package is designed to accommodate a wide variety of chip into industry accepted dimensions, allowing excellent SMT performance. SOIC is a mature lead frame based plastic encapsulated package with gull wings on two opposing longer sides of a rectangular body with different body sizes and pin counts from 8L to 44L.

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

• Max Die Thickness	
Narrow Body with down-set	457um (18mils)
Narrow Body without down-set	304um (12mils)
Wide Body	762um (30mils)
Power Pad	762um (30mils)
• Gold Wire	99.99% Au
• Mold Compound	EME G600 (Green) EME 6600 CSP (Non-Green)
• Plating	Matte Tin
• Marking	White Ink/Laser Mark
• Packing	Antistatic Tube

APPLICATIONS	RELIABILITY
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- Consumer (Audio/ Video / Entertainment)
- Telecom (Pagers/ Cordless Phones)
- RF, CATV
- Office Applications (Fax/ Copiers/ Printers)

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: 1000cycles (-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 pin count from 8L to 44L
- Ink/ Laser marking available
- Gull wing lead format
- JEDEC standard outlines
- JEDEC MSL level 3 qualified for all pin counts

THERMAL PERFORMANCE

Package	Body Size (mm)	Pad Size (mm)	Die Size (mm)	Thermal Performance θ_{ja} ($^{\circ}\text{C}/\text{W}$)
SOP 8L	5.28x5.28	3.556x4.064	1.244x3.12	85.54
SOP 44L	12.6x28.5	8.128x8.636	5.5x4.79	35.05

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)
SOP 8L	5.28x5.28	3.556x4.064	100	2.453~4.056	0.459~0.521	89.42~261.3
SOP 44L	12.6x28.5	8.128x8.636	100	7.693~17.19	0.625~1.477	328.8~603.8

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

CROSS-SECTION

