

Features

- ▶ Cu or Ag wire interconnect for low cost
- ▶ Standard JEDEC package outlines
- ▶ Turnkey test services, including strip test options
- ▶ Green materials are standard – Pb-free and RoHS compliant

Process Highlights

- ▶ Wafer backgrinding services available
- ▶ Multiple die and die stacking capability
- ▶ Optional Chip-On-Lead (COL) construction using film die attach material and Inner Lead Trace (ILT) leadframes
- ▶ Matte Sn lead finish is standard
- ▶ Laser mark on package body

TSOP

TSOP (Thin Small Outline Package) is a leadframe based, plastic encapsulated package that is well suited for memory products, including SRAM, Flash, FSRAM and EEPROMs. A green BOM is standard, allowing devices to meet applicable Pb-free and RoHS standards.

Reliability Qualification

Amkor package qualification uses three independent production lots and a minimum of 77 units per test group. All testing includes JSTD-020 moisture preconditioning.

- ▶ Moisture Sensitivity Characterization: JEDEC Level 1, 85°C/85% RH, 168 hours
- ▶ uHAST: 130°C/85% RH, No bias, 96 hours
- ▶ Temperature Cycle: -65°C/+150°C, 500 cycles
- ▶ High Temperature Storage: 150°C, 1000 hours

Services and Support

Amkor has a broad base of resources available to help customers bring quality products to market quickly and at the lowest possible cost.

- ▶ Custom leadframe designs
- ▶ Full package characterization
- ▶ Thermal, mechanical stress and electrical performance modeling
- ▶ Turnkey assembly, test and drop ship
- ▶ World class reliability testing and failure analysis

Test Services

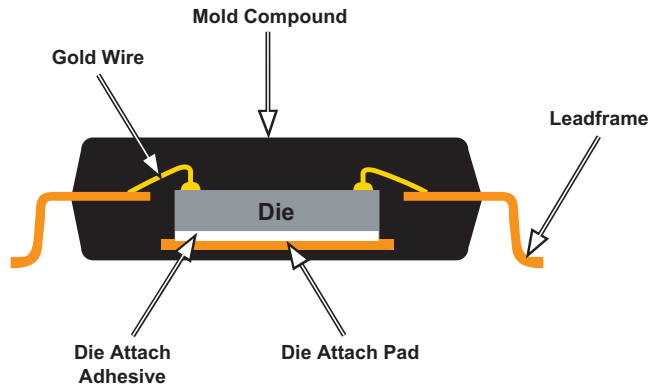
- ▶ Program generation/conversion
- ▶ Wafer probe
- ▶ Burn-in capabilities
- ▶ -55°C to +165°C test available

Shipping Options

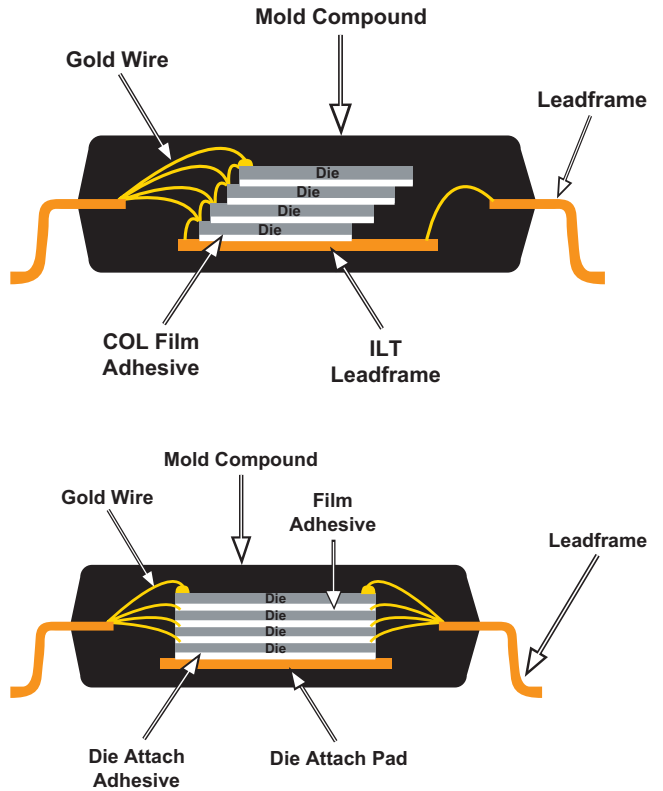
- ▶ JEDEC outline CS-020 low profile tray
- ▶ Bar code
- ▶ Dry pack
- ▶ Drop ship

TSOP

Cross Section TSOP



Cross Section Stacked TSOP



Configuration Options

TSOP Nominal Package Dimensions (mm)

Package	Lead Count	Body Width	Body Length	Body Thickness	Overall Height	Lead Pitch	Tip-to-Tip	JEDEC
TSOP 1	48	12.00	18.40	1.0	1.1	0.50	20.00	MO-142



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