Data Sheet

Thin Small Outline Package (TSOP)

TSOP 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.

Features

Amkor's TSOP packages offer:

- Cu 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

Services and Support

Amkor has a broad base of resources available to help customers bring quality new 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

TSOP

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
- Temp Cycle — -65°C/+150°C, 500 cycles
- High Temp Storage — 150°C, 1000 hours

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

Test Services

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

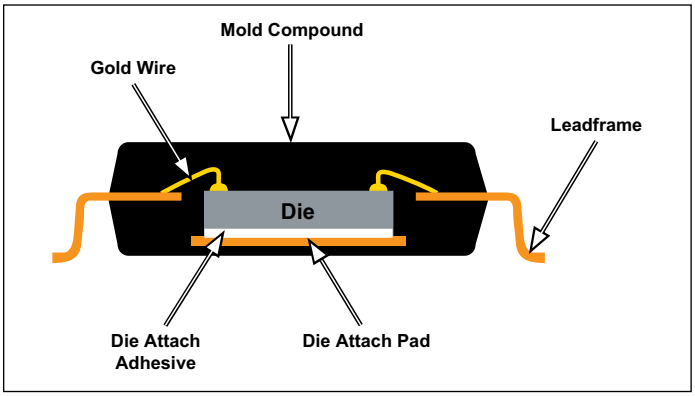
Shipping Options

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

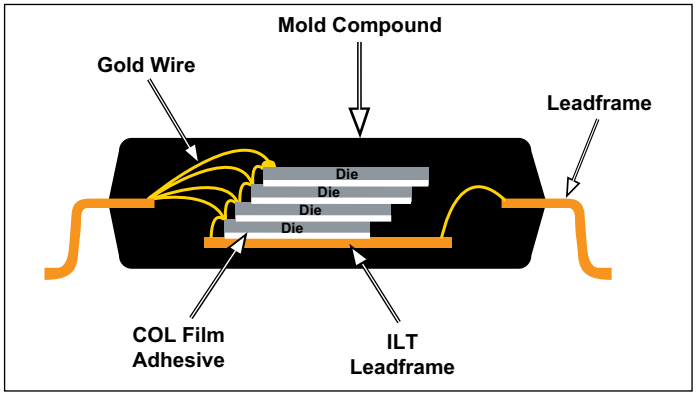
Visit Amkor Technology online for locations and to view the most current product information.

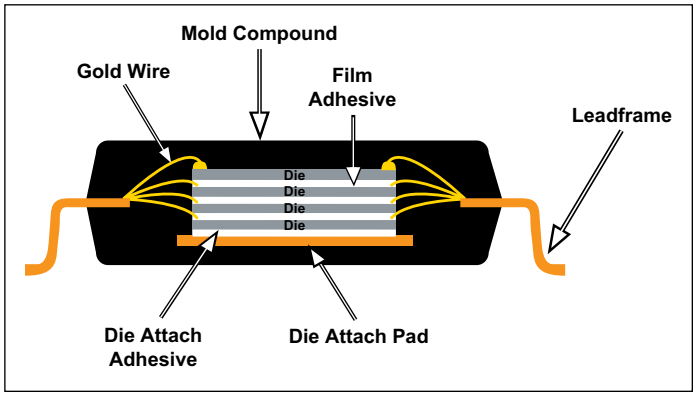
TSOP

Cross-section TSOP



Cross-section Stacked TSOP





Configuration Options

TSOP Nominal Package Dimensions (mm)

Package Type	Lead Count	Body Width	Body Length	Body Thickness	Overall Height	Lead Pitch	Tip-to-Tip	JEDEC
TSOP 1	28	8.00	11.80	1.0	1.1	0.55	13.40	MO-183
	32	8.00	11.80	1.0	1.1	0.50	13.40	NA
	32	8.00	18.40	1.0	1.1	0.50	20.00	MO-142
	40	10.00	18.40	1.0	1.1	0.50	20.00	MO-142
	48	12.00	18.40	1.0	1.1	0.50	20.00	MO-142
	56	14.00	18.40	1.0	1.1	0.50	20.00	MO-142
TSOP 2	40	10.16	18.41	1.0	1.1	0.80	11.76	MS-024
	44	10.16	18.41	1.0	1.1	0.80	11.76	MS-024
	44	10.16	20.95	1.0	1.1	0.80	11.76	MS-024
	50	10.16	20.95	1.0	1.1	0.80	11.76	MS-024
	54	10.16	22.22	1.0	1.1	0.80	11.76	MS-024

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