



Introduction

TSON8-FL (Flat Lead) is a smaller package (3.3 x 3.3 mm) with thermally enhanced that gives a 64% reduction in footprint area compared with standard SOIC 8 Id package, yet an equivalent maximum permissible power dissipation capability.

This package may also be know as:

- TSON-Adv
- PowerFLAT™ 3.3 x 3.3
- TSDSON
- miniHVSON
- PowerPAK® 1212-8
- JEDEC: MO240 BA

Application

TSON8-FL is suitable for medium-power applications, designed for low on-resistance and high-speed-switching MOSFETs:

- Battery protection circuits
- Notebook PCs
- Portable electronic devices
- DC-DC converters

Features

- Small and thermally enhanced package with the same power dissipation but 64% less footprint area than SOIC 8 Id
- Dual Cu Clip interconnect for better heat dissipation efficiency
- Al strap + wire option is also available
- Turnkey with test and packing services
- Green materials: Pb-free plating & halogen free mold compound

New Developments

- Dual exposed pad for better thermal performance
- Thin wafer dicing with narrow saw streets
- Larger/higher density leadframe strips
- Environmentally friendly Pb-free solder paste

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

TSON8-FL

Process Highlights

- Bare copper leadframe with no plating
- Die attach: 55 um thin die pick up capability
- Interconnect: Cu clips technology for better electrical and thermal performance. Also available on Al strap + wire option.
- Plating: 100% matte Sn
- Marking: Pen type laser

Standard Materials

- Leadframe: Bare copper
- Die attach: Solder paste*
- Interconnect: 2 option,
 - Dual Cu clips
 - Al strap + wire 2 mil Cu
- Mold compound: Halogen free

*Apply to option dual Cu clips.

Reliability Qualification

- Amkor devices are assembled with proven reliable semiconductor materials.
- All test include pre-condition of: Ta = 85°C/Rh = 85%, 72 hrs with IR reflow
Ta = 265°C, 2X
 - High Temperature Storage, Ta = 150°C, 1000 hrs
 - Pressure Cooker, Ta = 121°C/Rh = 100%/P = 2 atm, 96 hrs
 - Temperature Cycle, -65~150°C, 300 cycles

Test Service

Amkor offers full turnkey business for all power discrete products. We have the capability to test various type of power devices including MOSFETs, bipolar transistors, IGBTs, diodes, regulator ICs/intelligent power devices, etc.

- Amkor power discrete test capability:
 - Static test (DC)
 - Dynamic test (AC, Switching/Trr, Capacitance/Rg)
 - Destruction test (Inductive load/VISUS, I Latch, Surge, Isolation/VIL)
 - Thermal Resistance (ΔVDS , ΔmV , etc.)
- Program generation/conversion
- Failure analysis
- Available test/handling technology
- Integrated marking, vision inspection and tape & reel services



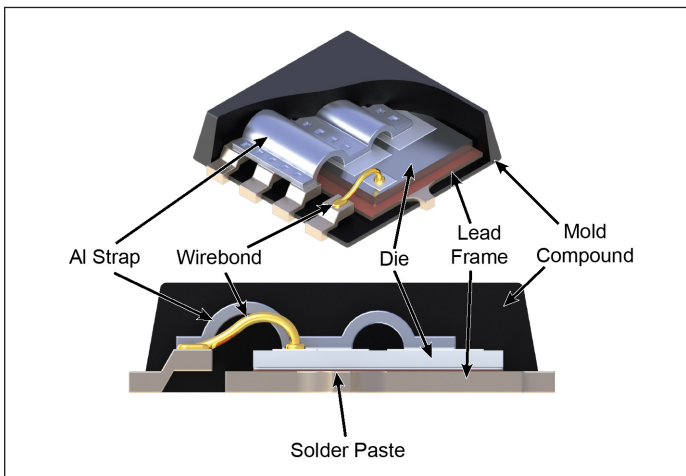
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Rev Date: 5-14

TSON8-FL

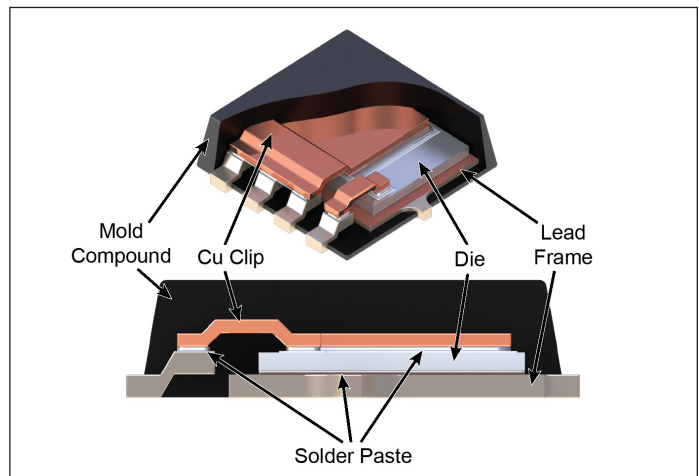
Shipping

- Tape and reel packing
 - 3000 pcs or 5000 pcs per reel
 - Tape width 12 mm
 - Reel Φ = 330 mm
- Barcode packing label
- Drop ship

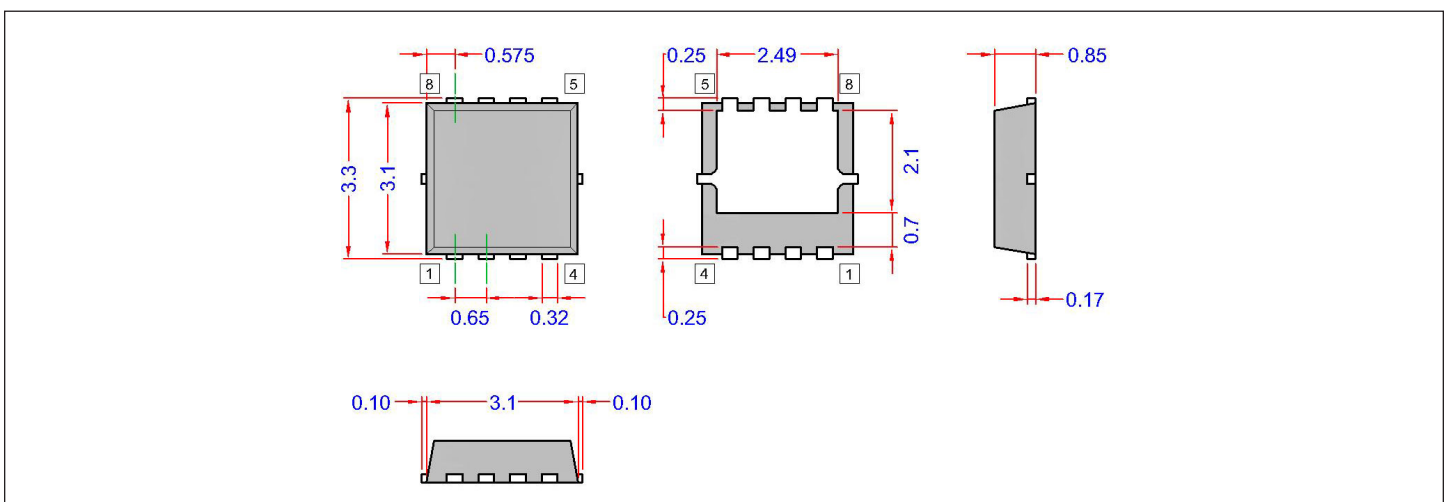
Cross-section – Option 1: Al Strap + Wire



Cross-section – Option 2: Dual Cu Clip



Package Outline Drawing TSON8-FL



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