

# SOD128-FL



The SOD128-FL package is part of the FLAT series of compact surface mount packages which allow communication equipment to be miniaturized. The Cu clip structure of interconnect features reduces electrical resistance and enhanced thermal performance compared to wire-bonded products.

This package may also be know as:

- ▶ M-Flat

## Applications

The FLAT package series is suitable for small and medium size high-efficiency diode applications:

- ▶ Schottky Barrier Diodes (SBDs)
- ▶ Rectifier Diodes
- ▶ Zener Diodes

## Reliability Qualification

Amkor devices are assembled with proven reliable semiconductor materials.

- ▶ All test includes pre-condition of: Ta = 85°C/RH = 85%, 16 hrs with solder dip, Ta = 265°C, 10s
- ▶ Temperature & Humidity Storage, Ta = 85°C/RH = 85%, 500 hrs
- ▶ High Temperature Storage, Ta = 150°C, 500 hrs
- ▶ Pressure Cooker, Ta = 121°C/RH = 100%/P = 2 atm, 144 hrs
- ▶ Temperature Cycle, -65~150°C, 300 cycles

## Test Service

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

- ▶ 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 ( $\Delta V_{DS}$ ,  $\Delta mV$ , etc.)
- ▶ Program generation/conversion
- ▶ Failure analysis
- ▶ Available test/handling technology
- ▶ Integrated marking, vision inspection and tape & reel services

## Features

- ▶ Cu connector structure to reduce inductance and resistance
- ▶ Enhanced thermal properties
- ▶ Turnkey with test and packing services
- ▶ Green materials: Pb-free plating & halogen-free mold compound

## New Developments

- ▶ Larger/higher density leadframe strips
- ▶ Environmentally friendly Pb-free solder paste

## Process Highlights

- ▶ Bare copper leadframe with no plating
- ▶ Interconnect: Cu clips technology for better electrical and thermal performance
- ▶ Plating: 100% matte Sn
- ▶ Marking: Pen type laser

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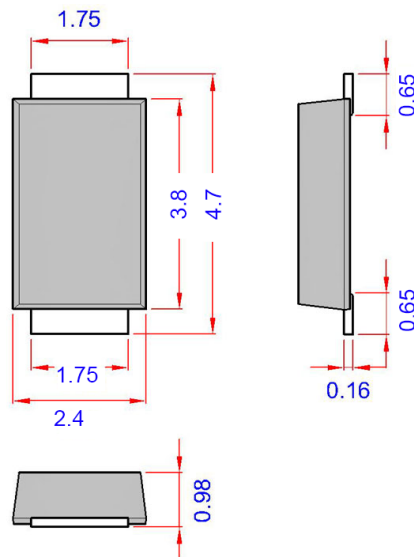
## Standard Materials

- ▶ Leadframe: Bare copper
- ▶ Die attach: Solder paste
- ▶ Interconnect: Cu clips
- ▶ Mold compound: Halogen free

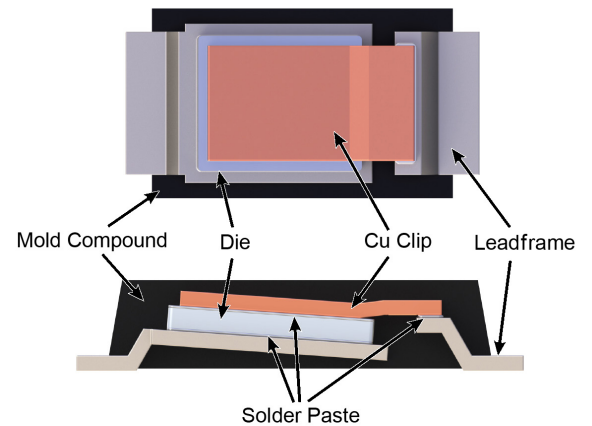
## Shipping

- ▶ Tape and reel packing
  - ▷ 3000 pcs per reel
  - ▷ Tape width 12 mm
  - ▷ Reel  $\Phi$  = 180 mm
- ▶ Barcode packing label
- ▶ Drop ship

## Package Outline Drawing



## Cross-section



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