



## FEATURES

- ▶ Low on-resistance and high-current density due to thick Al wirebonding
- ▶ Full turnkey available from wafer saw through test and packing
- ▶ Pb-free plating

## UNDER DEVELOPMENT

- ▶ Environmentally friendly die attach Pb-free solder
- ▶ Halogen-free mold compound

## PROCESS HIGHLIGHTS

- ▶ Interconnect: Thick Al wirebonding technology
- ▶ Plating: 100% Matte Sn
- ▶ Marking: Laser mark

# DPAK (TO-252)

DPAK follows the JEDEC standard for medium-power discrete products.

## Applications

DPAK is suitable for medium-power applications (reference values 80W\*/60A), designed for low on-resistance and high-speed switching MOSFETs. Ideal for:

- ▶ Motor drivers
- ▶ Power supply circuits
- ▶ DC-DC converters
- ▶ Consumer products
- ▶ Automotive products

\*T<sub>C</sub> = 25°C, T<sub>J</sub> = Max 150°C

## Reliability Qualification

Amkor packages are assembled with proven reliable semiconductor materials. All reliability testing includes:

- ▶ JEDEC standard pre-conditioning except high temperature storage
- ▶ 85°C/85% RH, 168 hours, IR reflow 260°C 3X
- ▶ H<sup>3</sup>TRB: 85°C/85% RH, 1000 hours
- ▶ uHAST: 130°C/85% RH, 96 hours
- ▶ Temp cycle: -55°C to 150°C, 1000 cycles
- ▶ High temp storage: 150°C, 1000 hours

## Test Services

Amkor offers full turnkey business for all power discrete products with the capability to test various types of power devices including MOSFETs, intelligent power devices, etc.

- ▶ Power discrete test capability
  - ▷ DC
  - ▷ Capacitance \*1
  - ▷ R<sub>g</sub> \*1
  - ▷ Avalanche test
  - ▷ Thermal resistance
- ▶ Program conversion
- ▶ Electrical failure analysis
- ▶ Integrated test, marking, vision inspection and tape & reel services

\*1 Sampling test only

# DPAK (TO-252)

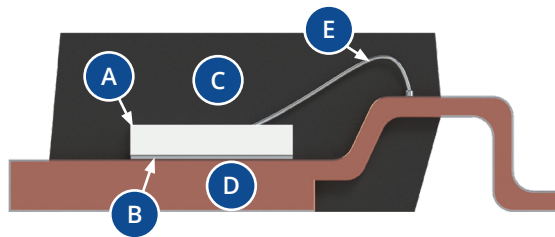
## Standard Materials

- ▶ Leadframe: Copper with Ni plating on wirebonding area
- ▶ Die attach: Pb solder
- ▶ Interconnect: Al wire (11.8 mil max)
- ▶ Mold compound: With halogen

## Shipping

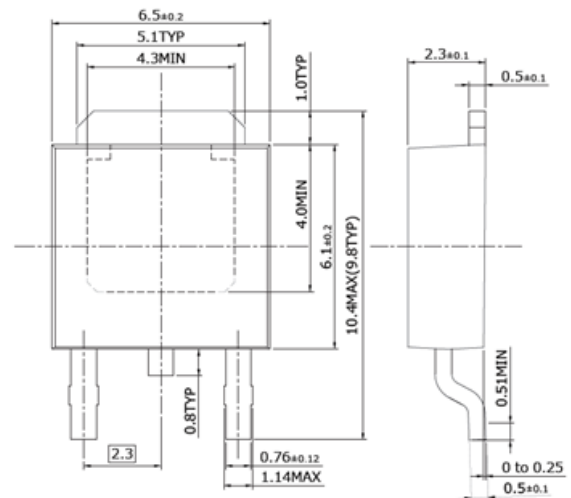
- ▶ Tape and reel packing
  - ▷ 2000 pcs per reel
  - ▷ Tape width: 10.7 mm
  - ▷ Reel  $\Phi$  = 330 mm
- ▶ Barcode packing label

## Cross Section



- |                              |                    |
|------------------------------|--------------------|
| <b>A</b> Die                 | <b>D</b> Leadframe |
| <b>B</b> Die attach material | <b>E</b> Al wire   |
| <b>C</b> Mold compound       |                    |

## Package Outline Drawing



Unit: mm

## Top and Bottom View



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