

# 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:

- ▶ 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

J-Devices packages are assembled with proven reliable semiconductor materials.

- ▶ All reliability testing include: JEDEC standard pre-conditioning except high temperature storage
- ▶ 85°C/85%RH, 168 hours, IR reflow 260°C 3X
- ▶ PCT: 121°C/100% RH/2 atm, 96 hours
- ▶ Temp Cycle: -65°C/+150°C, 300 cycles
- ▶ High Temp Storage: 150°C, 1000 hours

## Test Service

J-Devices 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



## Features

- ▶ Low on-resistance and high current density due to thick Al wire bonding
- ▶ Full turnkey available from wafer probe 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 wire bonding technology
- ▶ Plating: 100% matte Sn
- ▶ Marking: Laser mark

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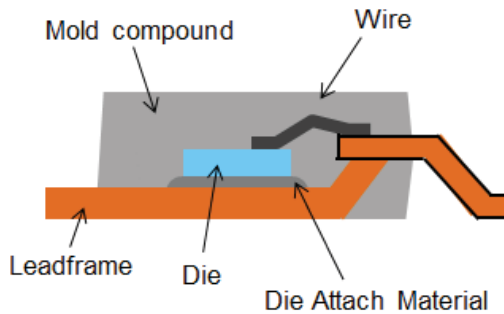
## Standard Materials

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

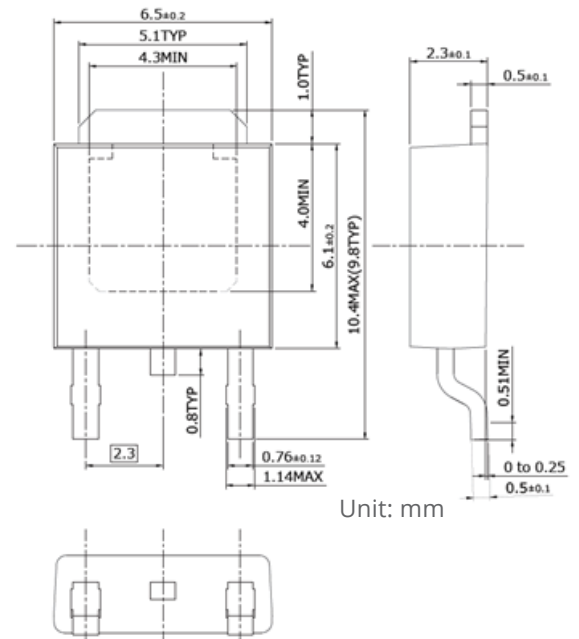
## Shipping

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

## Cross-section



## Package Outline Drawing



## Top & Bottom View



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