

D2PAK (TO-263)

D2PAK follows the JEDEC standard (TO-263) for high-power discrete products.

Applications

D2PAK is suitable for high-power applications (over 100A available), designed for low on-resistance and high-speed switching MOSFETs.

- ▶ Motor drivers
- ▶ Power supply circuits
- ▶ DC-DC converters
- ▶ Key applications for automotive in body, safety and lighting

Reliability Qualification

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

- ▶ JEDEC standard pre-conditioning except for high temperature storage
- ▶ 85°C/85% RH, 168 hours, IR reflow 260°C 3X
- ▶ H³TRB: 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
 - ▷ Rg *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 wirebonding
- ▶ Full turnkey available from wafer saw through test and packing
- ▶ Green materials: Pb-free plating and halogen-free mold compound

UNDER DEVELOPMENT

- ▶ Environmentally friendly die attach Pb-free solder

PROCESS HIGHLIGHTS

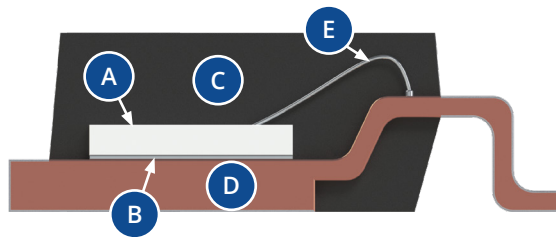
- ▶ Interconnect: Thick Al wirebonding technology
- ▶ Plating: 100% Matte Sn
- ▶ Marking: Laser mark
- ▶ 100% Auto appearance check for automotive grade

D2PAK (TO-263)

Standard Materials

- ▶ Leadframe: Bare copper
- ▶ Die attach: Pb solder
- ▶ Interconnect: Al wire
- ▶ Mold compound: Halogen-free

Cross Section



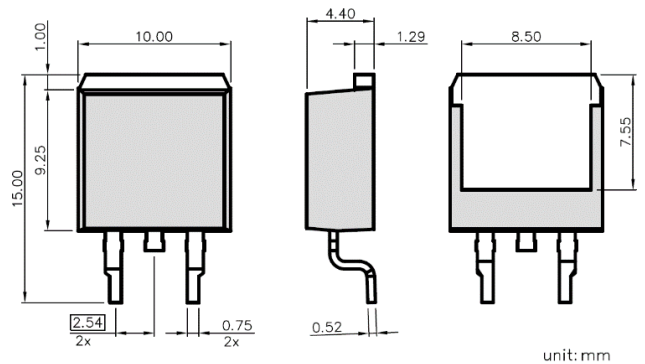
- A** Die
- B** Die attach material
- C** Mold compound
- D** Leadframe
- E** Al wire

Shipping

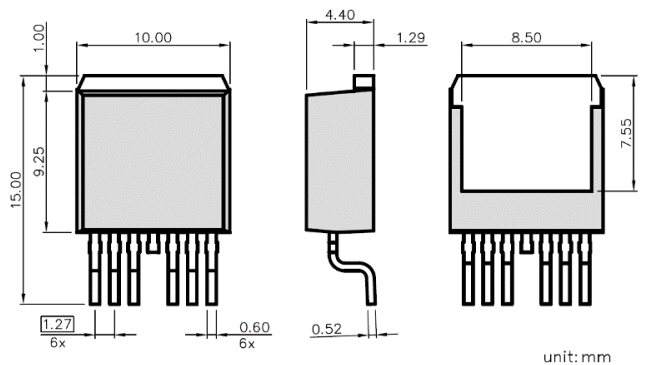
- ▶ Tape and reel packing
 - ▷ 800 pcs per reel
 - ▷ Tape width: 24 mm
 - ▷ Reel Φ = 330 mm
- ▶ Barcode packing label

Package Outline Drawing

D2PAK



D2PAK 7L



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