**PBGA**

J-Devices’ Plastic Ball Grid Array (PBGA) package is designed for cost/performance applications with flexibility and efficiency in substrate utilization. PBGA design incorporates low inductance, improved thermal operation, enhanced SMT ability and significant improvement in electrical responses due to increase in I/O capability and more direct routing of power, ground and signal traces.

**Thermally Enhanced PBGA (TEPBGA)**

This PBGA option with built-in heat slug is available for applications requiring increased heat dissipation.

**Applications**

- TV, gaming, PC, network, automotive and industrial applications
- Applications where high pin count, high density, high heat dissipation and higher electrical performances are required

**Thermal Performance**

<table>
<thead>
<tr>
<th>Body Sizes (mm)</th>
<th>θJA at 1.0W 0 Airflow (°C/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>PBGA</td>
</tr>
<tr>
<td>23</td>
<td>18.6</td>
</tr>
<tr>
<td>27</td>
<td>16.9</td>
</tr>
<tr>
<td>31</td>
<td>16.0</td>
</tr>
<tr>
<td>35</td>
<td>15.5</td>
</tr>
</tbody>
</table>

*Additional thermal data available
*Die size 8.0 x 8.0 mm
*Die thickness 0.29 mm
*Ta 25°C

**Reliability Qualification**

- Moisture Sensitivity: Pre-condition of: 30°C/60% RH, 192 hours, IR reflow 260°C 3X
- uHAST: 130°C/85% RH, 96 hours
- Temp Cycle: -55°C/+125°C, 1000 cycles
- High Temp Storage: 150°C, 1000 hours

**Process Highlights**

- Die thickness: 0.29 mm
- Bond pad pitch: 40 μm
- Au wire diameter: 15-23 μm
- Cu wire diameter: 18-23 μm
- Marking: Laser mark
- Wafer backgrinding: Available
PBGA

Standard Materials
- Package substrate
  - Conductor: Cu
  - Dielectric: Epoxy resin glass reinforced
- Die attach: Conductive epoxy
- Mold compound: Epoxy mold compound
- Solder ball: Pb-free

Test Services
- Program conversion
- Product engineering
- Wafer sort
- 256 pin x 20 MHz test system available
- -55°C to +125°C test available
- Burn-in capabilities
- Tape and reel services

Shipping
- JEDEC outline trays

Cross-section

PBGA

TEPBGA

J-Devices’ TEPBGA is able to convey the heat from the chip directly to the heat slug. This spreads the heat in the package, resulting in efficient dissipation.

Wire Images

Visit amkor.com or email sales@amkor.com for more information.