

# 3M™ Polyimide Film Tape 5413

## Product Description

3M™ Polyimide Film Tape 5413 with DuPont™ Kapton® polyimide film and silicone adhesive used for PCB solder masking and other high temperature applications. This product is amber colored and 2.7 mil (69 microns) thick.

## Features and Benefits

- The DuPont™ Kapton® polyimide film does not soften at elevated temperatures, thus the film provides an excellent release surface at elevated temperatures
- Is dimensionally stable at high temperatures, which helps reduce rework, helping to enable high productivity
- Is flame retardant, chemical and radiation resistant which helps protect surfaces to help reduce replacement costs
- The silicone adhesive's high temperature performance helps reduce adhesive transfer which helps to eliminate cleaning, enabling high productivity
- Polyethylene tape core instead of cardboard

## Product Construction

| 3M™ Polyimide Film Tape 5413 |                                |
|------------------------------|--------------------------------|
| Backing                      | Dupont™ Kapton® Polyimide Film |
| Adhesive                     | Silicone                       |
| Color                        | Amber                          |
| Standard Roll Length         | 33 m (36 yd)                   |

## Application Ideas

- Mask for protection of gold fingers of printed circuit boards during wave solder or solder dip process.
- Release surface in fabrication of parts cured at elevated temperatures.



## Typical Physical Properties

**Note:** The following technical information and data should be considered representative or typical only, and should not be used for specification purposes.

| 3M™ Polyimide Film Tape 5413      |                                |                                                          |
|-----------------------------------|--------------------------------|----------------------------------------------------------|
| Property                          | Value                          | ASTM Test Method                                         |
| <b>Adhesion to Steel:</b>         | 22 oz/in width (24 N/100 mm)   | D-3330                                                   |
| <b>Tensile Strength at Break:</b> | 33 lb/in width (578 N/100 mm)  | D-3579                                                   |
| <b>Elongation at Break:</b>       | 62%                            | D-3579                                                   |
| <b>Backing Thickness:</b>         | 1.0 mil (0.03 mm)              | D-3652                                                   |
| <b>Total Tape Thickness:</b>      | 2.7 mil (0.07 mm)              | D-3652                                                   |
| <b>Temperature Use Range:</b>     | -73° to 260°C (-100° to 500°F) | —                                                        |
| <b>Dielectric Strength:</b>       | 7000 volts                     | D-149                                                    |
| <b>Outgassing:</b>                | %TLM = 1.50; %CVCN = 0.50      | —                                                        |
| <b>Flame Retardancy:</b>          | Pass                           | per UL-510<br>product category:<br>0ANZ2<br>File E230409 |

## Key Attributes

| Features                            | Advantages                                                                                     | Benefits                                                                                  |
|-------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Thin DuPont™ Kapton® polyimide film | Dimensionally stable at high temperatures<br>Flame retardant, chemical and radiation resistant | No rework – high productivity<br>Helps protect surfaces, helping reduce replacement costs |
| Silicone adhesive                   | High temperature performance helps reduce adhesive transfer                                    | Virtually no cleaning required – helps increase productivity                              |
| High adhesive to film bond          | Helps reduce adhesive transfer                                                                 | Virtually no cleaning required – helps increase productivity                              |

## Storage and Shelf Life

The shelf life of 3M™ Polyimide Film Tape 5413 is 36 months from the date of manufacture when stored in original cartons at 21°C (70°F) and 50% relative humidity.

## Regulatory

For regulatory information about this product, contact your 3M representative.

## Technical Information

The technical information, recommendations and other statements contained in this document are based upon tests or experience that 3M believes are reliable, but the accuracy or completeness of such information is not guaranteed.

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