Contact us.
We look foward to meeting you!

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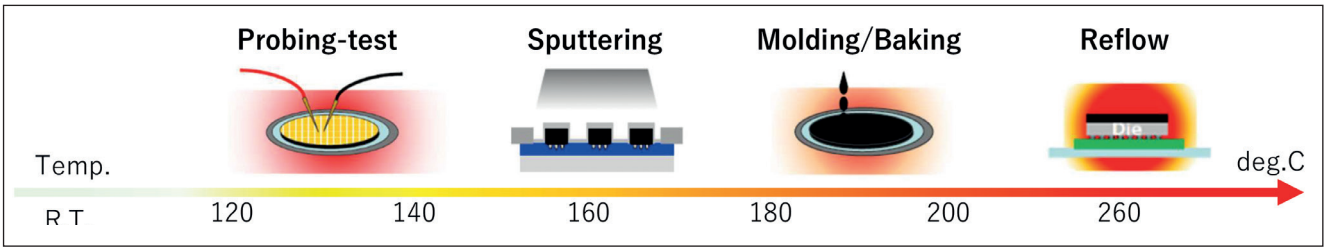
LINTEC Corporation *Linking your dreams*

PRODUCT NOVELTY

Heat-resistant Tape

PRODUCT NOVELTY

In semiconductor manufacturing for electric vehicles and mobile phone processors, wafers must pass through many different production processes before they are finally diced into individual chips. Many of these processes take place at very high temperatures, such as sputtering, molding, or baking.



Heating processes and temperature

Conventional UV-curable dicing tapes quickly reach their limits under these conditions. When exposed to high temperatures above 150°C, the tapes can melt, burn, shrink, or their adhesive strength can increase uncontrollably. These changes in material cause deformation of the tape and make the adhesive behavior unpredictable.

As a result, even when UV irradiated after the dicing process, the tape often cannot be removed cleanly. This can damage the dies, contaminate sensitive surfaces, and reduce overall yield.

LINTEC‘s line-up of high-temperature-resistant tapes are specifically **designed to withstand these challenging process conditions**. The tapes **maintain dimensional stability and controlled adhesive performance even after exposure to high temperatures during upstream manufacturing steps**. This ensures safe die-handling, protects sensitive semiconductor surfaces, and improves overall process reliability and yield.

ADVANTAGES

- Only one tape for all production processes that involve high temperatures and dicing
- No remounting and therefore less costs and less waste of material
- Excellent stability, easy to peel off and no adhesive residue after high temperature processes
- Different types of UV curable heat-resistant tapes according to different customer needs
- Suited for:
  - SiC and GaN devices for xEV
  - WLCSP (Wafer-Level Chip-Scale Packaging)
  - FOWLP (Fan-Out Wafer-Level Packaging)
  - MEMS and other sensor devices

LINE-UP OF HEAT-RESISTANT TAPES

		D-435T	D-436	H-231F	C-902
Heat-resistance of Tape		~120°C	~150°C	~200°C	~260°C
Total thickness (μm)		110	90	75	45
Color		Opaque	Opaque	Transparent	Brown
Basefilm (μm)		PO 80	PO 80	PET 25	Polyimide 25
PSA (μm)		Acrylic 30	Acrylic 10	Acrylic 50	Silicone 20
Adhesion *1 (mN/25mm)	Before UV	11400	10900	200	780
	After UV	40 *2	40 *2	-	-
		Heating & After UV 300 *3	Heating & After UV 50 *4	After Heating 210 *5	After Heating 8000 *6
Note		UV type Expandable	UV type Expandable	Non-UV type	Non-UV type

(1) Peeling speed: 300 mm/min, Peeling angle: 180° Adherend: Si mirror wafer
(2) UV irradiation conditions: 230 mW/cm^2 , 190 mJ/cm^2
(3) Heating condition: 120°C, 1h
(4) Heating condition: 140°C, 1h
(5) Heating condition: 150°C, 10 min
(6) Heating condition: 210°C, 2h

The indicated values are measured values, not intended for guarantee use.