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# KTT Polyimide label

## Technical Datasheet

TTDS-302 Revision 1 - March 2017

**KTT is a thermal transfer printable matte Polyimide label with a permanent acrylic adhesive, ideal for high temperature labelling requirements such as printed circuit boards.**

KTT Polyimide labels are suitable for direct wave (bottom side) and IR reflow (top side) PCB applications. They are designed to withstand the fluxes, cleaning solvents and molten solder encountered in the manufacturing of printed circuit boards. They also offer excellent contrast for bar code applications. Print performance and durability can only be guaranteed when printed using TE Connectivity printers ribbons and software, as shown in TE Connectivity Printer Ribbon Matrix 411-121005.

KTT Polyimide labels are available as part of a complete identification system. The system comprises specific printers, thermal transfer ribbons and WINTOTAL and Print Easy software.

# KTT POLYIMIDE LABEL

## Features

- Thermal transfer printable
- Permanent high-temperature pressure sensitive acrylic adhesive with low outgassing properties
- High opacity
- Matte oyster topcoat
- Withstands surface mount board processes on either the top or bottom side of the board
- Suitable for automatic label applications

## Temperature Rating

- Service Temperature
  - Long term: 100 hours at 125°C (302°F)
  - Operating: 5 minutes at 260°C (500°F)
  - Short term: 90 seconds at 300°C (572°F)
- Minimum Application Temperature 10°C (50°F)

## Applications

- High temperature labeling
- PCB and electronic component labelling
- Industrial and Commercial applications
- Aerospace and Defence applications
- Bar code applications

## Design for Environment

- Does not contain any declarable or prohibited substances from the UNIFE Railway Industry Substances List
- Further information and a downloadable declaration covering RoHS and REACH compliance can be found at the TE Product Compliance Support Centre:

<http://www.te.com/usa-en/utilities/product-compliance.html>

## Shelf Life

One year when following good commercial storage practice detailed below

## Storage

Product should be stored in the original packaging, with any plastic covers which were included during shipping. Store out of direct sunlight in a clean, dry, dust free, environment. Product should not be stored outside of the designed storage temperature, which is -10°C (14°F) to +40°C (104°F).



## Technical Performance

	Requirement / Method	Result
<b>Print Permanence</b> Resistance to Solvents <ul style="list-style-type: none"> <li>Methyl Ethyl Ketone (MEK) at room temperature</li> <li>Water at 66°C (150°F)</li> <li>Cleaning solvent (Alpha 565 or equivalent) at room temperature</li> </ul>	MIL STD 883E Notice 4 Method 2015.10 and MIL STD 202G Method 215K	No visual effect (Pass)
<b>Fluid resistance</b> <ul style="list-style-type: none"> <li>Flux (Alpha 809M or equivalent)</li> <li>Flux remover (Alpha 2000 or equivalent)</li> </ul>	MIL STD 883E Notice 4 Method 2015.10 and MIL STD 202G Method 215K	No visual effect (Pass)
<b>Peel adhesion</b> Stainless steel Glass Aluminium Polypropylene Tufnol	FTM 1 (180°), 20 min. dwell	10 N/25 mm (37.5 oz/in) 11 N/25 mm (40.9 oz/in) 7 N/25 mm (23.8 oz/in) 5 N/25 mm (19.9 oz/in) 7 N/25 mm (26.1 oz/in)
<b>Peel adhesion</b> Stainless steel Glass Aluminium Polypropylene Tufnol	FTM 1 (180°), 72 hour dwell	17 N/25 mm (60.7 oz/in) 16 N/25 mm (57.9 oz/in) 10 N/25 mm (38.3 oz/in) 7 N/25 mm (25.8 oz/in) 11 N/25 mm (39.8 oz/in)
Dielectric strength (film)	TE doc109-121005, similar to ASTM D 149	77.3 kV/mm (with adhesive) 139.7 kV/mm (no adhesive)

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Where possible, TE have tested product as a finished item, including the print. Operational tests are followed by an assessment of mark adherence to validate fit form and function.

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### Technical Performance

	Requirement / Method	Result
Heat resistance	Expose printed labels to : 315 +/- 5°C (600 +/-10°F) for 3 days Acceptance criteria: print legible	Pass Label discolours
Outgassing	ASTM E 595 (NASA 1124) Ac- ceptance criteria: CVCM <= 0.1 %	Pass

### Typical Label Thickness Details

- Facestock: 0.068 mm / 0.0027 inch
- Adhesive: 0.050 mm / 0.0020 inch

### Solder Immersion

After 10-12-second immersion at 250°C (480°F) in molten (lead free) solder: Print remains legible

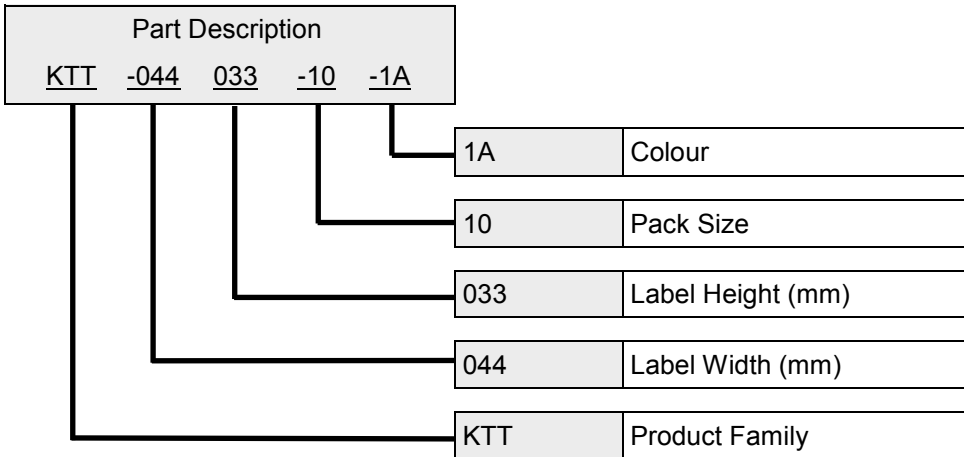
### Flammability Testing

ASTM D-1000-10: average time to burn = 0.2 seconds. Result: Pass

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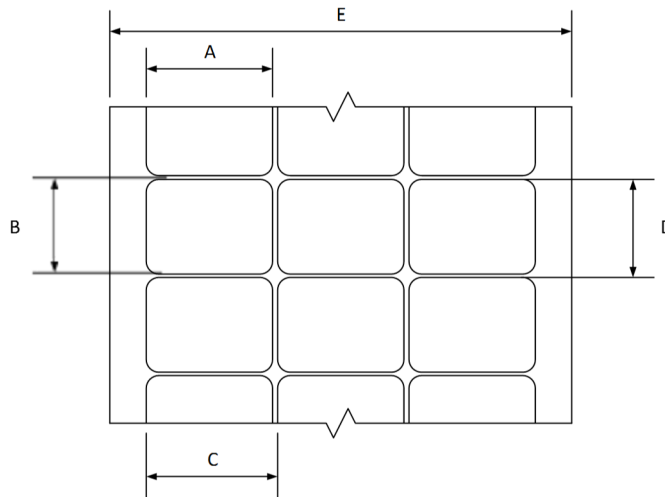
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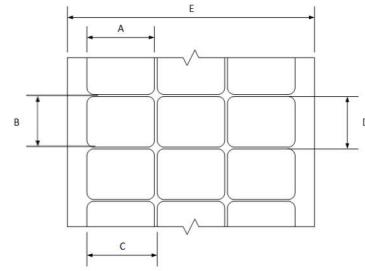


Specify product name, Label width (mm), Label Height (mm), Pack Size (in thousands), Colour (only available in white)

### Ordering Information



Ordering Description	Pack Size	Labels Across	Label Width A (mm) (inches)	Label Height B (mm) (inches)	Horizontal Repeat C (mm) (inches)	Vertical repeat D (mm) (inches)	Web Width E (mm) (inches)
KTT-044033-10-1A	10,000	20	4.4 0.170	3.3 0.130	4.4 0.170	9.5 0.375	92.4 3.636
KTT-064064-25-1A	25,000	12	6.4 0.250	6.4 0.250	6.4 0.250	9.5 0.375	82.2 3.240
KTT-080080-10-1A	10,000	8	8.0 0.315	8.0 0.315	9.9 0.390	13.3 0.525	83.3 3.280
KTT-095080-25-1A	25,000	5	9.5 0.375	8.0 0.315	12.2 0.480	12.7 0.500	64.3 2.531
KTT-095095-10-1A	10,000	7	9.5 0.375	9.5 0.375	11.1 0.437	12.7 0.500	82.1 3.230
KTT-127032-10-1A	10,000	5	12.7 0.500	3.2 0.125	19.1 0.750	3.2 0.250	94.9 3.736
KTT-127111-10-1A	10,000	5	12.7 0.500	11.1 0.437	16.8 0.662	14.3 0.563	86.0 3.380
KTT-127127-10-1A	10,000	5	12.7 0.500	12.7 0.500	15.9 0.625	15.9 0.625	82.6 3.250
KTT-165051-25-1A	25,000	4	16.5 0.650	5.1 0.200	17.8 0.700	8.3 0.325	75.8 2.990



Ordering Information

Ordering Description	Pack Size	Labels Across	Label Width A (mm) (inches)		Label Height B (mm) (inches)		Horizontal Repeat C (mm) (inches)		Vertical repeat D (mm) (inches)		Web Width E (mm) (inches)	
KTT-171171-10-1A	10.000	5	17.1	0.674	17.1	0.674	19.7	0.774	20.3	0.800	101.8	4.006
KTT-178095-10-1A	10.000	4	17.8	0.700	9.5	0.375	19.1	0.750	12.7	0.500	80.9	3.190
KTT-191064-10-1A	10.000	4	19.1	0.750	6.4	0.250	21.6	0.850	9.5	0.375	89.9	3.540
KTT-229064-10-1A	10.000	3	22.9	0.900	6.4	0.250	28.6	1.125	9.5	0.375	86.0	3.390
KTT-254045-10-1A	10.000	3	25.4	1.000	4.6	0.180	31.8	1.250	8.5	0.333	95.3	3.750
KTT-254064-10-1A	10.000	3	25.4	1.000	6.4	0.250	27.9	1.100	9.5	0.375	87.3	3.436
KTT-254097-10-1A	10.000	3	25.4	1.000	9.7	0.380	27.9	1.100	12.7	0.500	87.4	3.440
KTT-254127-10-1A	10.000	3	25.4	1.000	12.7	0.500	27.9	1.100	16.9	0.666	87.4	3.440
KTT-254254-10-1A	10.000	3	25.4	1.000	25.4	1.000	27.9	1.100	28.6	0.125	87.4	3.440
KTT-305047-10-1A	10.000	2	30.5	1.200	4.7	0.185	33.0	1.300	7.8	0.306	69.5	2.736
KTT-318064-10-1A	10.000	1	31.8	1.250	6.4	0.250	N/A	N/A	9.5	0.375	37.9	1.490
KTT-381020-10-1A	10.000	1	38.1	1.500	2.0	0.080	N/A	N/A	10.7	0.423	44.1	1.740
KTT-381064-10-1A	10.000	1	38.1	1.500	6.4	0.250	N/A	N/A	9.5	0.375	44.5	1.750
KTT-381127-5-1A	5.000	2	38.1	1.500	12.7	0.500	44.2	1.738	15.9	0.625	88.2	3.472
KTT-381381-2.5-1A	2.500	2	38.1	1.500	38.1	1.500	44.5	1.750	40.8	1.607	88.9	3.500
KTT-445064-10-1A	10.000	1	44.5	1.750	6.4	0.250	N/A	N/A	9.5	0.375	50.4	1.986
KTT-445102-5-1A	5.000	1	44.5	1.750	10.2	0.400	N/A	N/A	12.7	0.500	50.4	1.986
KTT-508064-10-1A	10.000	1	50.8	2.000	6.4	0.250	N/A	N/A	9.5	0.375	56.9	2.240
KTT-508095-5-1A	5.000	1	50.8	2.000	9.5	0.375	N/A	N/A	12.7	0.500	57.2	2.250
KTT-508127-5-1A	5.000	1	50.8	2.000	12.7	0.500	N/A	N/A	15.9	0.625	56.9	2.240

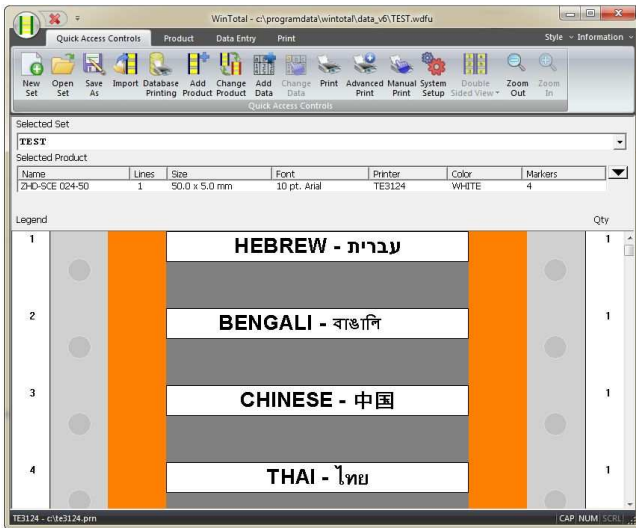


### Printer Information

Print quality and print performance can only be guaranteed when specific TE printer and ribbons are used.

The current list of printers and ribbons can be found in TE document 411-121005 'Identification Printer Product Ribbon Matrix'. This document can be found in 'Access Our Tools':

<http://www.te.com/usa-en/utilities/access-product-tools->



### Software

WINTOTAL software, available to download for a 14 day evaluation period from the Identification Printer Software page:

<http://www.te.com/usa-en/products/identification-labeling/printers-software/printing-software.html?tab=pgp-story>

Print Easy software also available

Contact a TE representative for further information



### [www.te.com/rail](http://www.te.com/rail)

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