



TP6613

USB uTouch widget

Application Note

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discontinue this product without notice.**

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PRODUCT NAME

TP6613

TITLE

USB uTouch Widget

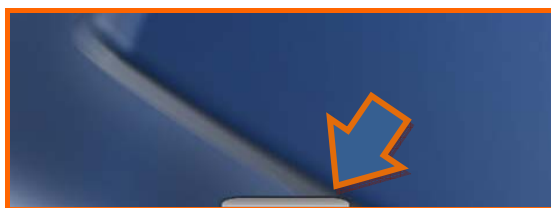
APPLICATION NOTE

1. Introduction to the product's functions

This product is a USB capacitive touch device with matching Widget software applications, to which Google and software gadgets shared on Internet can be added at will. These Widget software applications can be edited and saved into personalized tool bar to facilitate quick launch.

2. Introduction to software and hardware functions

There are ten basic default functions on the planning tool bar in the hidden popup for the USB uTouch Widget application software : Notepad, Timer clock, weather forecasts, computer, RSS Webpage clip, Windows Media Player, system monitor, tape recorder, Photo viewer, etc. Users can configure and edit relevant contents using function of the uTouch Widget application software and select the desired gadgets or execute programs through pressing and sliding on the touch control panel.



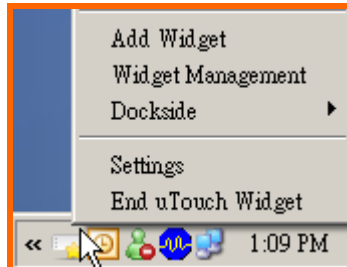
Toolbar is hidden



Toolbar is in display

2.1 Introduction to the editing function of the software

Right click on the mouse on the uTouch Widget icon on the Toolbar in the lower right corner of the computer operating system, and selection items related to editing will show up for the user to perform function setup as shown in the following figure:



- (1) uTouch Add Widget function to facilitate adding new Widgets by the user.
- (2) uTouch Widget Management function to facilitate managing and editing Widgets by the user.
- (3) uTouch Widget Dockside function to facilitate setting up the display location of the Toolbar by the user; it provides up, down, left, right directions to choose from.
- (4) uTouch Widget Settings function to facilitate setting the sensitivity of the USB capacitive touch device, the size of the toolbar icons, the rotational direction of the toolbar, and the rotation speed of the toolbar etc. by the user.

2.2 Introduction to hardware functions

- (1) Support 2 capacitive touch buttons.
- (2) Product prototype is shown in the following figure:



3. Notes for circuit design

- (1). Please use the circuits proposed in the circuit application selection as the bases for circuit design.
- (2). Place the layout of the added passive components as close to IC as possible.
- (3). 10-mil trace width is recommended for circuit design (excluding power traces, ground traces, and CLK traces).
- (4). Keep trace widths at least 20 mils for power traces, ground traces, and CLK traces for circuit design.
- (5). The area of PAD (touch copper foil) should be larger than 12 mm X 12 mm.
- (6). The traces between PAD's should be placed on the central area of the PCB board as possible (but not right underneath PAD) or be far away from the edge of the PCB board to avoid malfunction.
- (7). The length of TP[0] and TP[1] should be the same and the number of vias should be kept no more than 1 as possible so that the parasitic effect of TP[0] and TP[1] will be close.
The conducting lines should be kept as far away to each other as possible; keep three trace widths minimum between them. In particular, stay away from high-frequency signal lines as well; do not run parallel to high-frequency signal lines, perpendicular at the most.
- (8). The traces connecting PAD (touch copper foil) should be kept on a different Layout layer from PAD. They can be connected through one via. The components should be kept on a different layer from PAD as well.
- (9). Please refer to the circuit application selection to design VF0 and VF1 voltage. Changing the charging resistors, R3 and R4 (2.2M ohms recommended), will change the variation amount of touch buttons.

- (10). DP, DM should run parallel, equal length, and trying to not to go through vias.
- (11). FR4 1.6mm is recommended as the thickness of the PCB board.
- (12). PCB board with large area copper pour is not recommended for to use with this product, it will reduce the variation amount of touch buttons.
- (13). The thickness of dielectric must be 1mm.
- (14). The dielectric should be stick on placed right next to the top of the touch copper foil (using adhesive) as tight as possible, best without air if possible.
- (15). Keep the spacing between two PAD's (touch copper foil) to be 8mm.
- (16). It is recommended to put a piece of 33mm X 11.5mm copper foil right underneath PAD to enhance the variation rate.

