

OMRON

Touch Sensors



B6TS

Features:

The B6TS has successfully integrated the various functions required for a capacitance touch sensor including sensitivity setting, noise processing and compensation into just one IC combined with a few peripheral components. In addition, we supply a tool called the Workbench to make full use of the IC by providing total support for all work required in designing - electrode design, sensitivity adjustment, threshold setting, mode selection and signal monitoring.

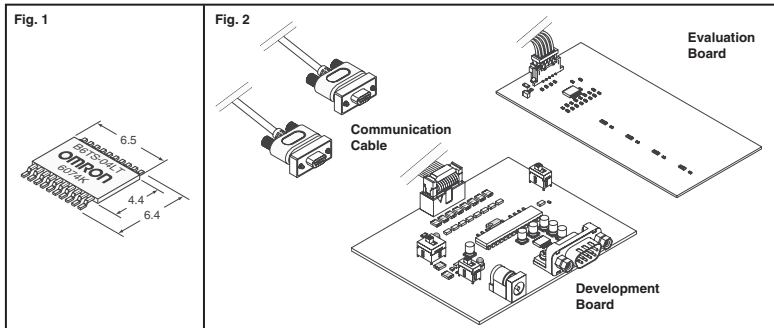
B6TW

Features:

The B6TW is a tool for using the B6TS series touch sensor IC, and includes PC software and an interface board. Use of Workbench allows easy execution of the operations required in design - electrode design, sensitivity adjustment, threshold setting, mode selection and signal monitoring and makes it easy for users to incorporate highly reliable touch sensors into devices. Workbench can be used not only for product design, but also for prior verification of functions.

Functions:

- Runs on Windows PCs (Windows XP and 2000 recommended)
- Connects with a PC via serial communication
- Comes with an evaluation board for four or eight channels for immediate evaluation



| Fig. | Description | Digi-Key Part No. | Cut Tape Price Each | | | Digi-Key Part No. | Tape and Reel | | Omron Part No. |
|------|--|-------------------|---------------------|------|------|-------------------|---------------|-----------|----------------|
| | | | 1 | 25 | 50 | | Qty. | Pricing | |
| 1 | 4 Channel, Touch Sensor IC, 20 pin SOP..... | Z2564CT-ND | 3.29 | 2.96 | 2.63 | Z2564TR-ND | 2,500 | 1642.58/M | B6TS-04LT |
| 2 | Development Kit, 4 Channel, Includes Software and Cable..... | Z2566-ND | 678.81/1 | | | — | — | — | B6TW-S04LT |

QUANTUM RESEARCH GROUP Sensors



QProx™/QTouch™ Charge-Transfer ("QT") General Description: These are self-contained digital capacitance ICs capable of detecting proximity, touch, and fluid level. With appropriate electrodes they can sense through sealed surfaces made of glass, plastic, stone, ceramic, and wood, up to thicknesses of several inches. This capability coupled with an ability to

continuously calibrate leads to new product concepts. They are designed specifically for control panels in home appliances, PC peripherals, machinery, security systems, lighting controls, or anywhere a mechanical switch or button may be found. Versions also available for fluid sensing.

| Description | Supply Voltage (V) | | Supply Current (Typical) | Operating Temperature (°C) | Package | Digi-Key Part No. | Price Each | | | Digi-Key Part No. | Tape and Reel | | Quantum Part No. |
|---|--------------------|---------|--------------------------|----------------------------|----------|-------------------|------------|------|------|-------------------|---------------|-----------|------------------|
| | Minimum | Maximum | | | | | 1 | 25 | 100 | | Qty. | Pricing | |
| QT100 QTouch 6-Pin Sensor IC | 2.5 | 5.5 | 6.5 - 45µA | -40 - 85 | 6-WSON | 427-1135-1-ND | .74 | .68 | .63 | 427-1135-2-ND | 3,000 | 511.83/M | QT100A-ISG |
| QT110 QProx 8-Pin Sensor IC | 2.5 | 5.5 | 9.5 - 26µA | -40 - 85 | 8-SOIC | 427-1092-1-ND† | 3.29 | 1.91 | 1.78 | 427-1092-2-ND† | 3,300 | 1454.91/M | QT110-ISG |
| QT110 QTouch 8-Pin Sensor IC | 2.5 | 5.5 | 9.5 - 26µA | -40 - 85 | 8-SOIC | 427-1137-1-ND | 2.11 | 1.91 | 1.78 | 427-1137-2-ND | 3,300 | 1449.10/M | QT110A-ISG |
| QT113 QProx 8-Pin Sensor IC | 2.5 | 5.5 | 600µA | -40 - 85 | 8-SOIC | 427-1096-1-ND† | 3.29 | 1.91 | 1.78 | — | — | — | QT113-ISG |
| QT113 QProx 8-Pin Sensor IC | 2.5 | 5.5 | 600µA | -40 - 85 | 8-SOIC | 427-1138-1-ND | 2.11 | 1.91 | 1.78 | 427-1138-2-ND | 3,300 | 1449.10/M | QT113A-ISG |
| QT115 QProx 8-Pin Sensor IC | 2.5 | 5.25 | 20µA | -40 - 85 | 8-SOIC | 427-1122-1-ND | 3.86 | 2.24 | 2.09 | 427-1122-2-ND | 3,300 | 1707.56/M | QT115-ISG |
| QT117 QProx 8-Pin Sensor IC | 2.5 | 5.5 | 600µA | -40 - 85 | 8-SOIC | 427-1097-1-ND | 6.07 | 3.52 | 3.28 | — | — | — | QT117L-ISG |
| QT118 QProx 8-Pin Sensor IC | 2.5 | 5.0 | 8 - 30µA | -40 - 85 | 8-SOIC | 427-1139-1-ND | 2.11 | 1.91 | 1.78 | 427-1139-2-ND | 3,300 | 1449.10/M | QT118HA-ISG |
| QT140 QProx 4-Key Sensor IC | 3.0 | 5.0 | 5.0mA | -40 - 105 | 28-SSOP | 427-1111-1-ND | 5.98 | 5.43 | 4.81 | 427-1111-2-ND | 2,100 | 4123.03/M | QT140-ASG |
| QT160 QProx 6-Key Sensor IC | 3.0 | 5.5 | 5.0mA | -40 - 85 | 28-SSOP | 427-1101-1-ND | 5.32 | 4.83 | 4.28 | — | — | — | QT160-ISG |
| QT161 QTouch 6-Key Sensor IC | 3.0 | 5.5 | 2.5mA | -40 - 105 | 28-SSOP | 427-1112-1-ND | 7.64 | 6.89 | 6.20 | — | — | — | QT161-ASG |
| QT2160A QSlide™ 16-Key QMatrix™ Sensor IC | 0.5 | 6.0 | 476 - 1127µA | -40 - 85 | 28-MLF | 427-1140-1-ND | 1.88 | 1.71 | 1.59 | 427-1140-2-ND | 6,000 | 1293.88/M | AT42QT2160-MMU |
| QT220 QTouch 2-Key Sensor IC | 3.9 | 5.5 | 1.5mA | -40 - 85 | 20-SSOP | 427-1114-1-ND | 1.76 | 1.44 | 1.28 | 427-1114-2-ND | 2,000 | 1107.88/M | QT220-SS-G |
| QT240 QTouch 4-Key Sensor IC | 3.9 | 5.0 | 1.5mA | -40 - 85 | 20-SSOP | 427-1102-1-ND | 2.51 | 2.29 | 2.04 | 427-1102-2-ND | 2,000 | 1742.40/M | QT240-SS-G |
| QT320 QTouch 2-Key Sensor IC | 1.8 | 5.0 | 600µA | -40 - 85 | 8-SOIC | 427-1121-1-ND | 4.05 | 2.37 | 2.21 | 427-1121-2-ND | 2,000 | 1804.11/M | QT320-ISG |
| QT401 QSlideTouch Slider IC | 2.5 | 5.5 | 110 - 180µA | -40 - 85 | 14-SOIC | 427-1103-1-ND | 4.30 | 3.92 | 3.50 | — | — | — | QT401-ISG |
| QT401 QSlide Touch Slider IC | 2.5 | 5.5 | 110 - 180µA | -40 - 85 | 14-TSSOP | 427-1104-1-ND | 4.31 | 3.92 | 3.47 | 427-1104-2-ND | 2,500 | 2973.70/M | QT401-ISSG |
| QT411 QSlide Touch Slider IC | 2.5 | 5.5 | 110 - 180µA | -40 - 85 | 14-TSSOP | 427-1116-1-ND† | 2.72 | 2.47 | 2.19 | — | — | — | QT411-ISSG |
| QT510 QWheel™ Touch Slider IC | 2.5 | 5.5 | 110 - 180µA | -40 - 85 | 14-SOIC | 427-1105-1-ND | 5.70 | 5.20 | 4.62 | — | — | — | QT510-ISG |
| QT510 QWheel Touch Slider IC | 2.5 | 5.5 | 110 - 180µA | -40 - 85 | 14-TSSOP | 427-1106-1-ND | 5.73 | 5.20 | 4.61 | 427-1106-2-ND | 2,500 | 3949.44/M | QT510-ISSG |
| QT511 QWheel Touch Slider IC | 2.5 | 5.5 | 110 - 180µA | -40 - 85 | 14-TSSOP | 427-1117-1-ND† | 4.50 | 4.08 | 3.62 | 427-1117-2-ND† | 2,500 | 2098.14/M | QT511-ISSG |
| QT1080 QTouch 8-Key Sensor IC | 2.8 | 5.0 | 1.3 - 4.5mA | -40 - 85 | 32-QFN | 427-1090-1-ND | 2.61 | 2.37 | 2.10 | 427-1090-2-ND | 2,500 | 1796.13/M | QT1080-ISG |
| QT1081 QTouch 8-Key Sensor IC | 2.8 | 5.0 | 1.6mA | -40 - 85 | 32-QFN | 427-1127-1-ND | 2.90 | 1.74 | 1.64 | 427-1127-2-ND | 2,500 | 1287.93/M | QT1081-ISG |
| QT1100 QTouch 10-Key Sensor IC | 3.3 | 5.0 | 1.4 - 2.9mA | -40 - 85 | 48-SSOP | 427-1093-1-ND | 7.51 | 4.36 | 4.06 | 427-1093-2-ND | 1,000 | 3322.90 | QT1100A-ISG |
| QT1100 QTouch 10-Key Sensor IC | 2.8 | 5.0 | 1.5 - 4.5mA | -40 - 85 | 32-QFN | 427-1094-1-ND | 4.69 | 2.72 | 2.54 | 427-1094-2-ND | 2,500 | 2071.28/M | QT1101-ISG |
| QT1103 QTouch 10-Key Sensor IC | 2.8 | 5.0 | 1.4mA | -40 - 85 | 32-QFN | 427-1129-1-ND | 2.05 | 1.86 | 1.65 | 427-1129-2-ND | 2,500 | 1362.71/M | QT1103-ISG |
| QT1106 QTouch 7-Key Sensor IC | 2.8 | 5.0 | 1.3mA | -40 - 85 | 32-QFN | 427-1115-1-ND | 4.38 | 2.56 | 2.38 | — | — | — | QT1106-ISG |
| QT60160 QMatrix16-Key Touch IC | 1.8 | 5.25 | 1.02mA | -40 - 85 | 32-MLF | 427-1125-1-ND | 3.30 | 2.00 | 1.89 | 427-1125-2-ND | 3,000 | 1506.45/M | QT60160-ISG |
| QT60168 QProx 16-Key QMatrix IC | 3.0 | 5.25 | 10mA | -40 - 105 | 32-TQFP | 427-1107-ND | 5.09 | 4.58 | 4.13 | — | — | — | QT60168-ASG |
| QT60240 QMatrix 24-Key Touch IC | 1.8 | 5.25 | 1.02mA | -40 - 85 | 32-MLF | 427-1126-1-ND | 3.56 | 2.14 | 2.07 | 427-1126-2-ND | 3,000 | 1649.48/M | QT60240-ISG |
| QT60248 QProx 24-Key QMatrix IC | 3.0 | 5.25 | 10mA | -40 - 105 | 32-TQFP | 427-1108-ND | 6.39 | 5.77 | 5.19 | — | — | — | QT60248-ASG |
| QT60326 QProx 32-Key QMatrix IC | 4.75 | 5.25 | 15mA | -40 - 105 | 44-TQFP | 427-1109-ND | 7.99 | 7.20 | 6.80 | — | — | — | QT60326-ASG |
| QT60486 QProx 48-Key QMatrix IC | 4.75 | 5.25 | 15mA | -40 - 105 | 44-TQFP | 427-1110-ND | 9.58 | 8.64 | 8.15 | — | — | — | QT60486-ASG |

† Not recommended for new design

Evaluation Boards



| Description | Digi-Key Part No. | Price Each | Quantum Part No. |
|---|-------------------|------------|------------------|
| E3A Evaluation Board for QT300 | 427-1069-ND | 64.61 | E3A |
| E100S Evaluation Board for QT100 | 427-1128-ND | 12.15 | E100S |
| E102 Evaluation Kit for QT102-ISG QTouch™ 3-Key Sensor IC | 427-1133-ND | 24.74 | E102 KIT |
| E240B Evaluation Board for QT240 | 427-1113-ND | 20.18 | E240B |

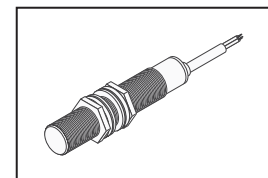
| Description | Digi-Key Part No. | Price Each | Quantum Part No. |
|---|-------------------|------------|------------------|
| E1081 Evaluation Board for QT1081-ISG 8-Key Sensor IC | 427-1130-ND | 65.78 | E1081 KIT |
| E1103 Evaluation Board for QT1103-ISG | 427-1134-ND | 28.31 | E1103 |
| E1106 Evaluation Board for QT1106 IC | 427-1124-ND | 147.23 | E1106 KIT |
| E6248 Evaluation Board for QT60248 24-Key QMatrix™ IC | 427-1087-ND | 191.87 | E6248 |
| E6486 Evaluation Board for QT60486 48-Key QMatrix IC | 427-1088-ND | 137.94 | E6486 |
| E6240 Evaluation Board for QT60160/QT60240 IC | 427-1123-ND | 98.53 | E6240 KIT |
| EVK2160A Evaluation Board for QT2160 | 427-1141-ND | 79.85 | EVK2160A |

Honeywell

Sensing and Control

Ultrasonic Sensors

The 943 Series industrial sensors add to our product range of sensors. They have improved scanning ranges, remote teach in of the switching or analog outputs, as well as new advanced features, such as window and hysteresis modes.



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| Description | Switching Frequency | Output | Digi-Key Part No. | Price Each | | | Honeywell Part No. |
|--|---------------------|--------------|-------------------|------------|--------|--------|---------------------|
| | | | | 1 | 25 | 50 | |
| 943 Series, Software Programmable, 200 - 2000mm scan distance, M18 Plastic Housing | 1.2Hz | NPN, 2 NO/NC | 480-3007-ND | 189.08 | 156.59 | 150.68 | 943-F4Y-2D-002-180E |
| | 250ms | 0 - 10V | 480-3008-ND | 189.08 | 156.59 | 150.68 | 943-F4Y-2D-1C0-180E |

Digi-Reel® Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.

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