

Philips Semiconductors is working intensively on bringing new products to the market to meet the requirements of existing and new developing application areas. These are the new products and technologies that appear for the first time in this data handbook.

1A Logic level triacs in SOT54 (TO92)

A new range of logic level four quadrant triacs has been introduced which uses the compact and low cost SOT54 leaded package. This package is Philips' equivalent to TO92. The triacs have been designed with very sensitive gates for operation in all four quadrants where gate drive current availability is limited.

Part numbers are BT131-500, BT131-600 and BT132-500D, BT132-600D. Their I_{GT} levels are 3,3,3,7mA and 5,5,5,10mA respectively in quadrants (i), (ii), (iii) and (iv). They are intended for driving small loads such as fan motors, timers and valves. They will find uses in numerous domestic appliances and large white goods, for example washing machines, dishwashers and refrigerators, where many such devices might be used per appliance.

Surface mount packages

Our surface mount range has been increased dramatically by the addition of two new purpose-designed surface mount packages: SOT428 and SOT404. These are Philips' equivalents to DPAK and D²PAK respectively. Our full range of thyristors and triacs is now available in these higher power packages, where higher currents combined with surface mount technology become a reality. Device current ratings range from 4A to 25A. Actual current handling is limited only by the degree of heatsinking provided by the substrate.

The SOT428 package is available with two pinout options: standard and reverse. This assures compatibility with all existing PCB layouts.

Additional voltage grades for BT169W

The SOT223 version of the small BT169 thyristor has previously only been available in the 400V grade

(BT169DW). It is now available in all voltage grades from 200V to 600V. The full lineup is BT169BW (200V), BT169DW (400V), BT169EW (500V), BT169GW (600V).

New thyristor with high V_{GR}

Some specialist applications require a thyristor with a high gate-cathode reverse breakdown voltage (V_{GR}). This is available in the BT148SZ-600R and BT148MZ-600R. These are standard and reverse pinning versions in SOT428. These 4A thyristors possess a V_{GR} of 14V to 20V and an I_{GT} of 200 μ A.

Three quadrant triacs

The advantages of Hi-Com triacs will be well known to many. However, although their static and dynamic dV/dt and their di/dt performances are exemplary, their insensitive gates ($I_{GT} = 50mA$) can be a problem in applications where gate drive is limited. There are occasions when a compromise between commutation performance and gate sensitivity are required. This is now possible with the introduction of a full range of 3-quadrant triacs. Gate sensitivities now range upwards from 5mA. All of our new surface mount packages, leaded packages and pinning options are available.

Thyristors in SOT186A

Our range of thyristors is now released in the SOT186A isolated envelope which offers 2,500V RMS isolation from any surrounding metalwork. The part numbers are BT258X-500R, BT258X-600R and BT258X-800R ($I_{T(RMS)} = 8A$, $I_{GT} = 200\mu A$); BT300X-500R, BT300X-600R, BT300X-800R ($I_{T(RMS)} = 8A$, $I_{GT} = 15mA$); BT152X-400R, BT152X-600R, BT152X-800R ($I_{T(RMS)} = 20A$, $I_{GT} = 32mA$).

Unencapsulated, passivated, silicon power chips

All the devices in this data handbook are available as unencapsulated dice complete with passivation and metallised contact pads, but without bond wires or any other connections or encapsulation. Contact your Regional or National Sales Office for details.

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