LED indicators

The HLMP-5000 series of indicators are right-angle LED lamps. They are designed to be used as back-panel diagnostic indicators and PCB logic status indicators. Incorporating the existing range of T-1 3/4 LEDs, the lamps provide the design engineer with a color choice of high efficiency red, std red, yellow, and high performance green. All

are available with or without a currentlimiting resistor. The black-plastic design allows flush seating on the PCB. The LEDs can be end stacked on 6.35-mm centers. In 1000-piece quantities, prices range from \$0.29 to \$0.50. Hewlett-Packard Co, 1820 Embarcadero Rd, Palo Alto, CA 94303. Circle 273



33 contact configurations and terminal

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- 9 mounting styles
- 4 contact centers
- 6-70 contact positions

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Graphics monitors



The CD series consists of high resolution color display monitors for computer graphics and data. The monitors are raster scan, RGB units with inline gun CRTs. They have a displayable pixel range from 720 x 256 to 1024 x 1024. Obtainable in both 13- and 19-V models, applications for the devices include simulation, CAD/CAM, and process control. The CDA models feature wide frequency range analog video amps, while the CDB models feature digital video amps. Other specs include a 0.31-mm dot-trio pitch and horizontal-deflection frequencies from 28 to 36 kHz. Ikegami Electronics (USA), Inc, 37 Brook Ave, Maywood, NJ 07607. Circle 274

Single-key switches

Miniature TACT switches are available in 2 basic types: series KH (mechanical contacts) and series KE (conductive rubber contacts). Both types offer std singlepole, double-pole, transfer circuit, double-action and built-in LED. Specs include operating life ratings of 3M cycles, max bounce of 5 or 10 ms, and contact rating of 50 mA at 12 Vdc and 1 mA at 36 Vdc. The switches have an operating force of 75 g and a stroke travel distance of 0.25 to 1.0 mm. Outline sizes are 6 x 6 mm, 8 x 8 mm, 10 x 10 mm, and 12 x 12 mm. Alps Electric (USA), Inc, 100 N Centre Ave, Rockville Centre, NY 11570. Circle 275

4-LED board array

LED arrays (series PCL1254) are available in any combination of 1 to 4 colors: red, amber, yellow, and green. The arrays, with LEDs spaced on 0.17" centers, are constructed of black, glass-filled nylon for temp stability. They include 3 standoffs for clearance from the PCB. With diffused lenses and 20 mA of drive current, typ light outputs for red LEDs are high efficiency 18 mcd, super bright 8 mcd, and medium bright 5 mcd. The PCL1254 series prices range from \$1.28 to \$2.12. Data Display Products, 303 N Oak St, Inglewood, CA 90302.

Circle 276