



preci-dip

# PGA / BGA / PLCC SOCKETS

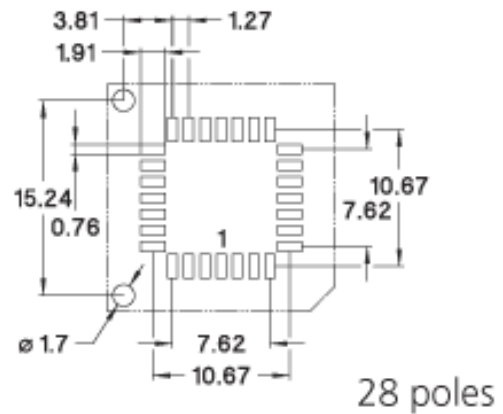
**SERIES**  
**540**

**540-88-028-17-400**

PLCC

Socket for Plastic Leaded Chip carrier (PLCC), Surface mount

PLCC sockets with SMT terminations come with square sizes for IC-packages according to JEDEC MO-047, rectangular size (32) according to JEDEC MO-052 = low profile.



## TECHNICAL SPECS.:

|                                     |  |
|-------------------------------------|--|
| <b>Insulator</b>                    | Glass filled thermoplastic PPS-GF30-FR |
| <b>Flammability</b>                 | UL 94V-O                               |
| <b>Contact</b>                      | Phosphor bronze                        |
| <b>Contact pressure</b>             | Min. 1.5 N per contact                 |
| <b>Mechanical life</b>              | Min. 50 cycles                         |
| <b>Rated current</b>                | 1 A                                    |
| <b>Contact resistance</b>           | Max. 20 m                              |
| <b>Dielectric strength</b>          | Min. 600 V RMS                         |
| <b>Insulation resistance</b>        | Min. 5000 M                            |
| <b>Capacitance</b>                  | Max. 2 pF                              |
| <b>Coplanarity SMD terminations</b> | Max. 0.1 mm                            |

## ORDERING INFORMATION:

|                 |             |         |
|-----------------|-------------|---------|
| PP Plating code | Terminaison | Contact |
| 88              | Tin         | Tin     |

Options: Tape & Reel packaging: add suffix -TR to part number. Parts with positioning pegs: add suffix -2 to part number (only available for No. of poles 32 and 68).

## ADVANCED INFORMATION:

| <b>Order Codes</b> | <b>No of poles</b> | <b>A1/A2</b> | <b>B1/B2</b> | <b>C1/C2</b> | <b>D</b> | <b>E</b> |
|--------------------|--------------------|--------------|--------------|--------------|----------|----------|
| 540-88-020-17-400  | 20                 | 14.86        | 7.02         | 9.20         | 4.60     | 16.00    |
| 540-88-028-17-400  | 28                 | 17.34        | 9.50         | 11.76        | 4.60     | 19.70    |
| 540-88-032-17-400  | 32                 | 16.95        | 9.40         | 11.60        | 3.80     | 22.00    |
| 540-88-044-17-400  | 44                 | 22.42        | 14.50        | 16.70        | 4.60     | 27.00    |
| 540-88-052-17-400  | 52                 | 25.40        | 17.24        | 19.46        | 4.60     | 30.80    |
| 540-88-068-17-400  | 68                 | 30.54        | 22.26        | 24.40        | 4.60     | 37.65    |
| 540-88-084-17-400  | 84                 | 35.56        | 27.34        | 29.58        | 4.60     | 45.10    |

# TECHNICAL ASSISTANCE

## GENERAL SPECIFICATIONS:

The values listed below are general specs applying for PRECI-DIP PGA, BGA and PLCC sockets. Please see individual catalog page for additional and product specific technical data.

|                             |                                 |
|-----------------------------|---------------------------------|
| Operating temperature range | -55 ... +125 °C                 |
| Climatic category (IEC)     | 55/125/21                       |
| Operating humidity range    | annual mean 75 %                |
| Max working voltage         | 100 VRMS/150 VDC (2.54 mm grid) |

PRECI-DIP sockets are recognized by Underwriters Laboratories Inc. and listed under "Connectors for Use in Data, Signal, Control and Power Applications", File Nr. E174442

## MECHANICAL CHARACTERISTICS:

|                                   |   |
|-----------------------------------|---|
| Clip retention                    | Min. 40 N (no displacement under axial force applied) |
| Contact (sleeve / clip) retention | Min. 3.3 N acc. to MIL-DTL-83734, pt 4.6.4.2          |

## ELECTRICAL CHARACTERISTICS:

|   |                            |
|---|----------------------------|
| Insulation resistance between any two adjacent contacts | Min. 10'000 M at 500 V AC  |
| Capacitance between any two adjacent contacts           | Max. 1 pF (PLCC max. 2 pF) |
| Self inductance per contact                             | Max. 2 nH                  |

## ENVIRONMENTAL CHARACTERISTICS:

The sockets withstand the following environmental tests without mechanical and electrical defects:

- Dry heat steady state IEC 60512-11-9.11i / 60068-2-2.Bb: 125 °C, 16h
- Damp heat cyclic IEC 60512-11-12.11m / 60068-2-30.Db: 25/55 °C, 90 – 100 %rH, 1 cycle of 24 h
- Cold steady state IEC 60512-11-10.11j / 60068-2-1.A: -55 °C, 2 h
- Thermal shock IEC 60512-11-4.11d / 60068-2-14.Na: -55/125 °C, 5 cycles 30 min
- Sinusoidal vibrations IEC 60512-6-4.6d / 60068-2-6.Fc: 10 to 500 Hz, 10 g, 1 octave/min, 10 cycles for each axis
- Shock IEC 60512-6-3.6c / 60068-2-27.Ea: 50 g, 11 ms, 3 shocks in three axis

During the above two tests no contact interruption >50 ns does appear.

- Solderability J-STD-002A, Test A, 245°C, 5 s solder alloy SnAg3.8Cu0.7
- Resistance to soldering heat J-STD-0020C, 260°C, 20 s
- Moisture sensitivity J-STD-020C level 1
- Resistance to corrosion :
  - 1) Salt spray test IEC 60068-2-11.Ka: 48 h
  - 2) Sulfur dioxide (SO<sub>2</sub>) test IEC 60068-2-42 Kc: 96 h at 25 ppm SO<sub>2</sub>, 25 °C, 75 %rH
  - 3) Hydrogen sulfide (H<sub>2</sub>S) test IEC 60068-2-43 Kd: 96 h at 12 ppm H<sub>2</sub>S, 25 °C, 75 %rH

## SOLDERLESS COMPLIANT PRESS-FIT CHARACTERISTICS:

### PRESS-FIT CHARACTERISTICS MEASURED ACC. TO IEC 60352-5

- Press-in force: 90 N max. (at min. hole dia.) / 65 N typ.
- Push-out force: 30 N min. (at max. hole dia.) / 50 N typ.
- Push-out 3rd cycle: 20 N min. (at max. hole dia.)

### PCB HOLE DIMENSIONS

- 2.54 mm grid: Finished hole Ø: 1 + 0.09/-0.06 mm | Drilled hole Ø: 1.15 ± 0.02 mm

- Interstitial grid: Finished hole  $\varnothing$ :  $0.7 + 0.09/-0.06$  mm | Drilled hole  $\varnothing$ :  $0.8 \pm 0.02$  mm

#### **PCB HOLE PLATING**

- PCB surface finish: Hole plating
- Tin: 5-15  $\mu\text{m}$  tin over min. 25  $\mu\text{m}$  copper
- Copper: min. 25  $\mu\text{m}$  copper
- Gold over nickel: 0.05-0.2  $\mu\text{m}$  gold over 2.5-5  $\mu\text{m}$  nickel over min. 25  $\mu\text{m}$  copper