TECHNICAL SPECIFICATIONS FOR BGA ADAPTER SYSTEM

Materials:

- Socket contact: Three finger, stamped beryllium copper alloy 172, HT (Mill-Max type #04 or #05); plated 10 µ" gold over 50 µ" nickel.
- Socket shell and adapter pins: Precision machined brass alloy; plated 10 µ" gold over 100 µ" nickel.
- Insulator material: .047" or .062" thick glass-epoxy type FR-4, rated UL94V-0. TCE = 10-13ppm/°C, $\varepsilon_r = 5.0$

Mechanical:

- Insertion and withdrawal forces (using .010" dia. polished steel gage pin): Insertion: .36N typ. per pin
  Withdrawal: .20N typ. per pin
- Insertion force of an actual 225 pin device: 90N
- Durability: 100 cycles
- Coplanarity: less than or equal to .005"

Electrical:

- Current rating (per pin): 1A
- Working voltage: 100 VRMS/150 VDC max.
- Low level contact resistance: 10 mΩ max.
- Insulation resistance @ 500 VRMS: Initial value: 1,000,000 MΩ min.
  After climatic tests: 10,000 MΩ min.
- Dielectric withstanding voltage: 500 VRMS
- Capacitance between adjacent contacts: 1 pF max.
- Self inductance per pin: 2 nH max.
- Electrical length: 31 pS

Environmental:

- Operating temperature range: -55 °C to +125 °C
  BGA adapter/socket systems have withstood the following environmental tests without mechanical or electrical failure:
- Damp heat, steady state: 40 °C, 93% rH, 21 days
- Damp heat, cyclic: 25/55 °C, 6 days
- Dry heat: 100°C, 1,000 hours
- Thermal shock: -55 to +125 °C, 5 cycles
- Random vibration: 50 to 500 Hz, 8g, 20 min. per axis
- Shock: 50 g per axis
- Solderability: 235 °C, 2 seconds
- Resistance to soldering heat: 270 °C, 10 seconds
- Resistance to corrosion:
- Salt spray: 48 hours
- Sulphur dioxide: 96 hours @ 25 ppm SO_2, 25 °C, 75% rH
- Hydrogen sulphide: 96 hours @ 12 ppm H_2S, 25°C, 75% rH

TECHNICAL SPECIFICATIONS FOR 540 SERIES PLCC SOCKETS

Materials:

- Insulator: Glass filled thermoplastic, self-extinguishing rated, UL94V-0, color black.
- Contact: Plated copper alloy overall nickel underplating, tin finish.

Mechanical Data:

- Contact pressure (per contact): 150 grams min.
- Mechanical data (cycles): 50 cycles min.

Electrical Data:

- Rated current: SMD types: 1A
  Through-hole types: 2A
- Contact resistance: 20 mΩ max.
- Insulation resistance: 5,000 MΩ min.
- Dielectric strength: 600 VRMS
- Capacitance: 2pF max.

Environmental Data:

- Operating temperature: -55/+125 °C
- Vibration (No electrical discontinuity greater than 1µs): 10-2000 HZ, 15 g
- Climactic category (EIA): 365-17A

TECHNICAL SPECIFICATIONS FOR 940 SERIES PLCC SOCKETS

Materials:

- Insulator: PPS Polyphenylene Sulfide, Rated UL94V-0.
- Contact: Phosphor Bronze with a tin finish and nickel underplate.

Mechanical Data:

- Contact pressure (per contact): 150 grams min.
- Mechanical data (cycles): 25 cycles min.

Electrical Data:

- Rated current: SMD types: 1A
  Through-hole types: 1A
- Contact resistance: 30 mΩ max.
- Insulation resistance: 10,000 MΩ min.
- Dielectric strength: 600 VAC
- Capacitance: 1pF max.

Environmental Data:

- Operating temperature: -55/+105 °C
- Vibration (No electrical discontinuity greater than 1µs): 10-2000 HZ, 15 g
- Climactic category (EIA): 365-17A

Mill-Max Mfg. Corp. • 190 Pine Hollow Road, P.O. Box 300, Oyster Bay, NY 11771 • 516-922-6000 • Fax: 516-922-9253 • www.mill-max.com