



VERY HIGH PERFORMANCE TERMINATION NETWORK

Features

- ◆ Specially applicable for Pentium or P6-class computer/servers
- ◆ High speed termination network
- ◆ Center ground pin placement reduces ground bounce
- ◆ 22 terminating lines/QSOP package
- ◆ Saves board space and reduces assembly cost

Applications

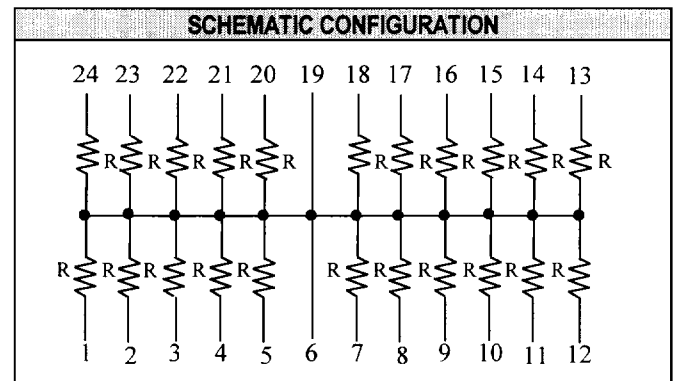
- ◆ Parallel termination
- ◆ Pull up/pull down
- ◆ GTL, ECL logic

Application Note

High speed microprocessors like Intel's Pentium/P6®, Apple PowerPC® and other RISC based systems demand unique, high speed bus termination schemes. System designers have to deal with devices with fast edge rate signals. The high packing density of multilayer boards result in PC board traces with low characteristic impedances and long transmission delays. This combination of fast edge rates and low transmission line impedance requires proper termination to maximize the benefits of high speed logic. In the absence of some form of termination, overshoots and undershoots on the signal can impose bandwidth limitation on the system, or subsystem due to settling time requirements or, even worse, can cause false triggering and data loss.

Why thin film resistor networks? A terminating resistor is used to reduce or eliminate unwanted reflections on a transmission line. It can perform this function only when its resistance value matches the characteristic impedance of the transmission line. The resistors used for terminating the transmission lines need to be noiseless, stable and functional at high frequencies. Thick film resistors used for terminating the transmission lines are not stable and may have functional problems at high frequencies.

| STANDARD VALUES | |
|-------------------------------|----------------|
| Absolute Tolerance (R) | ±5% |
| TCR | ±250ppm |
| TTCR | ±5ppm |
| Operating Temperature Range | -55°C to 125°C |
| Power Rating/Resistor | 100mW |
| Minimum Insulation Resistance | 10,000 Meg Ω |
| R (Ω) | Code |
| 50 | 500 |
| 56 | 560 |



| ORDERING INFORMATION | | | | | |
|----------------------|------------------|-------|----------------------|--------------|--------------|
| R Code | Package - Narrow | | Ordering Part Number | | Part Marking |
| | Pins | Style | Tubes | Tape & Reel | |
| 500 | 24 | QSOP | IPEC500RGQ/T | IPEC500RGQ/R | IPEC500RGQ |
| 560 | 24 | QSOP | IPEC560RGQ/T | IPEC560RGQ/R | IPEC560RGQ |