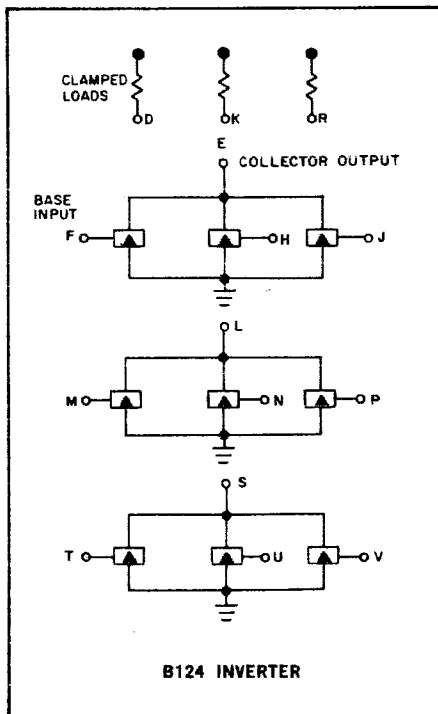
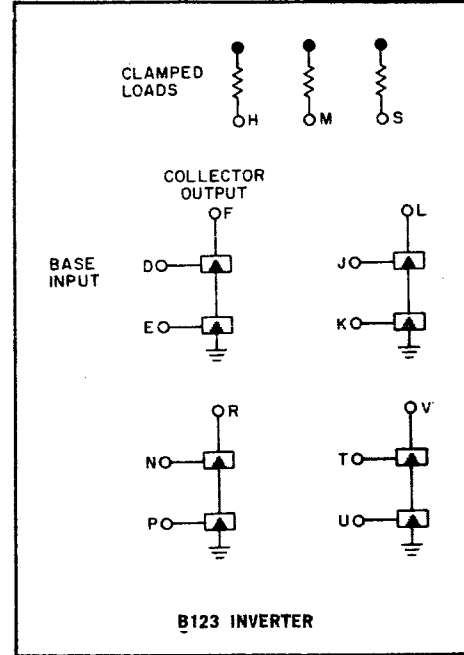
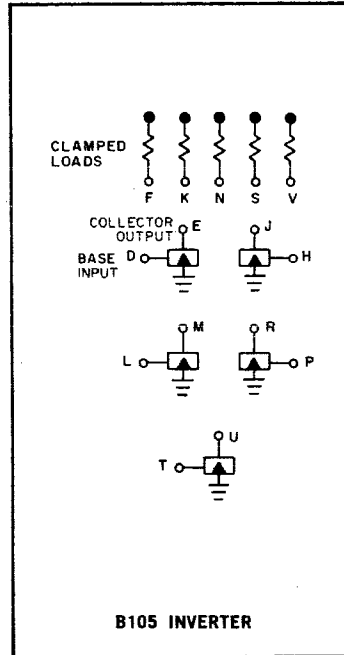
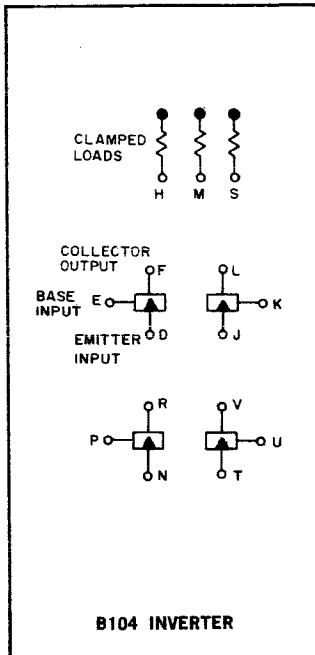


INVERTERS

TYPES B104, B105, B123, B124

B

SERIES



The B104 contains three standard 10-ma clamped loads and four transistor inverters, each with its base, emitter, and collector brought to connector pins.

The B105 has five standard 10-ma clamped loads and five transistor inverters, with each emitter grounded, and with each base and collector brought out.

The B123 has three standard 10-ma clamped loads and eight transistor inverters. The inverters are tied together in series groups of two.

The B124 has three standard 10-ma clamped loads and nine transistor inverters, each with emitter grounded, and with each base and collector brought to terminals. The collectors are tied together in groups of three.

Each inverter is analogous to a switch. If the inverter base is at -3 v and the inverter emitter is at ground, the transistor is saturated and a conducting path is established between the emitter and collector of the inverter. If the base is at ground, or if

both base and emitter are at -3 v, the emitter-collector path is open circuited (i.e., will not allow current to flow).

Delay through the inverter is approximately 12 nsec for lightly loaded inverters driven by a pulse.

INPUT: Inverter-Base — Whenever the base input is at -3 v and the emitter input is at ground, the static input load is 1 ma. In any other case (i.e., emitter at -3 v or both base and emitter at ground) there is no static load. The base can reject 0.5 v of noise. **Pulse** — Pulse inputs are standard 40-nsec pulses at any frequency up to 10 mc. (Pulses of longer duration may also be used.) **Level** — Level inputs are standard levels of ground and -3 v. **Emitter** — An inverter whose base input is at -3 v will saturate if its emitter is brought to ground by any conducting path. The circuit that establishes this path (another inverter, flip-flop, direct connection to ground, etc.) will be loaded with whatever external load may be present at the inverter collector, plus the internal load of 1 ma. If the base is at ground or both base and emitter are at -3 v, there will be no static load. **Clamped**

Load — Each clamped load draws 10 ma from any circuit that brings it to ground.

OUTPUT: Inverter — The maximum output driving capability at ground is 16 ma. This current is available if the emitter is connected directly to ground (as is always the case with the B105 and B124). If the emitter is not directly grounded, the maximum output load is 1 ma less than the maximum input available to the emitter. A 10-ma clamped load attached to the output (collector) will provide a maximum output driving capability at -3 v of 7 ma. **Clamped Load** — Each clamped load can supply up to 7 ma at -3 v.

Note: The saturation voltage drop of the inverter places a limit on the number of inverters which may be connected in series. For more information see "Inverter Usage."

POWER: B104: $+10$ v(A)/0 ma; -15 v(B)/38 ma.

B105: $+10$ v(A)/0 ma; -15 v(B)/58 ma.

B123: $+10$ v(A)/0 ma; -15 v(B)/38 ma.

B124: $+10$ v(A)/0 ma; -15 v(B)/38 ma.

B104 — \$17.00

B105 — \$21.00

B123 — \$31.00

B124 — \$31.00
