



ENGINEERING BULLETIN

ELECTRONIC COMPONENTS

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N. U. - 6091

18 CHANNEL RADIAL BEAM TUBE MULTIPLE GRID TYPE

The type N.U. - 6091 is a multiple grid electrostatically focused and deflected radial beam tube intended for high speed electronic switching or commutation. It is capable of handling 18 different channels for transmission over a single carrier in multiplexing or telemetering applications. This is the input tube of such a system. The N.U.-6091 has eighteen grid leads which are brought out separately, a common lead for the six gap anodes and another lead for the remaining twelve window anodes. It has a coated unipotential cathode. The gap anodes are physically positioned between adjacent screen segments.

ELECTRICAL RATINGS

Heater Voltage (ac or dc)..... 6.3 volts $\pm 10\%$
Maximum Plate Voltage..... 300 volts dc
Maximum Screen Voltages (sc) 300 volts rms ac 6 ϕ

TYPICAL OPERATING CONDITIONS

Heater Voltage..... 6.3 volts
Heater Current..... 0.670 amperes
Plate Voltage..... 300 volts $\bullet$
Screen Voltage (*Applied through dc focusing bias*) .. 150 volts rms ac 6 ϕ
Focusing Bias (*Positive end connected to cathode*)... 60 volts dc
Grid Voltage E_{g1} (*Gap grids*) 0 volts dc
Grid Voltage E_{g2} (*Window grids*)..... -10 volts dc Δ
Single Channel Peak Current..... 60 μ a dc
Single Channel Transconductance..... 2.0 μ mhos max.
Plate Load Resistance..... 500K ohms
Mica Charge Ring..... Normally connected to cathode

$\bullet$ All voltages except E_{g1} and E_{g2} are measured with respect to the six phase power supply neutral. E_{g1} and E_{g2} are measured with respect to the cathode.

Δ The bias on the window grids may be adjusted to equalize the uniformity of output current between the gap grid and window grid channels. This will limit the maximum deviation in output uniformity to $\pm 15\%$.

MECHANICAL RATINGS

STYLE..... Special
BULB..... T-18
BASE..... Special 30-pin
OVERALL HEIGHT..... 4.0"
MAX. DIA..... 2.5" (BASED)
MOUNTING POSITION.. Any

BASE PIN CONNECTIONS

PIN 1: G-1
PIN 2: G-2
PIN 3: G-3
PIN 4: G-4
PIN 5: G-5
PIN 6: G-6
PIN 7: G-7
PIN 8: G-8
PIN 9: G-9
PIN 10: G-10
PIN 11: G-11
PIN 12: G-12
PIN 13: G-13
PIN 14: G-14
PIN 15: G-15
PIN 16: G-16
PIN 17: G-17
PIN 18: G-18
PIN 19: H
PIN 20: SC-1
PIN 21: P (GAP ANODES)
PIN 22: SC-2
PIN 23: K
PIN 24: SC-3
PIN 25: Mica Charge Ring
PIN 26: SC-4
PIN 27: P (WINDOW ANODES)
PIN 28: SC-5
PIN 29: H
PIN 30: SC-6

