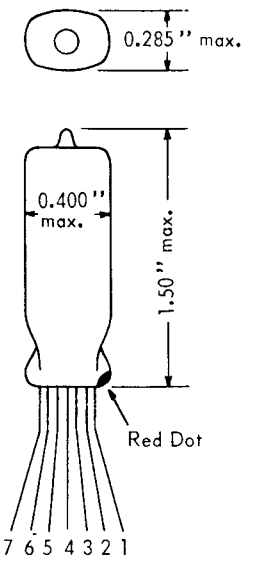
Excellence in Electronics

TYPE 2G21

The 2G21 is a filament type triode heptode of subminiature construction designed for use as a combined oscillator and mixer in radio receivers or other portable equipment requiring economy of space, weight and battery drain. The flexible terminal leads may be soldered or welded directly to the terminals of circuit components without the use of sockets. Standard inline subminiature sockets may be used by cutting the leads to a suitable length.



MECHANICAL DATA

ENVELOPE: T-2X3 Glass

BASE: None (0.016" tinned flexible leads. Length: 1.50" min. Spacing: 0.04" center-to-center)

TERMINAL CONNECTIONS: *(Red Dot is adjacent to Lead 1)*

Lead 1 Plate, triode
Lead 2 Plate, heptode
Lead 3 Grid #1, triode
Lead 4 Filament, negative
Lead 5 Grid #3, heptode
Lead 6 Grids #2 and #4, heptode
Lead 7 Filament, positive; Grid #5

MOUNTING POSITION: Any

ELECTRICAL DATA

DIRECT INTERELECTRODE CAPACITANCES: *(μμfds.)* *

Signal Grid to Mixer Plate: (g3h to ph)	0.065
Signal Grid to Oscillator Plate: (g3h to pt)	0.022
Signal Grid to Oscillator Grid: (g3h to gt)	0.14
Oscillator Grid to Oscillator Plate: (gt to pt)	1.3
Signal Input: g3h to (f&g5h+gt+g2h&g4h+pt+ph+shd)	3.5
Oscillator Input: gt to (f&g5h+g3h+g2h&g4h+ph+shd)	3.8
Oscillator Output: gt to (f&g5h+g3h+g3h+g2h&g4h+ph+shd)	3.7
Mixer Output: ph to (f&g5h+gt+g2h&g4h+pt+g3h+shd)	3.6

DESIGN CENTER MAXIMUM RATINGS:

Filament Voltage (dc) ●	1.25 volts
Plate Voltage, heptode	45 volts
Grids #2 and #4 Voltage	45 volts
Plate Voltage, triode	45 volts
Grid #3 Voltage	Never Positive
Total Cathode Current	2.0 ma.

CHARACTERISTICS AND TYPICAL OPERATION - FREQUENCY CONVERTER:

Filament Voltage (dc) ●	1.25 volts
Filament Current	50 ma.
Plate Voltage, heptode	22.5 volts
Grids #2 and #4 Voltage	22.5 volts
Plate Voltage, triode	22.5 volts
Grid #3 Voltage ▲	0 volts
Oscillator Grid (Grid #1) Resistor	50000 ohms
Plate Current, heptode	200 μa.
Grids #2 and #4 Current	300 μa.
Conversion Plate Resistance (approx.)	0.5 megohms
Plate Current, triode	1.0 ma.
Oscillator Grid (Grid #1) Current	30 μa.
Conversion Transconductance	60 μmhos
Grid #3 Voltage (approx.) for Conversion Transcond.= 2 μmhos	-3.5 volts

* *With shield connected to Lead 4.*

▲ *Grid #3 resistor = 5 megohms.*

● *Do not use in series filament circuits. Filament voltage must never exceed 1.55 volts.*

Tentative Data

Printed in U.S.A.

RAYTHEON MANUFACTURING COMPANY

RECEIVING AND CATHODE RAY TUBE OPERATIONS

March 1, 1956 NEWTON 58, MASS.