RAYTHEON

TECHNICAL INFORMATION SERVICE

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Technical Information

CK6540
RELIABLE
SUBMINIATURE
SHARP CUT-OFF
PENTODE

The CK6540 is a heater cathode type sharp cut-off pentode of subminiature construction capable of operation in the VHF region. This tube is characterized by long life and stable performance. It is designed for service where severe conditions of high temperature and mechanical shock or vibration are encountered. A separate terminal connection is provided for Grid #3, which under self-bias conditions can be connected directly to ground, permitting the cathode by-pass capacitor to be omitted for lower grid loading. 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.

The Raytheon CK6540 is manufactured and controlled to meet the applicable MIL-E-1 specification for reliability.

RATINGS (Design Maximum):

Bulb Temperature	220°C
Altitude	60,000 ft.

ENVIRONMENTAL Tests (Maximum Values)

Impact Acceleration (Shock, 3/4 msec. duration)	450 G
Vibration Acceleration for Extended Periods (Fatigue) (F = 25 min., 60 max, 96 hours.)	2.5G
Vibration Output at F=40 Cps, G=15 (Ep)	50 mVac
On-Off Heater Cycles	2000 min.

ELECTRICAL DATA

HEATER CHARACTERISTICS:

Heater Voltage	6.3 V
Heater Current	200 mA

DIRECT INTERELECTRODE CAPACITANCE: (With 0.405 in. dia. shield)

Grid # 1 to Plate (max.)	0.03 pf
Input	4.8 pf
Output	3.5 pf

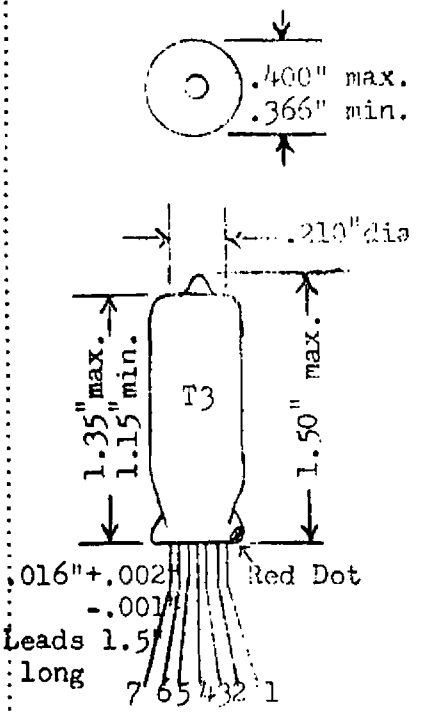
RATINGS: (Design Maximum)

Heater Voltage	6.3(±10%)V
Heater Cathode Voltage	
Heater Negative with Respect to Cathode	200 v
Heater Positive with respect to cathode	200 v
Plate Voltage	165 Vdc
Plate Power Dissipation	1.1 W
Screen Grid Voltage	155 Vdc
Screen Grid Power Dissipation	0.40 W
Suppressor Grid Voltage	0 Vdc
Control Grid Resistor	1.2 Meg
Cathode Current	16.5 mAdc

MECHANICAL DATA

Envelope ....Glass T-3
Outline .....(8-7) 3-6
Base.....Pinch Press7
leads in line spacing
0.048" center to center
Cathode .....Coated
unipotential
Mounting Position..Any

PHYSICAL DIMENSIONS



TERMINAL CONNECTIONS

Lead 1	Plate
Lead 2	Grid # 2
Lead 3	Heater
Lead 4	Heater
Lead 5	Grid #3
Lead 6	Cathode
Lead 7	Grid # 1

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TYPICAL OPERATION

Plate Voltage	120 Vdc
Plate Current	7.5 mAdc
Screen Grid Voltage	120 Vdc
Screen Grid Current	2.6 mAdc
Suppressor Grid Voltage	0 Vdc
Control grid voltage	0 Vdc
Control grid cut-off voltage @ Ib=50 uAdc max.	-9.0 Vdc
Cathode Resistor	200 ohms
Transconductance	5000 umhos
Plate Resistance (rp) (Min.)	0.15 Meg
Peak positive plate voltage overshoot (max.)	2.0 v