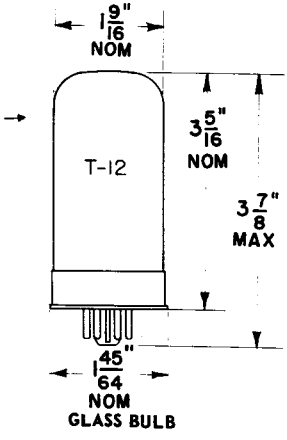
**TUNG-SOL**

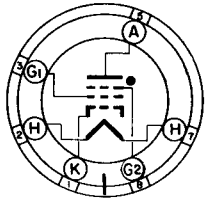
## THYRATRON




HEATER

6.3±10% VOLTS 2.6 AMP.

ANY MOUNTING POSITION




**BOTTOM VIEW**

LARGE WAFER
WITH EXTERNAL BARRIER
6 PIN OCTAL

THE 6012 IS A NEGATIVE CONTROL, XENON FILLED, FOUR ELECTRODE THYRATRON DESIGNED FOR USE IN RELAY AND GRID CONTROLLED RECTIFIER APPLICATIONS. ONE TYPE 6012 WILL CARRY 0.5 AMPERE IN MOTOR-CONTROL AND IN INVERTER SERVICE. USE OF THE SHIELD-GRID TYPE OF CONSTRUCTION PERMITS A VERY LOW PRE-CONDUCTION CONTROL GRID CURRENT TO FLOW. THIS PERMITS THE USE OF A HIGH RESISTANCE IN THE CONTROL GRID CIRCUIT. THE GRID CONTROL CHARACTERISTIC IS INDEPENDENT OF AMBIENT TEMPERATURE OVER THE RANGE FROM -75 TO +90 DEGREES CENTIGRADE DUE TO THE TUBE'S INERT GAS FILLING. THE 6012 MOUNTS IN A STANDARD OCTAL SOCKET.

## ELECTRICAL DATA

| | | |
|---|---|---|
| HEATER VOLTAGE | 6.3±10% | VOLTS |
| HEATER CURRENT (Ef=6.3 VOLTS) | 2.6 | AMP. |
| MINIMUM CATHODE HEATING TIME | 30 | SECONDS |
| INTERELECTRODE CAPACITANCES -APPROX. | | |
| ANODE TO CONTROL GRID | 0.65 | μμf |
| CONTROL GRID TO CATHODE (AND SHIELD GRID) | 6.5 | μμf |
| ANODE TO CATHODE (AND SHIELD GRID) | 4.5 | μμf |
| ANODE VOLTAGE DROP - APPROX. | 12 | VOLTS |
| MAXIMUM CRITICAL GRID CURRENT (AT Epp=460 VOLTS RMS AND Ib=0.5 AMP.) | 3 | μAMPS. |
| IONIZATION TIME - APPROX. | | |
| ANODE VOLTS = 100, ANODE CURRENT = 5 AMPS., SHIELD GRID VOLTS=0, CONTROL GRID =+50 VOLT SQUARE WAVE PULSE | 0.5 | μSEC. |
| DEIONIZATION TIME - APPROX. - NOTE 1 | | |
| ANODE VOLTS = 125, ANODE CURRENT = 0.5 AMP., SHIELD GRID RESISTOR = 1000 OHMS, CONTROL GRID VOLTS =-13, CONTROL GRID RESISTOR = 1000 OHMS | 175 | μSEC. |
| ANODE VOLTS = 125, ANODE CURRENT = 0.5 AMP., SHIELD GRID RESISTOR = 1000 OHMS, CONTROL GRID VOLTS = -100, CONTROL GRID RESISTOR = 1000 OHMS | 100 | μSEC. |

(NOTE 1. CONNECT SHIELD GRID TO CATHODE THROUGH SERIES RESISTOR.)

TUNG-SOL

CONTINUED FROM PRECEDING PAGE

## MECHANICAL DATA

| | | |
|---|---|---|
| MOUNTING POSITION | ANY | |
| BULB | T12 | |
| BASE | LARGE WAFER OCTAL 6 PIN WITH EXTERNAL BARRIER | |
| MAXIMUM NET WEIGHT | 2.5 | OUNCES |

## RATINGS

ABSOLUTE VALUES

FOR ANODE-SUPPLY FREQUENCY OF 60 CPS

| | | |
|---|---|---|
| MAXIMUM PEAK ANODE VOLTAGE | | |
| FORWARD | 650 | VOLTS |
| INVERSE | 1300 | VOLTS |
| MAXIMUM CATHODE CURRENT | | |
| PEAK | 5 | AMP. |
| AVERAGE -- NOTE 1 | 0.5 | AMP. |
| SURGE - MAXIMUM DURATION 0.1 SECOND - NOTE 2 | 20 | AMP. |
| MAXIMUM NEGATIVE CONTROL GRID VOLTAGE | | |
| BEFORE CONDUCTION | 200 | VOLTS |
| DURING CONDUCTION -- NOTE 1 | 10 | VOLTS |
| MAXIMUM POSITIVE CONTROL GRID CURRENT | | |
| AVERAGE -- NOTE 1 | 0.05 | AMP. |
| MAXIMUM NEGATIVE SHIELD GRID VOLTAGE | | |
| BEFORE CONDUCTION | 100 | VOLTS |
| DURING CONDUCTION - NOTE 1 | 10 | VOLTS |
| MAXIMUM POSITIVE SHIELD GRID CURRENT -- NOTE 1 | 0.05 | AMP. |
| MAXIMUM HEATER - CATHODE VOLTAGE | | |
| HEATER NEGATIVE | 100 | VOLTS |
| HEATER POSITIVE | 25 | VOLTS |
| MAXIMUM CONTROL GRID CIRCUIT RESISTANCE | 2 | MEGOHMS |

1. AVERAGED OVER ANY INTERVAL OF 30 SECONDS MAXIMUM.

2. THE EQUIPMENT DESIGNER SHOULD LIMIT THE SHORT CIRCUIT CURRENT TO 20 AMPERES CIRCUITWISE. IT SHOULD BE UNDERSTOOD THAT WHILE THE TUBE MAY STAND SEVERAL FAULTS AT THIS MAGNITUDE OF CURRENT, EACH FAULT WILL ADVERSELY AFFECT TUBE LIFE.

→ INDICATES A CHANGE.