



ELECTRONIC TUBE REFERENCE

3C800E

Power - Triode (over 1000V 100W) electronic tube

CONSOLIDATED TECHNICAL DATA

1 SECTION

CONSTRUCTION

TRIODE

Heavy-filament directly heated triode for high-power transmitting and RF service.

GENERAL CHARACTERISTICS

BASE DESIGNATION	—	BASE PINS	—
NOMINAL HEATER	6.3 V / 32.5 A	PARALLEL HEATER	— / —
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION 1 Triode	
TRANSCONDUCTANCE	0.05 S
AMPLIFICATION FACTOR	22
MAXIMUM PLATE VOLTAGE	6000 V
MAXIMUM PLATE DISSIPATION	800 W
MAXIMUM GRID DISSIPATION	120 W
MAXIMUM CATHODE CURRENT	750 mA
Published maximum ratings and characteristics audited; remaining values retained densely in parameter table.	

The 3C800E is a radiation-cooled radio-frequency triode for RF heating applications, with a directly heated thoriated-tungsten filament and forced-air cooling recommended in service.

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1962 ITT

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1962 ITT

Section 1 · Triode

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament voltage [1]	6 V	Filament voltage 6-3 v
Filament voltage [2]	-3 V	Filament voltage 6-3 v
Filament current (Note [1])	1 A	Filament current (Note 1) 325 A
Filament current (Note [2])	325 A	Filament current (Note 1) 325 A
Note	1 A	Note 1 —The filament is suitable for direct switching without additional current limita-
tions and will withstand voltage fluctuations of +	5 V	tions and will withstand voltage fluctuations of +5%,.
Mutual conductance At V, = [1]	40 mA/V	Mutual conductance At V, = 40k 50 mA/vY
Mutual conductance At V, = [2]	50 mA/V	Mutual conductance At V, = 40k 50 mA/vY
Anode to grid	65	Anode to grid 65 pF
Grid to filament	20	Grid to filament 20 pF
Anode to filament [1]	0	Anode to filament 0-25 pF
Anode to filament [2]	-25	Anode to filament 0-25 pF
Maximum temperature of bulb ,	350	Maximum temperature of bulb ' 350 °C
Maximum direct anode ;Skage	60 kV	Maximum direct anode ;Skage 60 kv
Maximum direct anode current	750 mA	Maximum direct anode current 750 mA
Maximum direct anode dissipation	800 W	Maximum direct anode dissipation 800 w
Maximum direct grid voltage [1]	-1 V	Maximum direct grid voltage —1-25 kY
Maximum direct grid voltage [2]	-25 V	Maximum direct grid voltage —1-25 kY

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum direct grid current	300 mA	Maximum direct grid current 300 mA
Maximum direct grid dissipation	120 W	Maximum direct grid dissipation 120 w
Maximum grid to filament resistor	10	Maximum grid to filament resistor 10 kQ
Maximum frequency for above ratings	50 MHz	Maximum frequency for above ratings 50 MHz
Direct anode voltage [1]	30 kV	Direct anode voltage 30 50 kV
Direct anode voltage [2]	50 kV	Direct anode voltage 30 50 kV
Direct anode current (Note [1])	3 mA	Direct anode current (Note 3) 700 (220) 700 (220) mA
Direct anode current (Note [2])	700 mA	Direct anode current (Note 3) 700 (220) 700 (220) mA
Direct anode current (Note [3])	220 mA	Direct anode current (Note 3) 700 (220) 700 (220) mA
Direct anode current (Note [4])	700 mA	Direct anode current (Note 3) 700 (220) 700 (220) mA
Direct anode current (Note [5])	220 mA	Direct anode current (Note 3) 700 (220) 700 (220) mA
Direct grid current (Note [1])	3 mA	Direct grid current (Note 3) 240 (400) 225 (370) mA
Direct grid current (Note [2])	240 mA	Direct grid current (Note 3) 240 (400) 225 (370) mA
Direct grid current (Note [3])	400 mA	Direct grid current (Note 3) 240 (400) 225 (370) mA
Direct grid current (Note [4])	225 mA	Direct grid current (Note 3) 240 (400) 225 (370) mA
Direct grid current (Note [5])	370 mA	Direct grid current (Note 3) 240 (400) 225 (370) mA
Grid to filament resistor [1]	1	Grid to filament resistor 1-5 25 k Q2
Grid to filament resistor [2]	-5	Grid to filament resistor 1-5 25 k Q2
Grid to filament resistor [3]	25	Grid to filament resistor 1-5 25 k Q2
Anode efficiency [1]	74	Anode efficiency 74 77-5 %
Anode efficiency [2]	77	Anode efficiency 74 77-5 %
Anode efficiency [3]	-5	Anode efficiency 74 77-5 %

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Power output [1]	1 kW	Power output 1-55 27 kW
Power output [2]	-55 kW	Power output 1-55 27 kW
Power output [3]	27 kW	Power output 1-55 27 kW
Maximum direct anode voltage [1]	5 kV	Maximum direct anode voltage: 5-4 kV
Maximum direct anode voltage [2]	-4 kV	Maximum direct anode voltage: 5-4 kV
Maximum direct anode current	670 mA	Maximum direct anode current 670 mA
Maximum direct grid voltage [1]	-1 kV	Maximum direct grid voltage —1:25 kV
Maximum direct grid voltage [2]	25 kV	Maximum direct grid voltage —1:25 kV
Maximum direct grid current (Note [1])	3 mA	Maximum direct grid current (Note 3) 270 mA
Maximum direct grid current (Note [2])	270 mA	Maximum direct grid current (Note 3) 270 mA
Maximum direct grid dissipation	120 W	Maximum direct grid dissipation 120 W
Direct anode voltage [1]	315 kV	Direct anode voltage 315 4-5 kV
Direct anode voltage [2]	4 kV	Direct anode voltage 315 4-5 kV
Direct anode voltage [3]	-5 kV	Direct anode voltage 315 4-5 kV
Direct anode current (Note [1])	3 mA	Direct anode current (Note 3) 600 (190) 600 (190) mA
Direct anode current (Note [2])	600 mA	Direct anode current (Note 3) 600 (190) 600 (190) mA
Direct anode current (Note [3])	190 mA	Direct anode current (Note 3) 600 (190) 600 (190) mA
Direct anode current (Note [4])	600 mA	Direct anode current (Note 3) 600 (190) 600 (190) mA
Direct anode current (Note [5])	190 mA	Direct anode current (Note 3) 600 (190) 600 (190) mA
Direct anode dissipation [1]	620 W	Direct anode dissipation 620 750 W
Direct anode dissipation [2]	750 W	Direct anode dissipation 620 750 W
Direct grid current (Note [1])	3 mA	Direct grid current (Note 3) 180 (300) 150 (250) mA
Direct grid current (Note [2])	180 mA	Direct grid current (Note 3) 180 (300) 150 (250) mA

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Direct grid current (Note [3])	300 mA	Direct grid current (Note 3) 180 (300) 150 (250) mA
Direct grid current (Note [4])	150 mA	Direct grid current (Note 3) 180 (300) 150 (250) mA
Direct grid current (Note [5])	250 mA	Direct grid current (Note 3) 180 (300) 150 (250) mA
Grid to filament resistor [1]	15	Grid to filament resistor 15 25 kQ
Grid to filament resistor [2]	25	Grid to filament resistor 15 25 kQ
Anode efficiency [1]	73	Anode efficiency . 73 77 %
Anode efficiency [2]	77	Anode efficiency . 73 77 %
Power output [1]	17 kW	Power output 17 2-55 kW
Power output [2]	2 kW	Power output 17 2-55 kW
Power output [3]	-55 kW	Power output 17 2-55 kW
Maximum direct anode voltage	60 kV	Maximum direct anode voltage 60 kv
Maximum direct anode cissipation	800	Maximum direct anode cissipation 800 w
_Maximum frequency for above ratings	50 MHz	_Maximum frequency for above ratings 50 MHz
Direct anode voltage [1]	5 kV	Direct anode voltage 5-0 kv
Direct anode voltage [2]	0 kV	Direct anode voltage 5-0 kv
Direct anode current (Note [1])	3 mA	Direct anode current (Note 3) 700 (220) mA
Direct anode current (Note [2])	700 mA	Direct anode current (Note 3) 700 (220) mA
Direct anode current (Note [3])	220 mA	Direct anode current (Note 3) 700 (220) mA
Direct anode dissipation	780 W	Direct anode dissipation 780 w
Direct grid curreat (Note [1])	3	Direct grid curreat (Note 3) 160 (270) mA
Direct grid curreat (Note [2])	160	Direct grid curreat (Note 3) 160 (270) mA
Direct grid curreat (Note [3])	270	Direct grid curreat (Note 3) 160 (270) mA
Grid to filament resistor [1]	2	Grid to filament resistor 2-5 kQ

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Grid to filament resistor [2]	-5	Grid to filament resistor 2-5 kQ
Anode efficiency	78	Anode efficiency 78 %
Power output	27 kW	Power output 27 kW

TUBE TINKER

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