DISC SEAL TRIODE

TDI-100A

Application: *Grounded grid class 'C' power amplifier.*
Power output: *12W at 2500Mc/s.*
Frequency: *2500Mc/s at full ratings.*
Cooling: *Natural or forced-air.*

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS–MICROWAVE DEVICES preceding this section of the handbook.

HEATER

V_h	6.3	V
I_h	1.0	A

MOUNTING POSITION

Any

CAPACITANCES (measured without external shield)

C_{a-g}	2.0	pF
C_{g-k}	6.6	pF
C_{a-k}	<0.035	pF

CHARACTERISTICS

V_a	600	V
I_a	78	mA
V_g	−2.3	V
g_m	25	mA/V
μ	100	

COOLING

Natural or forced-air

$T_{\text{anode core}}$ max.	175	°C
T_{seals} max.	175	°C

The amount of cooling air required using the recommended cowling (see drawing) is given in the curves. In most applications the seals will require additional cooling. If a cowling is not used, up to twice as much air may be required to keep the anode below its maximum rated temperature measured at the anode core.
Where the anode of the valve is in contact with a circuit which has a high thermal capacity, some cooling is provided by conduction.

CLASS 'C' TELEGRAPHY

Limiting values (absolute ratings)

V_a max.	1.0	kV
p_a max.	100	W
$-V_g$ max.	150	V
$+v_{g(pk)}$ max.	30	V
$-v_{g(pk)}$ max.	400	V
p_g max.	2.0	W
I_g max.	50	mA
I_k max.	125	mA

Operating conditions

f	500	2500	Mc/s
V_a	800	900	V
I_a	80	90	mA
V_g	−20	−22	V
I_g	32	27	mA
$P_{\text{load driver}}$	6	—	W
P_{out}	27	12	W

CLASS 'C' TELEPHONY

Limiting values (absolute ratings)

V_a max.	600	V
p_a max.	70	W
$-V_g$ max.	150	V
$+v_{g(pk)}$ max.	30	V
$-v_{g(pk)}$ max.	400	V
p_g max.	2.0	W
I_g max.	50	mA
I_k max.	100	mA

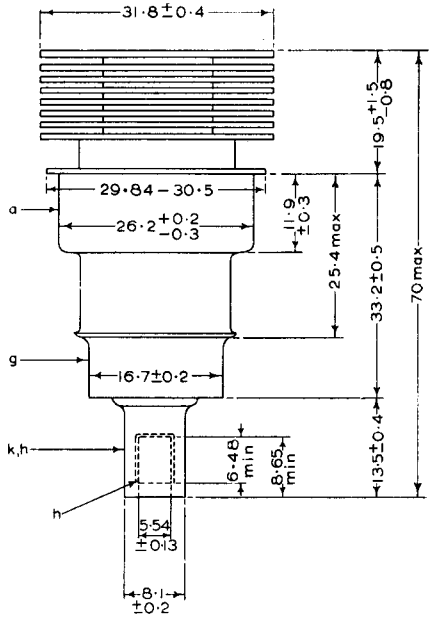
Operating conditions

f	500	Mc/s
V_a	600	V
I_a	65	mA
V_g	−16	V
I_g	35	mA
P_{drive} (approx.)	5.0	W
P_{out}	18	W

The TD1-100A operates at frequencies where transit time effects cause back bombardment heating of the cathode. At frequencies higher than 400 Mc/s, the heater voltage may have to be reduced after operation commences, depending on the conditions; e.g., for full voltage and current the following values apply:

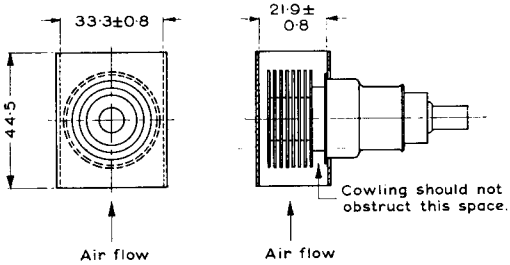
f (Mc/s)	V_h (V)
< 400	6.3
400 to 1000	6.0
1000 to 1500	5.5
1500 to 2000	5.0
> 2000	4.5

TDI-100A

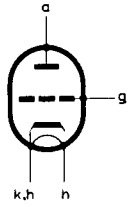


All dimensions in mm

4398



Standard cowl



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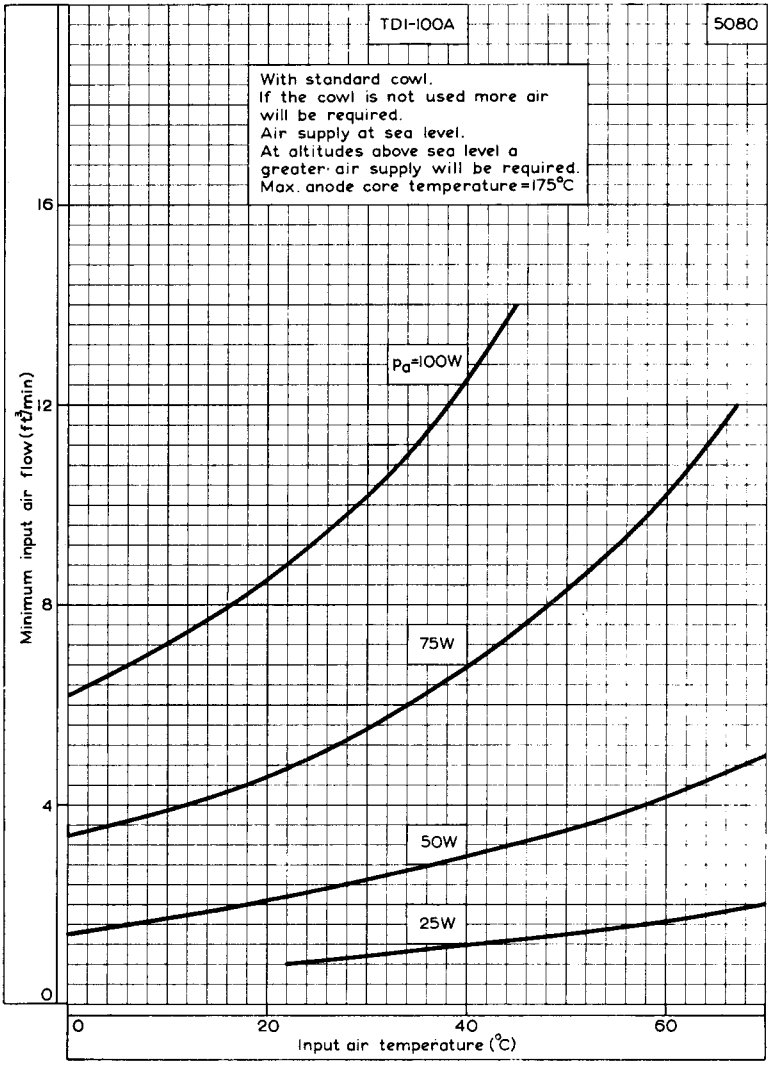
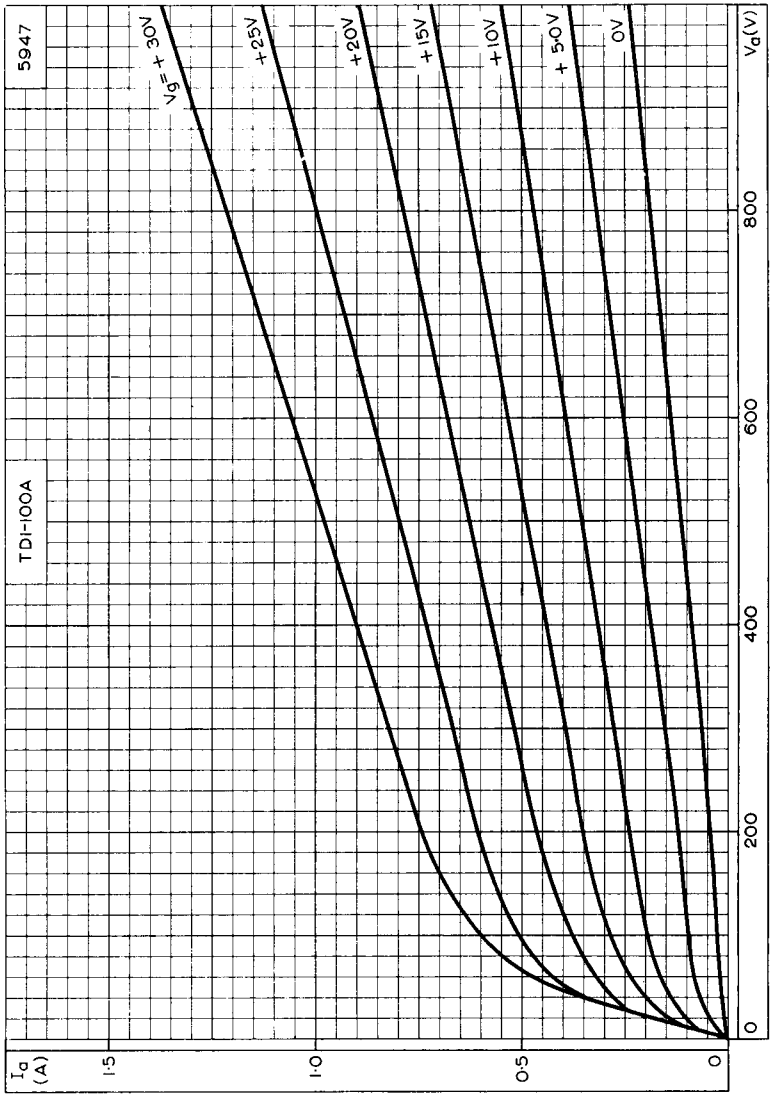


MINIMUM INPUT AIR FLOW PLOTTED AGAINST INPUT AIR TEMPERATURE

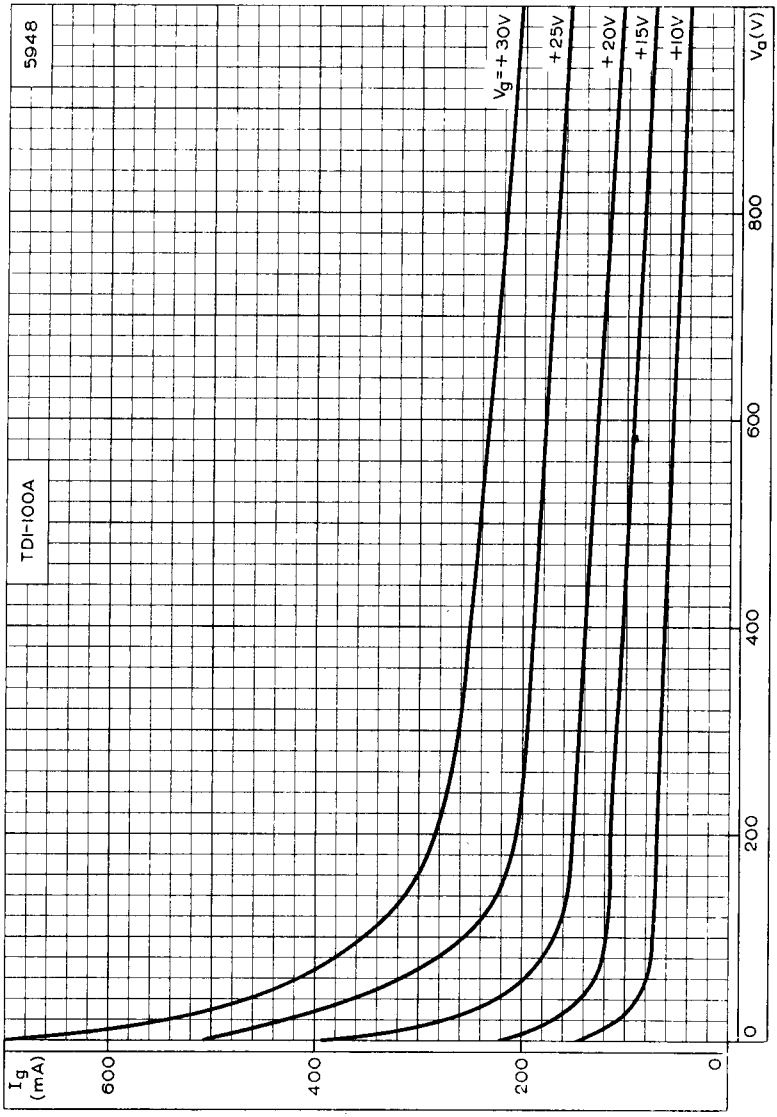
TD1-100A



ANODE CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH GRID VOLTAGE AS PARAMETER

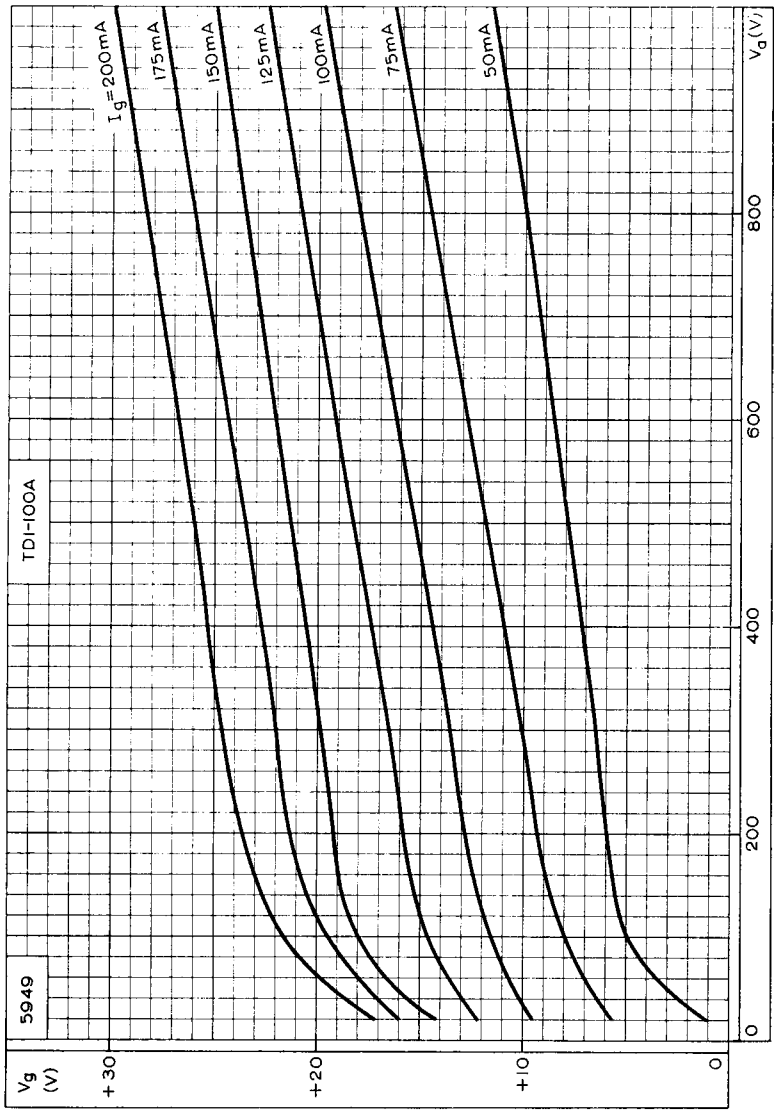
TDI-100A

DISC SEAL TRIODE

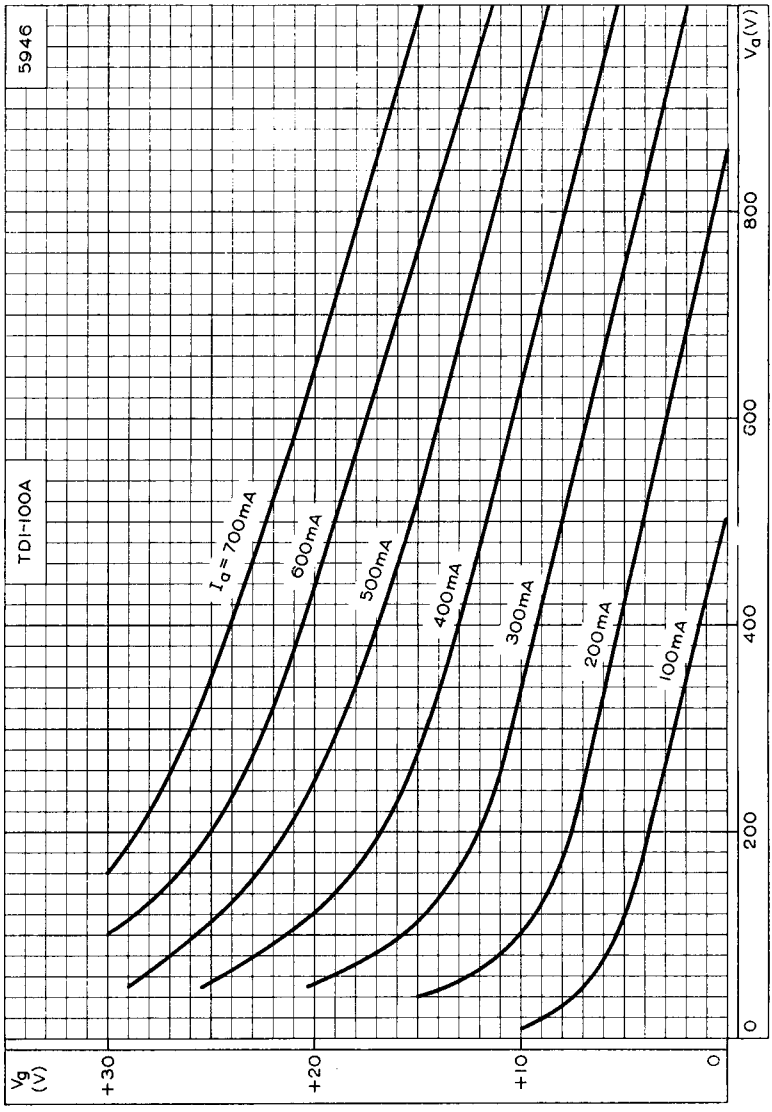


GRID CURRENT PLOTTED AGAINST ANODE VOLTAGE WITH GRID VOLTAGE AS PARAMETER

TDI-100A



CONSTANT GRID CURRENT CURVES



CONSTANT ANODE CURRENT CURVES