INDUSTRIAL

RF HEATING

Glass-metal triodes and tetrodes

THALES

RF HEATING QUALITY

Thales Electron Devices' expertise in power grid tube technology makes us today's leader in the RF industrial heating market. We have established a solid reputation with both equipment makers and users, stemming from our strict emphasis on quality in tube design and manufacture and continuous product performance improvement.

With Thales Electron Devices power grid tubes, customers enjoy a wide choice of power levels (up to 11 kilowatts) and frequencies (up to 100 MHz) and beyond, as well as a standard of quality, ruggedness and durability which is recognized by users everywhere.

Furthermore, these tubes are fully compatible with commercial standards and can be easily installed in existing generators, often without special tools.

With a large network of local representatives throughout the world, Thales Electron Devices ensures comprehensive product support for all customers.

This document gives the main characteristics of the families of industrial heating glass-metal triodes and tetrodes. For more details contact your local representative.

All these products are designed, developed and manufactured at an ISO 9001 : V2000 registered production site.

The T family glass-metal triodes

GLASS-METAL TRIODES AND TETRODES

Glass-metal triodes radiation and air cooled

Output power	Reference	Typical operating conditions C class							Cathode		Maximum ratings					Base	Dimensions (max.)		
		Service	V_a	$-V_{g1}$	I_a	I_{g1}	P_g	f	V_f	I_f	μ	V_a	P_a	P_{g1}	f_{max}		l	d	m
W			kV	V	mA	mA	W	MHz	V	A		kV	W	W	MHz	RETMA	mm	mm	kg
500	**T 130-1**	**C-Osc.**	3	190	215	45	6	75	5	4.6	25	3	150	35	200	Giant 5p	132	62	0.14
700	**T 150-1**	**C-Osc.**	3	380	300	45	9	40	12	4	25	3	200	15	100	A 4-29	255	93	0.30
1 100	**T 380-1**	**C-Osc.**	4	320	370	75	10	75	5	15	28	4	380	40	150	Giant 5p	154	91	0.27
1 720		**Osc. Puls**	4	150	650	140	24	75	5	15	28	4	850	40	150	Giant 5p	154	91	0.27
1 600	**T 500-2**	**C-Osc.**	4	350	535	115	20	100	10	10	28	4	450	50	120	Super Giant 5p	213	118	0.43
1 900		**Osc. Puls**	4	125	735	135	25	100	10	10	28	4	450	50	120	Super Giant 5p	213	118	0.43
2 500	**T 800-2**	**C-Osc.**	6	420	550	90	20	30	6.3	32.5	22	7	750	75	50	Spec. 4p	256	141	0.6
3 800		**Osc. Puls**	6	460	850	160	53	30	6.3	32.5	22	7	1 400	75	50	Spec. 4p	256	141	0.6
2 800	**T 800-3**	**C-Osc.**	6	450	605	110	25	30	6.3	32.5	22	7	850	75	50	Spec. 4p	256	141	0.7
4 250		**Osc. Puls**	6	475	950	190	65	30	6.3	32.5	22	7	1 600	75	50	Spec. 4p	256	141	0.7
3 000	**T 1000-1**	**C-Osc.**	5	650	800	135	45	60	8.5	26	20	6	1 000	75	60	Spec. 4p	265	141	0.9
4 500		**Osc. Puls**	5	245	1 350	175	60	60	8.5	26	20	6	3 000	75	60	Spec. 4p	265	141	0.9
5 900	**T 2000-1**	**C-Osc.**	6	770	1 350	350	155	50	7.5	50	20	6	2 000	220	50	Spec. 4p	370	171	1.95
9 800		**Osc. Puls**	6	280	2 800	400	200	50	7.5	50	20	6	7 000	220	50	Spec. 4p	370	171	1.95
6 500	**FTL 32** (1)	**C-Osc.**	6	350	1 600	220	75	30	1.2	26	28	7	5 000	150	60	-	202	122	4.5

(1) Air-cooled

Glass-metal tetrodes radiation cooled

Reference	Typical operating conditions C class				Cathode		Maximum ratings						Base	Dimensions (max.)		
	Service	V_a	I_a		V_f	I_f	μ_{g1g2}	V_a	P_a	P_{g1}	P_{g2}	f_{max}		l	d	m
		kV	A		V	A		kV	W	W	W	MHz	RETMA	mm	mm	kg
Q 450-4	**Switch**	20	0.1		5	15	4.5	25	500	12	45	DC	Giant 5p	154	91	0.25
Q 450-5	**Switch**	25	0.1		5	15	4.5	30	500	12	45	DC	Giant 5p	154	91	0.25

For further information, please contact:

THALES ELECTRON DEVICES

2 bis, rue Latécoère - 78941 Vélizy Cedex - France
Tel: + 33 1 30 70 35 00 - Fax: + 33 1 30 70 35 35 - www.thalesgroup.com/electrondevices

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SYMBOLS

d	Diameter.
f	Maximum operating frequency (full power output).
f_{max}	Maximum admissible frequency with reduced power input.
I_a	D.C. average anode current.
I_f	Filament current.
I_{g1}	D.C. average control grid current.
l	Length.
m	Mass.
μ	Amplification factor.
$μ_{g1g2}$	Amplification factor.
P_a	Anode dissipation.
P_{g1}	Control grid dissipation.
P_{g2}	Screen grid dissipation.
P_{gs}	Driving power.
V_a	D.C. anode voltage.
V_f	Filament voltage.
V_{g1}	D.C. control grid voltage.
C-Osc.	Class C, oscillator.
C-Telegr.	Class C, RF power amplifier without modulation (telegraphy).
Osc. Puls	Class B or C, oscillator, pulse operation.
B-SSB	Single side band operation - Class B.