

# Beijing Phamitech Electronics

## ITL12-1

### Power Triode

ITL12-1 is a forced air cooled, metal/ceramic coaxial power triode, with thoriated-tungsten filament, intended for use in industrial heating, as well as pulse oscillator. Max frequency: 120MHZ, max plate dissipation: 12KW.

#### General Characteristics

Filament voltage	5.8	V
Filament current	145	A
Filament surge current	600	A
Interelectrode capacitance		
Grid-Anode	21	pF
Grid-Cathode	55	pF
Anode -Cathode	1	pF
Amplification factor		22
Transconductance ( $V_a=10Kv, I_a=4A$ )	50	mA/V
Operating position	Vertical, anode up or down	
Cooling	Forced air	
Cooling air flow, min	$\geq 6$	$M^3/m$
Max inlet air temperature	45	$^{\circ}C$
Temperature at seal, max	250	$^{\circ}C$
Net weight	6.5	kg

#### Maximum ratings

Operating frequency	120	MHz
Anode voltage		
Below 30MHz	12	kV
60~90MHz	9	kV
60~90MHz	7	kV
90~120MHz	6	kV
Anode current	5	A
Grid voltage	-1500	V
Grid current (full load)	0.8	A
Grid current (no load)	1.5	A
Peak cathode current, CW	28	A
Peak cathode current, pulse	38	A
Anode dissipation power	12	kW
Grid dissipation		
Below 30MHz	350	W
30~60MHz	320	W
60~90MHz	300	W
90~120MHz	280	W

#### Typical operation

##### Class C Radio Frequency Oscillator for Industrial applications (30MHZ)

Anode voltage	10	8	kV
Anode current	4.3	4.8	A
Grid bias voltage	-640	-560	V
Grid voltage	960	900	V
Grid current, on load	0.53	0.72	A
Grid dissipation	145	220	W
Grid resistance	1210	790	$\Omega$
Anode dissipation	9.6	8.6	kM
Anode Input power	40	38.4	kM
Anode Output power	33	29	kM
Feedback ratio	10.5	12.9	%
Oscillator efficiency	76.5	76	%

