

INCH-POUND

MIL-PRF-1/864F
18 June 2008
SUPERSEDING
MIL-E-1/864E
9 February 1972

PERFORMANCE SPECIFICATION SHEET

ELECTRON TUBE, RECEIVING

TYPE 6CL6

This specification is approved for use by all Departments and Agencies of the Department of Defense.

Inactive for new design
after 30 April 1997

The requirements for acquiring the electron tube described herein shall consist of this document and MIL-PRF-1.

DESCRIPTION: Pentode, miniature, power amplifier.

Outline --- 6-3 (EIA).

Base --- E9-1.

Envelope --- T6-1.2.

Cathode --- Coated unipotential.

Base connections:

Pin No.	---	1	2	3	4	5	6	7	8	9
Element	---	k	g1	g2	h	h	a	g3,sd	g2	g1

ABSOLUTE RATINGS:

Parameter:	Ef	Eb	Ec1	Ec2	Ec3	Ehk	Ik	Pp	Pg2	TE	Alt
Unit:	V	V dc	V dc	V dc	V dc	v	mA dc	W	W	°C	ft
Maximum:	6.9	330	0,-50	330	0	100	50	8.2	1.9	220	Note 1
Minimum:	5.7	---	---	---	---	---	---	---	---	---	---
Test conditions:	6.3	250	-3	150	0	0	---	---	---	---	---

GENERAL:

Qualification: Not required.

MIL-PRF-1/864F

TABLE I. Testing and inspection.

Inspection	Method MIL-STD- 1311	Notes	Conditions	Acceptance Level note 4	Symbol	Limits		Unit
						Min	Max	
<u>Conformance inspection, part 1</u>								
Total grid current	1266	2	Rg1 = 0.25 MegΩ	0.65	Ic1	0	-2.0	μA dc
Electrode current (1) (anode)	1256	-		0.65	Ib	20	40	mA dc
Electrode current (2) (anode)	1256	-	Eb = 50 V dc Ec1 = 0 Ec2 = 100 V dc	0.65	Ib	26	46	mA dc
Electrode current (3) (anode)	1256	-	Ec1 = -13 V dc	0.65	Ib	---	300	μA dc
Transconductance (1)	1306	-		0.65	Sm	9,200	14,000	μmhos
Emission	1231	-	Eb = Ec1 = Ec2 20Vdc	0.65	Is	180	---	mA dc
Short and discontinuity detection	1201	-		0.4	---	---	---	---
<u>Conformance inspection, part 2</u>								
Insulation of electrodes	1211	-		4.0	R	100	---	MegΩ
Heater current	1301	-		4.0	If	610	690	mA
Heater-cathode leakage	1301	-		4.0	Ihk	---	40	μA dc
Electrode current (screen)	1256	-		4.0	Ic2	---	9.0	mA dc
Transconductance (2)	1306	-	Ef = 5.5 V	---	Sm	8,700	---	μmhos
Power output	1341	3	Esig = 2.1 V ac Rp = 7,500 ohms	---	Po	2.0	---	W
Audio frequency noise	1246	-	Esig = 100 mV ac Ebb = 225 V dc Ecc2 = 225 V dc Ec1 = 0 Rk = 150 ohms Rp = 10,000 ohms Rg1 = 0.25 MegΩ Rg2 = 5,000 ohms Cg2 = 0	2.5	EB	---	17	vu
Direct-interelectrode capacitance	1331	-	No shield	---	Cg1p Cin Cout	---	0.12 13.6 7.2	pF pF pF
Low-frequency vibration	1031	-	Rp = 2,000 ohms	---	Ep	---	1,000	mV ac
Base strain	1121	-		---	---	---	---	---
Glass strain	2126	-		---	---	---	---	---
Permanence of marking	1105	-		---	---	---	---	---

MIL-PRF-1/864F

TABLE I. Testing and inspection. Continued

Inspection	Method MIL-STD- 1311	Notes	Conditions	Acceptance level note 4	Symbol	Limits		Unit
						Min	Max	
<u>Conformance inspection, part 3</u>								
Intermittent life	1501	-	Group A; Ehk = +180 Vdc Rg1 = 0.25 MegΩ	---	---	---	---	---
Intermittent life-test end point (500 hours):	---							
Transconductance (1)	1306			---	Sm	8,000	---	μmos

NOTES:

1. See "Reduced pressure (altitude) rating", and altitude, maximum peak voltage in the basic document.
2. This test to be performed at the conclusion of the holding period.
3. Place 300-ohm resistor in series with grid No. 1 lead as close to grid pin as possible.
4. This specification sheet uses accept on zero defect sampling in accordance with MIL-PRF-1, table III.

Referenced documents: In addition to MIL-PRF-1, this document references the following:
MIL-STD-1311.

Marginal notations are not used in the revision to identify changes with respect to the previous issue due to the extent of the changes.

Custodians:
Army – CR
Navy – EC
Air Force – 85
DLA – CC

Preparing activity:
DLA – CC
(Project 5960-2008-054)

Review activities:
Army – MI
Navy – AS, CG, MC, OS
Air Force – 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil/>