To: Lyncean Technologies, Inc.

INSPECTION SHEET

HIGH POWER PULSE KLYSTRON

E3772A,A S/N 19K104

CANON ELECTRON TUBES & DEVICES CO., LTD.

TEST CLASSIFICATION	AQL	n1	d1	n1+n2	d1+d2	JUDGE
APPEARANCE						
PRODUCTION						
DESIGN						

INSPECTION SHEET

TYPE HIGH POWER PULSE KLYSTRON
E3772A,A

APPLIED SPECIFICATION	PRODUCT SPECIFICATION	
SUPPLY QUANTITY	1	DATE OF INSP. 21th, Oct. 2019
CHIEF OF INSPECTION SECTION	Y. Tanaka	

TEST CONDITION: MODULATOR: PK-2, ELECTROMAGNET: TOSHIBA VT-68934,A S/N 05J005

ITEM	STATIC			POWER OUTPUT 1							JUDGE
	VACUUM CHECK	HEATER VOLTAGE	Cathode CURRENT	OUTPUT POWER	BEAM VOLTAGE	BEAM CURRENT	DRIVE POWER	EFFICIENCY	GAIN	ION PUMP CURRENT	
SYMBOL	Iion	Ef	ik	po	epy	ik	pd	η	Gp	Iion	
UNIT	[μA]	[V]	[A]	[MW]	[kV]	[A]	[W]	[%]	[dB]	[μA]	
CONDITION	No operating voltage	If= 12.3[A] (If ≦20[A])	If= 12.3[A] epy=155[kV] tp(epy)=6.5[μs] fp=180[pps]	f=2856[MHz], tp(rf)=4.5[μs], tp(epy)=6.5[μs], Ef=15.5[V], If = 12.3[A], Pwg=0.18[MPa], ppr = 180[pps], Qw,col = 25[L/min.], Qw,body = 10[L/min.], Qw,sol = 10[L/min.], Solenoid Coil: Icc= 12[Adc] ,Esol,cc= 0.84[Vdc], Imain= 34[Adc], Esol,main= 117.1[Vdc]							
No.											
19K104	0.01	15.5	110	7.55	157	112	62.1	42.9	50.8	1.89	OK
SPEC. MIN.	–	–	103.7	7.5	–	–	–	40	48	–	INSPECTOR
SPEC. PAR	–	–	–	–	–	–	–	–	–	–	
SPEC. MAX.	5	20	115.9	8.5	160	115	120	–	–	10	M.Shibazaki

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TYPE E3772A series

CANON ELECTRON TUBES & DEVICES CO., LTD.

TEST CLASSIFICATION	AQL	n1	d1	n1+n2	d1+d2	JUDGE
APPEARANCE						
PRODUCTION						
DESIGN						

INSPECTION SHEET

TYPE HIGH POWER PULSE KLYSTRON E3772A,A

APPLIED SPECIFICATION	PRODUCT SPECIFICATION	
SUPPLY QUANTITY	1	DATE OF INSP. 21th, Oct. 2019
CHIEF OF INSPECTION SECTION	Y. Tanaka	

TEST CONDITION: MODULATOR: PK-2, ELECTROMAGNET: TOSHIBA VT-68934,A S/N 05J005

ITEM / SYMBOL / UNIT	HYDROSTATIC PRESSURE	OUTPUT WINDOW PRESSURE	OUTLINE DIMENSION		JUDGE
CONDITION	Pw,c=0.8[MPa] Pw,b=0.8[MPa] t=15[min.]	Pw/g=0.3[MPa] t=5[min.]			
No.					
19K104	OK	OK	OK		OK
SPEC. MIN.	No leakage	No change of ion pump current	Per outline drawing		INSPECTOR
SPEC. PAR					M.Shibazaki
SPEC. MAX.					

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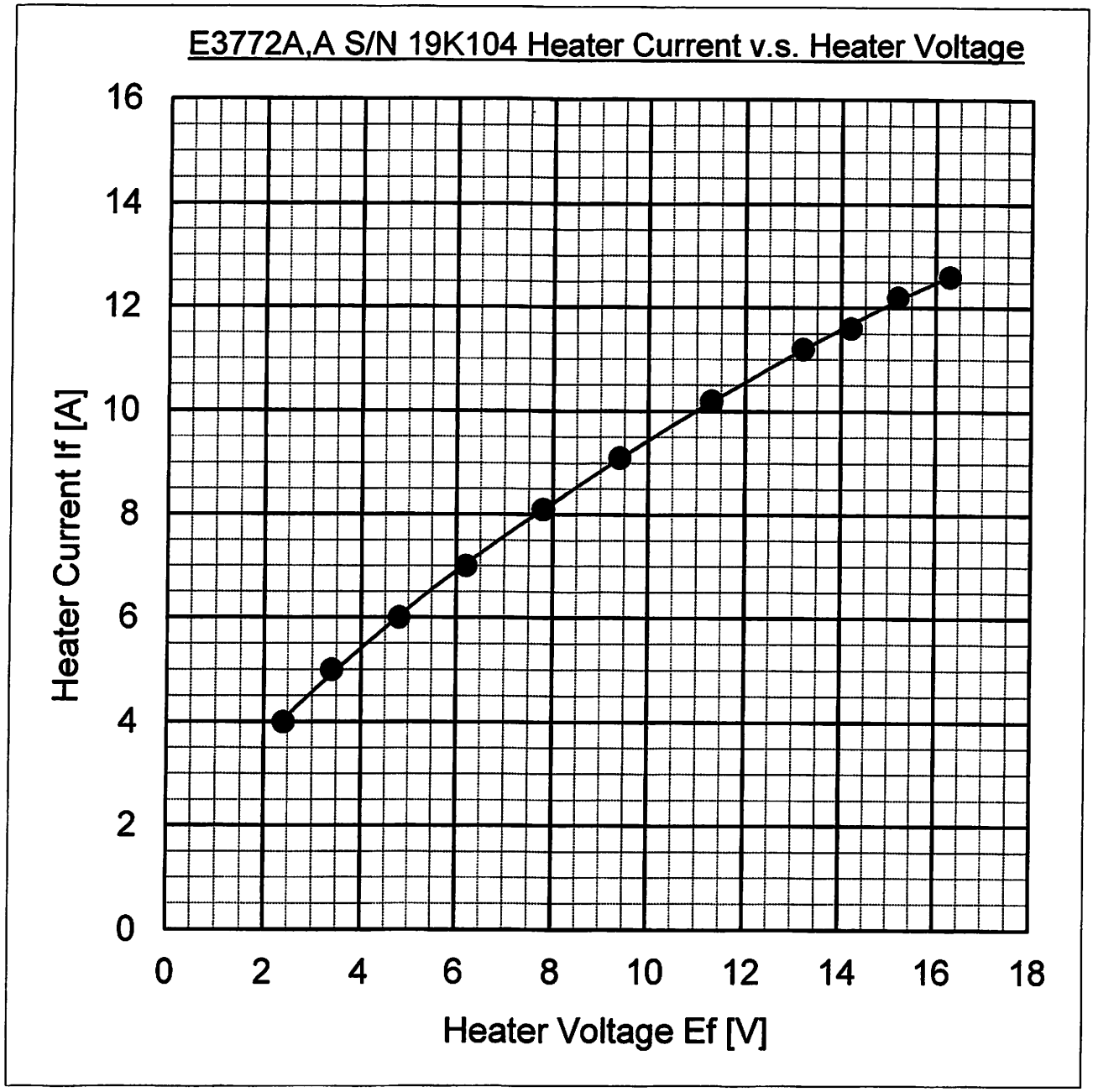
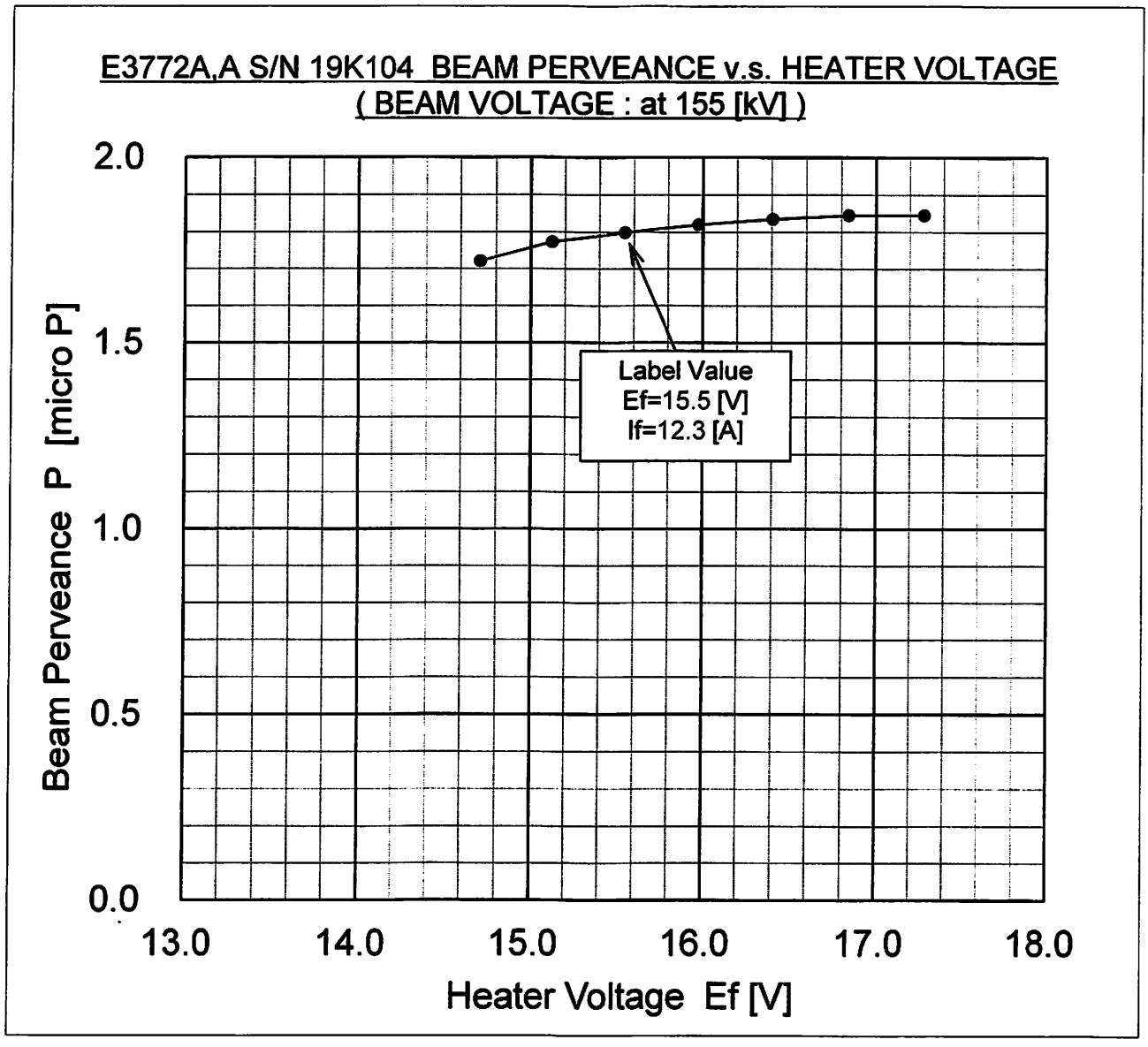
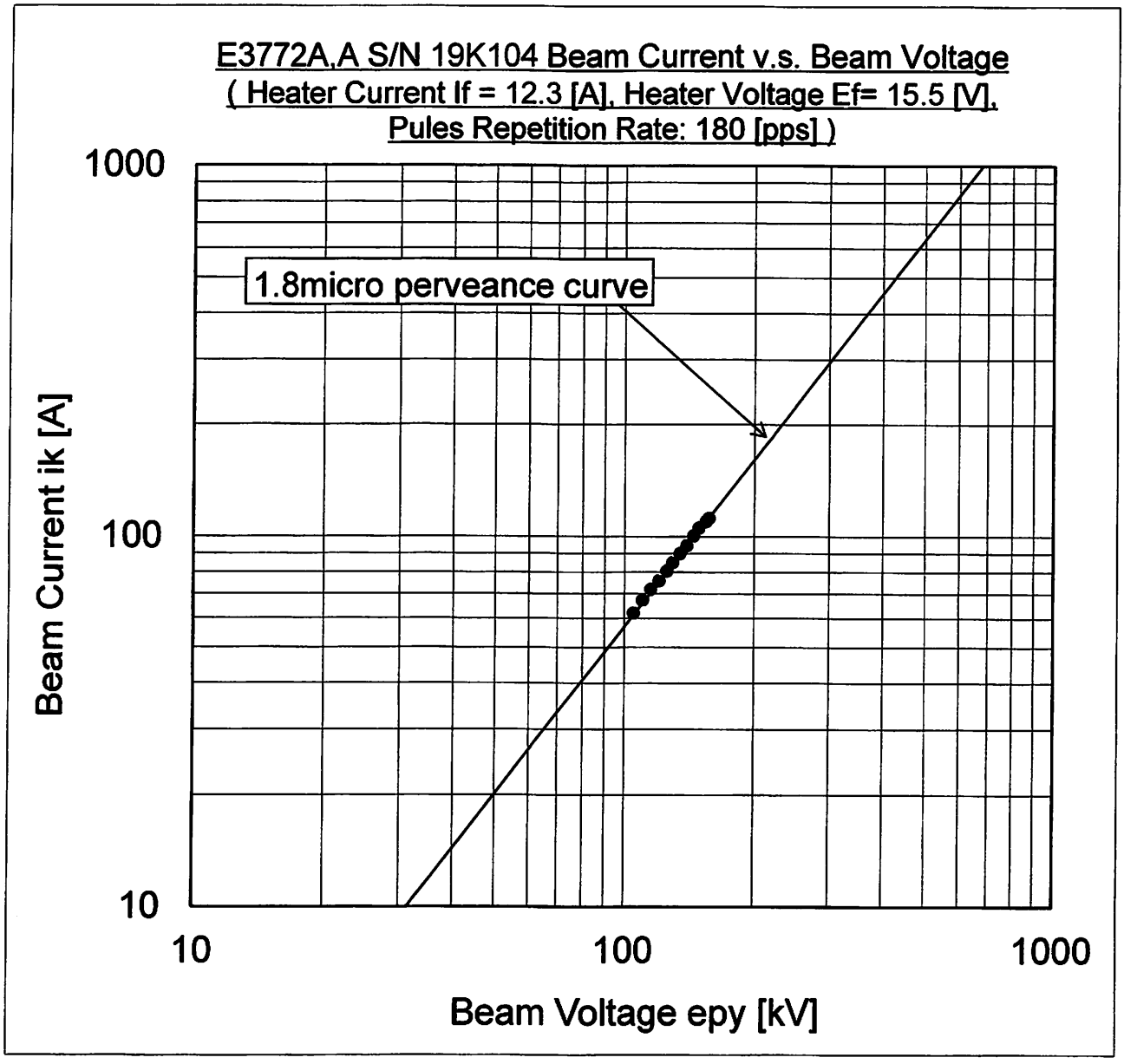
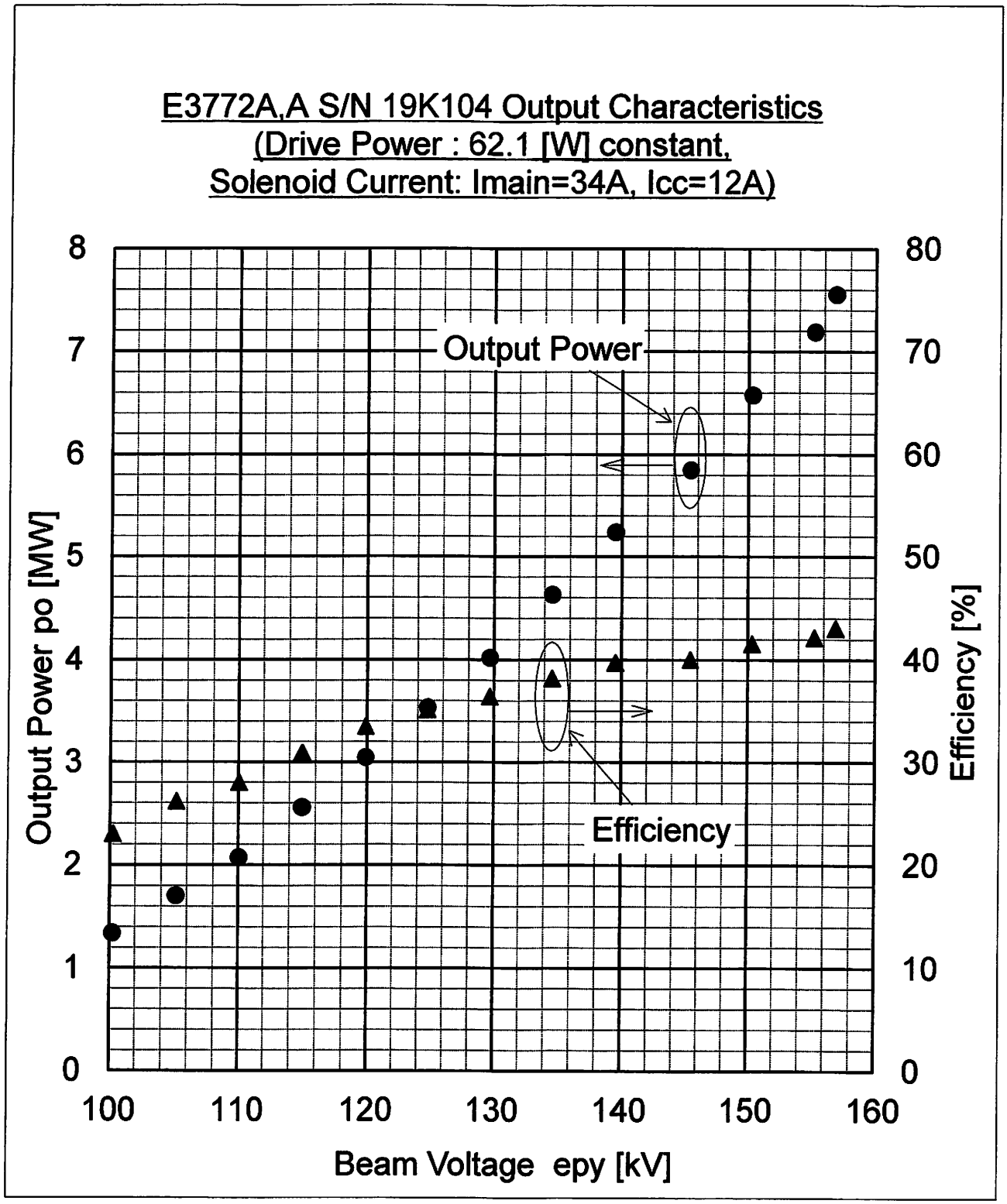
TYPE E3772A series

CANON ELECTRON TUBES & DEVICES CO., LTD.


E3772A,A S/N 19K104 Heater Current v.s. Heater Voltage
Heater Current If [A]
16
14
12
10
8
6
4
2
0
0
2
4
6
8
10
12
14
16
18
Heater Voltage Ef [V]


E3772A,A S/N 19K104 BEAM PERVEANCE v.s. HEATER VOLTAGE
(BEAM VOLTAGE : at 155 [kV])
Beam Perveance P [micro P]
2.0
1.5
1.0
0.5
0.0
13.0
14.0
15.0
16.0
17.0
18.0
Heater Voltage Ef [V]
Label Value
Ef=15.5 [V]
If=12.3 [A]


E3772A,A S/N 19K104 Beam Current v.s. Beam Voltage
(Heater Current If = 12.3 [A], Heater Voltage Ef= 15.5 [V],
Pules Repetition Rate: 180 [pps])
1000
100
10
1.8micro perveance curve
Beam Current ik [A]
10
100
1000
Beam Voltage epy [kV]


E3772A,A S/N 19K104 Output Characteristics
(Drive Power : 62.1 [W] constant,
Solenoid Current: Imain=34A, Icc=12A)
Output Power
Efficiency
Output Power po [MW]
Efficiency [%]
Beam Voltage epy [kV]
0
1
2
3
4
5
6
7
8
0
10
20
30
40
50
60
70
80
100
110
120
130
140
150
160

E3772A TRANSFER CHARACTERISTICS

Tube Type:

Beam Voltage Vari [kV]

Beam Current Vari [A]

RF Pulse Width 4.5 [μs]

Pulse Rep. Rate 180 [pps]

Filament Voltage 15.5 [V]

Filament Current 12.3 [A]

Tube S/N : 19k104

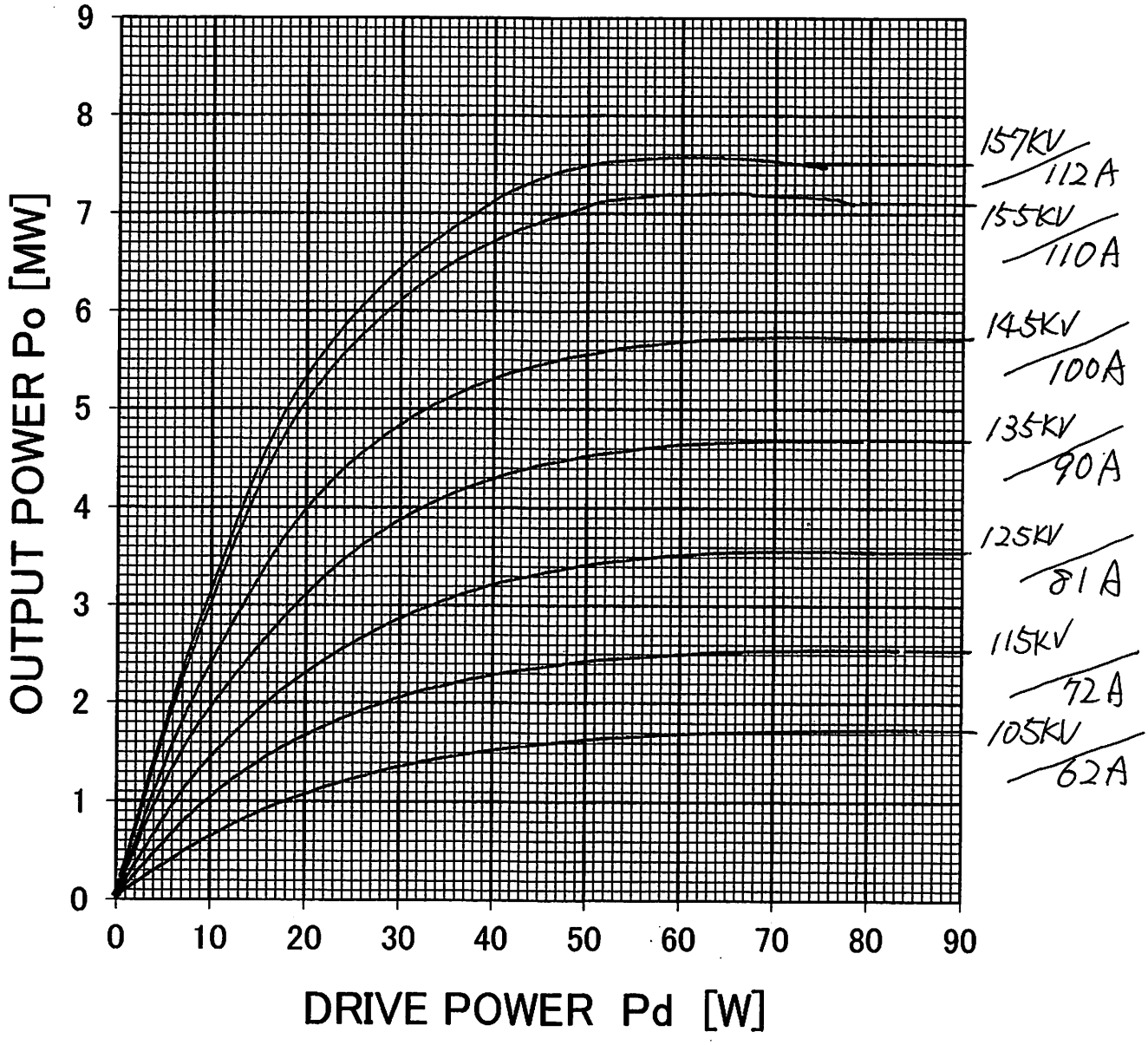
Date : 21th Oct. 2019

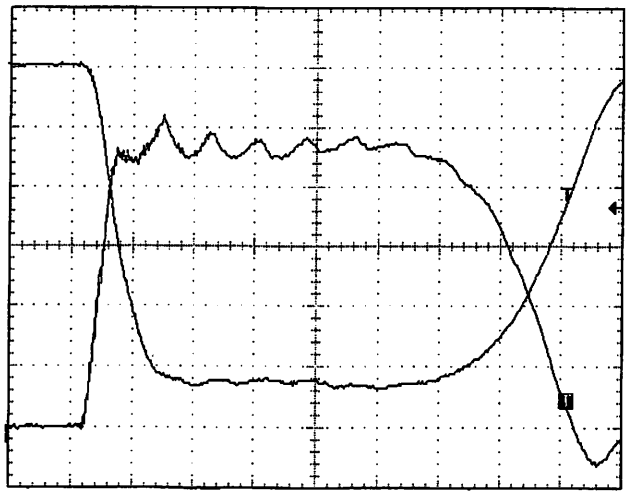
Solenoid Current

Imain: 34 [A]

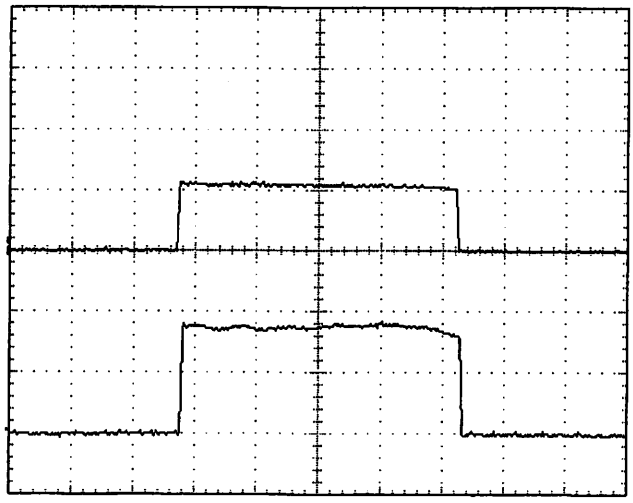
Ic.c 12 [A]

Frequency 2856 [MHz]

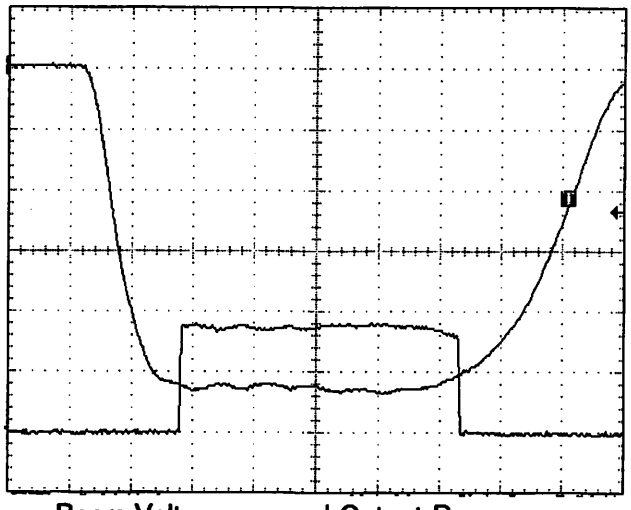




Beam Voltage epy and Beam Current ik
(epy = 157 [kV] , ik = 112 [A])
(X-axis: 1 [μs/div] , epy: 29.5 [kV/div], ik: 23.6 [A/div])



Drive Power pd and Output Power po
(pd = 62.1 [W] , po = 7.55 [MW], X-axis: 1 [μs/div])



Beam Voltage epy and Output Power po
(epy = 157 [kV] , po = 7.55 [MW], X-axis: 1 [μs/div])