

NL635

Rectifier - Half Wave electronic tube

Directly heated mercury- and gas-filled industrial rectifier for supplies up to approximately 250 V DC. Rated for about 1 kV peak inverse voltage and 6.4 A output.

GENERAL CHARACTERISTICS

BASE DESIGNATION	F0R	BASE PINS	–
NOMINAL HEATER	2.5 V / 18 A	PARALLEL HEATER	– / –
HEATING	Direct	SERIES OPERATION	Not specified
CATHODE ARRANGEMENT	Separate cathodes	SECTION CONSTRUCTION	Similar

SECTION RATINGS

SECTION1 Rectifier	
MAXIMUM CATHODE CURRENT	6.4 A
PEAK INVERSE VOLTAGE	1000 V
NOMINAL OUTPUT CURRENT	6.4 A
PEAK FORWARD CURRENT	77 A
FORWARD VOLTAGE DROP	9 V
WARM-UP TIME	60 s
Published ratings and characteristics promoted where canonical fields apply.	

NATIONAL POWER TUBE NL-635 is a sturdy rectifier tube designed especially for industrial power rectifier applications up to 250 volts dc. It is mercury and gas filled for efficiency, long life, and the ability to withstand high inverse voltages. NL-635 utilizes a No. 412 industrial 4-pin base. It is avail- able with a bracket base for panel mounting under the type number NL-635P and the new National lug type base under the number NL-635L. NATIONAL ELECTRONICS, INC. GENEVA, ILLINOIS,

SOURCE OPERATING CONDITIONS

[SOURCE PDF](#)

1956 National Electronics Industrial Tubes

Published test conditions and operating points. Values on this page are preserved as reported by this source.

1956 NATIONAL ELECTRONICS INDUSTRIAL TUBES

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
rectifier applications up to	250 volts dc. It is mercury and gas filled for efficiency, long life, and the	Source technical-information table; wording preserved from datasheet.
ability to withstand high inverse voltages. NL-635 utilizes a No	412 industrial 4-pin base. It is avail- V	Source technical-information table; wording preserved from datasheet.
do Amperes output (maximum)	6,4 A	Source technical-information table; wording preserved from datasheet.
Instantaneous Amperes output (maximum)	77 A	Source technical-information table; wording preserved from datasheet.
Maximum time of averaging anode current (seconds)	20 A	Source technical-information table; wording preserved from datasheet.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximlm peak inverse volts	1000 V	Source technical-information table; wording preserved from datasheet.
Filament volts	2.5 V	Source technical-information table; wording preserved from datasheet.
Filament amperes	18 ± 2 A	Source technical-information table; wording preserved from datasheet.
Filament heating time (seconds)	60 s	Source technical-information table; wording preserved from datasheet.
Maximum ac short circuit current (amperes)	7.70 A	Source technical-information table; wording preserved from datasheet.
Condensed mercury temperature limits (°C) > .,	– 40 to +100 C	Source technical-information table; wording preserved from datasheet.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Approximate temperature rise, cond. mercury above ambient (°C)	30 C	Source technical-information table; wording preserved from datasheet.
Net weight (ounces)	6 oz	Source technical-information table; wording preserved from datasheet.
Approx. shipping weight (lbs.)	4 lb	Source technical-information table; wording preserved from datasheet.
Satisfactory operation will be obtained between -40 to	+100°C. For long life the tube should be operated between ±40	Source technical-information table; wording preserved from datasheet.
to ±100°C condensed mercury, or approximately	+10 to ±70°C ambient.	Source technical-information table; wording preserved from datasheet.
NL-635	NL- 635P NL-635L	Source technical-information table; wording preserved from datasheet.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
ANODE	ANODE .568' DIA. CAP	Source technical-information table; wording preserved from datasheet.
566 DIA	.566' DIA. CI -5	Source technical-information table; wording preserved from datasheet.
CI-5	CI -5	Source technical-information table; wording preserved from datasheet.
INDUSTRAIL	I8	Source technical-information table; wording preserved from datasheet.
A4-81	16	Source technical-information table; wording preserved from datasheet.
5z'I}_ 2I	SLOTS -5 2 WIDE s	Source technical-information table; wording preserved from datasheet.

PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
FILAMENT	/ 0 0 FILAMENT 6 FILAMENT CAT100DE	Source technical-information table; wording preserved from datasheet.
FILAMENT	9 R. CIRCL	Source technical-information table; wording preserved from datasheet.
CATHODE	9	Source technical-information table; wording preserved from datasheet.

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Typical arc drop at	20 amperes peak (volts) g	Source technical-information table; wording preserved from datasheet.
Typical Anode starting vofrage (volts)	20 V	Source technical-information table; wording preserved from datasheet.



SOURCE DATA APPENDIX

SOURCE OPERATING CONDITIONS

1957 National Electronics

Published test conditions and operating points. Values on this page are preserved as reported by this source.

SOURCE PDF

1957 NATIONAL ELECTRONICS

Section 1 · Rectifier

OTHER		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Maximum DC output current	6.4 A	—
Maximum instantaneous output current	77 A	—
Maximum peak inverse voltage	1000 V	—

CHARACTERISTIC		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filament heating time	60 s	—
Typical arc drop	9 V	—
Typical anode starting voltage	20 V	—

CONSTRUCTION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Filling	Mercury vapor	—

APPLICATION		
PARAMETER	PUBLISHED VALUE	CONDITION / NOTE
Service	Industrial power rectifier	—

TUBE TINKER

An independent reference for electronic tubes, vacuum tubes, and their source documents.

[Catalog](#) [Tube types](#) [Full books](#) [Blog](#) [Feedback & corrections](#)

© 2026 Tube Tinker