

ROSEL

JSC "Ruselectronics" | **Product catalogue**

JSC “Ruselectronics”

JSC “Ruselectronics” is the largest holding company in the industry that includes 25 enterprises and research institutes.

These companies manufacture products applied in:

- automotive electronics
- computers and PCs (microprocessors)
- integrated circuits
- quantum electronics
- switches
- control and measurement devices
- medical equipment
- optoelectronics
- security systems
- semiconductor devices
- night vision equipment
- microwave devices
- power electronics
- security and inscription devices
- data display and registration
- communications and telecommunications
- electrical & vacuum systems
- consumer electronics
- power saving electronic devices
- and many other applications

Today the companies in JSC “Ruselectronics” manufacture 20%-40% of all electronically related products in Russia.

The Russian Federal Agency for Industry appointed JSC “Ruselectronics” as the head company for the organization of centralized purchase, certification and delivery of electronic components from abroad for general and special purpose application.

The companies in the Holding carry out foreign trade transactions and supply their products to 42 countries in CIS and other world markets.

Russian Electronics JSC invites Russian and foreign partners to cooperate in promoting the products and services to the world markets as well as to participate in R&D projects in various business areas.

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Semiconductor Devices

1.1. Voltage-Reference Diodes



Precision, Ultra Stable, Temperature — Compensated Diodes 2C117P, 2C117T, 2C117U

KEY CHARACTERISTICS:

Product type	Certification class	$U_{stab.}, V$	VTC, %/ °C	$I_{stab.}, mA$	$I_{const.}$ stabilization, mA	$P_{diss.}$ stabilization, mW
2C117P	0,01	6,4±5%	± 0,001	7,5	≤ 10 mA at ambient t° from – 60°C to + 60°C	≤ 70 mW at ambient t° from – 60°C to + 60°C
2C117T	0,0005	6,4±5%	± 0,0005	7,5	≤ 7,5mA at ambient t° + 125 °C	≤ 50 mW at ambient t° + 125 °C
2C117U	0,0003	6,4±5%	± 0,0005	7,5		

FEATURES:

Package: sealed, metal — glass KD4-1 GOST 18472-80.
Polarity: ring defined cathode
Weight 0,5 g. (approximate).
Position for mounting: any.

Exporter:

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Manufacturer:

JSC «Optron»

Add.: 53, , Sherbakovsraya ul., Moscow, 105318
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E-mail: optron@optron.ru
Web: www.optron.ru

Photo Detectors and Light Emitting Elements

- 2.1. Light-Emitting Semiconductor Elements
- 2.2. Night Vision Devices
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- 2.4. Photo Detectors
(Including Charge-Coupled Devices)
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- 2.6. Image Intensifiers and Microchannel Plates

/ 2

IR Emitting Semiconductors

IL151F-1-a

IL151F-1-b

IL151F-1-v

Areas of Application: spectrum analyzers of gases and liquids (including water, hydrocarbons, CO₂ and carbon monoxide), detectors for IR-instruments, fiber-optics communications lines, and integrated optics

KEY CHARACTERISTICS:

Emitter Types	IL151F-1-a	IL151F-1-b	IL151F-1-v
Peak Emission Wavelengths (μm)	4.0	3.4	3.2
DC-Mode Emission Power (μW)	50	100	120
Pulsed-Mode Emission Power (mW)	0.7	1.5	1.7
DC-mode Radiation Intensities (μW/sr)	40	100	120
Emission rise/roll-off times (μs)	3	10	15
Consumed DC-mode Currents (mA)	75	75	75
Consumed Pulsed-mode Currents (A)	0.7	0.7	0.7

FEATURES:

Options are available with narrow-band interference filters.

Non-infringing in Russia, CIS and developed countries.
Protected by Patents #37575 (priority date: 5 February 2004)
and #2261502 (priority date: 5 February 2004).

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Manufacturer:

JSC "Scientific Research Institute "Giricond"
(NII "GIRICOND")

Add.: 10, Kurchatova str., St. Petersburg, 194223,
the Russian Federation
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Web: www.giricond.spb.ru

Multi-Function Two Field Coaxial Low Level TV System «HARPIA»

Designed for objects detection, recognition and monitoring in a wide illumination range.

KEY CHARACTERISTICS:

Detection range for an object like a "car" in wide field, km	8
Detection range for an object like a "car" in narrow field, km	5
Spectral range, μm	0,4 - 0,9
Angular field, degree	
wide	5,2 × 6,9
narrow	2,3 × 3,0
Zoom, μm	120/53
Overall dimensions, mm	120×120×260
Mass, kg	3
Supply voltage, V	12

FEATURES:

- Simultaneous generation of wide and narrow fields that allows seeing "Picture in Picture" for detecting objects at far distance.
- Objects search in a wide field and simultaneous detection in narrow field.
- High sensitivity and resolution at low noise.
- High quality of TV image.
- Wide illumination range.



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Manufacturer:

JSC "Central Research Institute "Cyclone" ("CRI "Cyclone")

Add.: 77, Schelkovskoe shosse, Moscow, 107497,
the Russian Federation
Tel/fax: (495) 460-48-00
E-mail: cyclone@asvt.ru
Web: www.cyclone-jsc.ru

Double Spectrum Video Control System «GRYPHON»

Designed for object detection and recognition in visible and IR spectral range.

KEY CHARACTERISTICS:

Mass, without turn device, kg	8,5
Dimensions, mm	185×185×320
Power consumption , W	30
Low level TV channel:	
Spectral range, μm	0,4 - 0,9
Angular field, degree	4,6 × 6,2
Zoom, mm	58
Threshold illumination at input, μK	5×10^{-3}
IR channel:	
Spectral range, μm	8 - 12,5
Zoom, mm	132
Matrix format, pixel	320 × 240
NEDT, degree	0,15
Angular field, degree	4,6 × 6,2

FEATURES:

- High sensitivity and resolution
- High quality of Tele- and IR vision
- Wide illumination range.
- Modular design allowing configuration modification.
- Possibility of receiving simultaneous imaging in two spectral ranges, followed by mixing



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Video Control Devices «KRECHET»

Designed for objects detection, recognition and monitoring in wide illumination range.

KEY CHARACTERISTICS:

Detection distance for objects like "car", km	8
Recognition distance for objects like "car", km	5
Spectral range, μm	0,4 - 0,9
Gradual field, degree	2,4 x 1,8
Zoom, mm	150
Resolution, lines/mm	480
Dimensions, mm	400x170/300x180
Supply voltage, V	12
Mass, kg	3



FEATURES:

- High sensitivity and resolution at low noise.
- Embedded bright light compensation system
- High quality of television.
- Wide range of operational illuminations

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IR Hunter Sight

«KANYUK»

Designed for sight shooting at daytime, twilight and night; ideal tool for professional and amateur application.

KEY CHARACTERISTICS:

Photo-receiver	Non-cooled microbolometer 160 x 120
Vision field at 100 m distance, m	7,84 x 5,88
Exit pupil move off, mm	55
Lens light diameter, mm	65
Length, mm	240
Remoteness detection for an object like «elk», m	2000
Remoteness detection for object like «wild boar», m	1600
Detection distance for an object like «elk», m	700
Detection distance for an object like «wild boar», m	550

FEATURES:

- Passive, does not require any artificial light sources;
- Mounted on a gun with special holder.



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Portable IR camera «MUTI»

The camera allows day and night video control in difficult weather conditions and full darkness; search and salvage operations in dusty and smoky conditions, fire zones detection, control of defined territories; can be used for monitoring the conditions of HV transmission lines, gas pipelines, for heat leakage detection in buildings.

KEY CHARACTERISTICS:

Spectral range, μm	7 - 12
Temperature sensitivity, $^{\circ}\text{C}$	0,1
Matrix format, pixel	160x120
Zoom, mm / angle field, degree	5,8 / 50 x 37
	8,5 / 32 x 24
	11 / 25 x 18
	16 / 17 x 12
	25 / 11 x 8
Operational temperature, $^{\circ}\text{C}$	-20 ÷ +65



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Night Glasses (Binoculars) «MELZAR B2»

Designed for nature fanciers, hunters, fishermen and professional, specialized guarding.

KEY PARAMETERS:

Magnification, times	2,4
Field of view, deg	10
Resolution, lines/mm	45
Dioptres correction	+4-6
Supply voltage, V	3 (2 x LR6)
Weight, kg	0,97

FEATURES:

- The tool is based on the second generation inverting electron-optical image intensifier with binocular loupe;
- Light and compact, the best operational and ergonomic requirements;
- Can be equipped with adaptable holders for mounting on various supports;
- Objective (lens) and ocular can be focused independently;
- Options: backlight and holders.



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Manufacturer:

JSC "Moscow electrolamps zavod" (MELZ)

Add.: 23, Electrozavodskaja str., Moscow,
107023, the Russian Federation
Tel.: (495) 963-71-53
E-mail: melz@rol.ru
www.melz.ct.ru

Night Binocular «MELZAR B3»

Designed for nature fanciers, hunters, fishermen and professional, specialized guarding.

KEY CHARACTERISTICS:

Magnification, times	4
Field of view, deg	10
Resolution, lines/mm	45
Dioptre setup, dpt	+4 ...-6
Exit pupil distance, mm	8
Resolution, lines/mm	3 (2 x LR6)
Weight, kg	0,95

FEATURES:

The tool is based on the second generation inverting electron-optical image intensifier with pseudo binocular ocular part.



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Night Monocular «MELZAR M1»

To be used by nature fanciers, hunters, tourists, fishermen etc.

KEY CHARACTERISTICS:

Magnification, times	4
Field of view, deg	8
Resolution, lines/mm	45
Dioptres setup, dioptr	+4 ... -6
Supply voltage, V	3 (2 x LR6)
Weight, kg	0,75

FEATURES:

The tool is based on the second generation inverting electron-optical image intensifier.

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SOLAR MODULES

PSM Line (125 × 125 mm)

MSM Line (125 × 125 mm)

Areas of Application: power supply for electronic equipment and for charging 12-V lead/acid or NiCd battery cells.

KEY SPECIFICATIONS:

P/Ns	Rated Power (W)	Photovoltaic Conversion Efficiency (%)	Types of Photovoltaic Transducer	Open-Circuit Voltage, U_{oc} (V)	Short-Circuit Current, I_{sc} (A)	Voltage at (P_{mp} , U_{mp}) Point (V)	Current at (P_{mp} , I_{mp}) Point (A)	Dimensions (mm)	Mass (kg)	Total Area (m ²)
PSM4-120	120	11.3 to 13.2	Full/ 72 ea.	43.2	3.3	34	3.1	1600 × 800 × 38	19	1.28
PSM4-135	135	13.2 to 14.6	Full/ 72 ea.	43.2	3.8	34	3.7	1600 × 800 × 38	19	1.28
PSM4-150	150	≥14.6	Full/ 72 ea.	43.2	4.4	34	4.2	1600 × 800 × 38	19	1.28
PSM5-60	60	11.3 to 13.2	Full/ 36 ea.	21.6	3.3	17.5	3.1	1220 × 550 × 38	10.5	0.67
PSM5-67	67	13.2 to 14.6	Full/ 36 ea.	21.6	3.8	17.5	3.7	1220 × 550 × 38	10.5	0.67
PSM5-75	75	≥14.6	Full/ 36 ea.	21.6	4.4	17.5	4.2	1220 × 550 × 38	10.5	0.67
PSM6-30	30	11.5 to 12.8	1/2 36 ea.	21.6	1.65	17.5	1.55	640 × 550 × 45	5.8	0.35
PSM6-33	33	12.8 to 14.2	1/2 36 ea.	21.6	1.9	17.5	1.8	640 × 550 × 45	5.8	0.35
PSM6-37	37	≥14.2	1/2 36 ea.	21.6	2.2	17.5	2.0	640 × 550 × 45	5.8	0.35
PSM7-14	14	11.5 to 12.8	1/4 36 ea.	21.6	0.8	17.5	0.75	640 × 300 × 45	3.6	0.19
PSM7-16	16	12.8 to 14.2	1/4 36 ea.	21.6	0.95	17.5	0.9	640 × 300 × 45	3.6	0.19
PSM7-18	18	≥14.2	1/4 36 ea.	21.6	1.1	17.5	1.05	640 × 300 × 45	3.6	0.19
MSM 12-700	12	≥12	1/6 36 ea.	21.6	0.75	17.5	0.7	290 × 425 × 9	1.0	0.123
MSM 12-350	6	≥12	1/12 36 ea.	21.6	0.4	17.5	0.35	160 × 425 × 9	0.55	0.068
MSM 6-700	6	≥12	1/6 18 ea.	10.8	0.75	8.5	0.7	160 × 425 × 9	0.55	0.068



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Manufacturer:

JSC "Ryazan Metal Ceramics Instrumentation Plant"
(RMCIP)

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Photovoltaic Semiconductor IR Detectors with Built-in Thermopiles

FE722-1, FE723-1, FE724-1, FE724-1T

These devices are designed to convert IR radiation to an electric signal in spectrum analyzers, thermal imagers, pyrometers and security systems.

KEY SPECIFICATIONS:

Photocell P/Ns	FE722-1	FE723-1	FE724-1	FE724-1T (thermopile- powered)
Spectral Ranges of Sensitivity (μm)	0.5 to 3.5	0.5 to 4.2	0.5 to 4.7	1.5 to 5.0
Peak Sensitivity Wavelengths (μm)	2.6 ± 0.2	3.2 ± 0.2	3.7 ± 0.2	4.2 ± 0.2
Response Speeds (μs)	≤30	≤15	≤5	≤7
Short Circuit Currents (μA)	≥60	≥40	≥25	≥35
Open-circuit Voltage (mV)	≥50	≥34	≥25	≥50
Power Flow Densities (mW/mm ²)	40	40	40	40
Ideal Blackbody Radiator Temperatures (°C)	1000	1000	1000	1000

FEATURES:

- No external power required
- Current flow through structure only when irradiated
- Low noise over wide band
- Low temperature coefficient of sensitivity
- Different modes of operation (open circuit / short current)
- Wide temperature range
- Usable with interference filters
- Thermopile-powered cooler can be used

Non-infringing in Russia, USA, Japan, Germany, France, UK.
Legally protected by RF Invention Patent #2261502 (priority date: 5 February 2004).



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Photosensitive Charge Coupled Devices with “Virtual Phase” for Ultraviolet and Visible Spectral Band.

Application in terrestrial and extraterrestrial astronomy, medicine, biology, microscopy, fluorography, environmental monitoring, physical experiments, crime detection

KEY CHARACTERISTICS:

Model	Architecture	Elements number	Element size, μm	Outputs number
ISD-029A, AP	FF	512×512	16×16	1 LN, 1 HS
ISD-048A, AP	FT	386×290	22×22	1 HS
ISD-075A, AP	SFF	1225×1300	14×14	2 LN, 2 HS
ISD-077A, AP	SFF	1040×1160	16×16	2 LN, 2 HS
ISD-079A, AP	FT	578×578	22×22	1 HS

FEATURES:

- Quantum efficiency up to 60% in maximum and up to 25% in UV spectrum (at $\lambda=250$ nm)
- Black current less than 4 electrons/s \times element at $T_{\text{ROM}} = -35^\circ\text{C}$
- Read noise less than 10-12 electrons at read frequency 1 MHz
- Photosensitive surface up to 16.6×18.6 mm



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E-mail: electron@nevsky.ne.t

Photosensitive Charge Coupled Devices with Fiber-Optic Input Window

Designed to read image signal from output screen of electronic- optical converters and other scintillation devices.

KEY CHARACTERISTICS:

Model	Architecture	Elements number	Pixel size, μm	Outputs umber
ISD-077 APF	SFF	1040×1160	16×16	2 LN, 2 HS
ISD-070AF	FT	512×512	22×22	1 HS



Exporter:

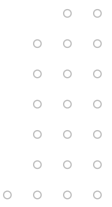
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Manufacturer:

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E-mail: electron@nevsky.net



Charge Coupled Devices with Time Delay and Accumulation Mode in Photosensitive Charge Coupled Devices «CRUISE»

Designed for Earth remote probing from space.

KEY CHARACTERISTICS:

Elements number	1024×128
Element size, μm	9×9
Number of accumulation steps	5 (vertical dimensions 8, 16, 32, 64 and 128 elements)

Exporter:

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Manufacturer:

JSC "National Research Institute "Electron"

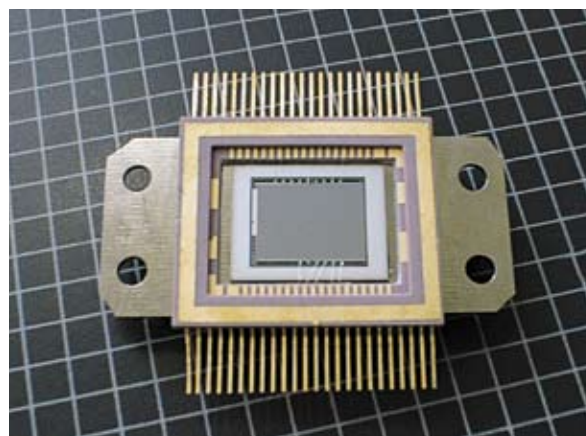
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Charge Coupled Devices for IR and Spectral Band

Application in IR TV cameras of IR midband (1,8-5,3 μm).

KEY CHARACTERISTICS:

Model	Number of CCD elements	Element size, μm
ISD-091	320×240	40×40
ISD-090	480×320	28×28



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JSC "National Research Institute "Electron"

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194223, the Russian Federation
Tel.: (812) 552-36-00, 552-22-76, 552-20-87
Fax: (812) 552-31-97
E-mail: electron@nevsky.net

Electronic Photomultiplier Tube EPT-Usman

Designed for application in radiometric and spectrometric devices of radioactivity logging.

KEY CHARACTERISTICS:

Ambient temperature, °C.	150
Material of photocathode	Sb-K-Cs
Shape	Round
Diameter, mm	36
Optical input	Front
Mass, g	≤ 100
Spectral sensitivity at wavelength (410±10) nm, A/W	5,7x10 ⁻²
Energy resolution, %	8,5

FEATURES:

Design: wedge base glass with soft leads.



Exporter:

JSC "Ruselectronics"

Add.: 9,b,7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Moscow electrolamps zavod" (MELZ)

Add.: 23, Electrozavodskaja str., Moscow,
107023, the Russian Federation
Tel.: (495) 963-71-53
E-mail: melz@rol.ru
www.melz.ct.ru

Electronic Photomultiplier Tube EPT-85-1

Designed to operate in scintillation counters and spectrometric devices.

KEY CHARACTERISTICS:

Material of photocathode	Sb-Cs
Shape	round
Diameter, mm	25
Window material	glass C95-2
Optical output	front
Cylinder diameter, mm	≤30
Mass, g	≤50
Light sensitivity of photocathode, $\mu\text{A}/\text{lm}$	80
Spectral sensitivity at wavelength (410 ± 10) nm, A/W	$5,5 \cdot 10^{-2}$
Energy resolution, %	8
Multiple shocks with acceleration up to 150 g at shock impulse duration, ms	1÷3
Ambient temperature, °C	-60 ÷ + 60

FEATURES:

- Design: wedge base glass with rigid leads;
- Vibration strength in frequency range from 1 to 1000 Hz with acceleration up to 10 g.



Exporter:

JSC "Ruselectronics"

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the Russian Federation
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Manufacturer:

JSC "Moscow electrolamps zavod" (MELZ)

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Electronic Photomultiplier Tube EPT-184SH

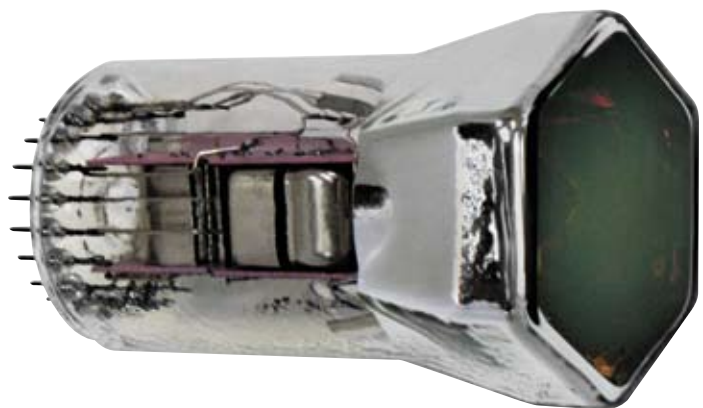
Designed to operate in scintillation counters, specifically for rotating gamma cameras.

KEY CHARACTERISTICS:

Material of photocathode	Sb-K-Cs
Shape	hexahedral
Diameter, mm	60
Window material	Borosilicate glass (BSG)
Optical input	front
Mass, g	≤80
Light anodic sensitivity of photocathode, $\mu\text{A}/\text{lm}$	10
Spectral sensitivity at wavelength (410 ± 10) nm, A/W	90
Energy resolution, %	8,5
Ambient temperature, °C	-60 ÷ + 60

FEATURES:

Design: wedge base glass with rigid leads.



Exporter:

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Manufacturer:

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Electronic Photomultiplier Tube EPT-184

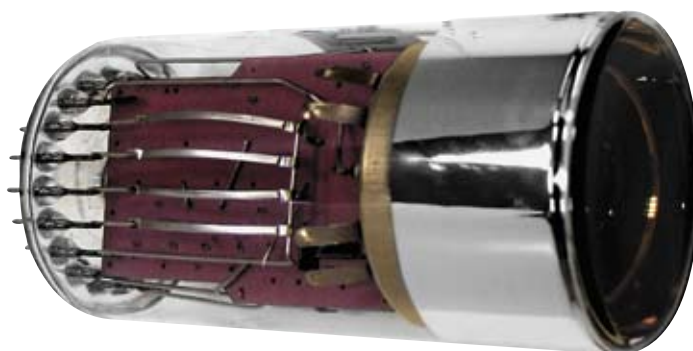
Designed to operate in scintillation counters, namely in rotating gamma camera.

KEY CHARACTERISTICS:

Material of photocathode	Sb-Cs
Shape	Round
Diameter, mm	46
Window material	glass C52-1
Optical input	front
Diameter of cylinder, mm	≤ 52
Mass, g	≤ 80
Light sensitivity of photocathode, $\mu\text{A}/\text{lm}$	90
Spectral sensitivity at wavelength 410 ± 10 nm, A/W	90
Energy resolution, %	8,5
Ambient temperature, °C	-60 ÷ + 55

FEATURES:

Design: wedge base glass with rigid leads.



Exporter:

JSC "Ruselectronics"

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Manufacturer:

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Electronic Photomultiplier Tube EPT-127-2-C

Designed to measure threshold luminous fluxes in various devices.

KEY CHARACTERISTICS:

Material of photocathode	Sb-Cs
Shape	round
Diameter, mm	7
Optical input	front
Mass, g	≤50
Light sensitivity of photocathode, $\mu\text{A}/\text{lm}$	80
Area of spectral sensitivity, nm	300-600

FEATURES:

Design: wedge base glass with rigid leads;



Exporter:

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Electronic Photomultiplier Tube EPT-115M

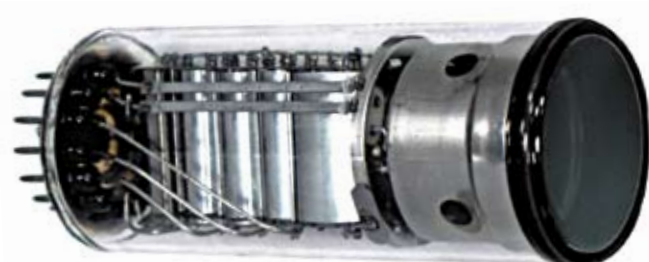
Designed for weak luminescent flux detection and measurement.

KEY CHARACTERISTICS:

Material of photocathode	Multi alkaline
Shape	round
Photocathode diameter, mm	25
Window material	glass C-93-2
Optical output	front
Cylinder diameter, mm	≤30
Mass,g	≤50
Light sensitivity, $\mu\text{A/lm}$	80

FEATURES:

Design: wedge base glass with rigid leads.



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Electronic Photomultiplier Tube EPT-102-1

Designed for application in radiometric and spectrometric devices of radioactivity logging at ambient temperature up to 150 °C.

KEY CHARACTERISTICS:

Material of photocathode	Sb-K-Na
Shape	round
Diameter, mm	16
Material of the window	glass UT-49
Optical input	Front
Cylinder diameter, mm	≤20
Mass, g	≤30
Light sensitivity of photocathode, μA/lm	40
Spectral sensitivity at wavelength (410±10) nm, A/W	4,5x10 ⁻²
Energy resolution, %	10
Multiple shocks with acceleration up to 15 g at shock impulse duration, ms	2÷15
Ambient temperature, °C	-40 ÷ + 150

FEATURES:

- Design: wedge base glass with soft leads;
- Vibration strength in frequency range from 1 to 80 Hz with acceleration up to 5 g.



Exporter:

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Manufacturer:

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107023, the Russian Federation
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Electronic Photomultiplier Tube EPT-74-A-1

Application in radiometric and spectrometric devices of radioactive logging at ambient temperature up to 150 °C.

KEY CHARACTERISTICS:

Material of photocathode	Sb-K-Na
Shape	round
Diameter, mm	25
Window material	glass YT-49
Optical input	front
Diameter of cylinder, mm	≤ 30
Mass, g	≤ 50
Light sensitivity of photocathode, $\mu\text{A}/\text{lm}$	50
Spectral sensitivity at wavelength 410 ± 10 nm, A/W	$3,0 \times 10^{-2}$
Energy resolution, %	8
Multiple shocks with acceleration up to 15 g at shock impulse duration, ms	2 ÷ 15
Ambient temperature, °C	-50 ÷ +150

FEATURES:

- design: wedge base glass with rigid leads.
- vibration strength in frequency range from 20 to 600 Hz with acceleration up to 8g.

Exporter:

JSC "Ruselectronics"

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Electron-Optical Image Converter with the Second Generation Micro-Channel Plate

EPM-61

Application in night vision devices.

KEY CHARACTERISTICS:

Material of photocathode	Multi-alkaline
Window material	Fiber-optical plate
Photocathode effective diameter, mm	25
Light efficiency, $\mu\text{a/lm}$	320
Max. Resolution in center, ln/mm	32
Gain factor	min 3×10^7
Brightness, kd/m^2	max 3×10^{-3}
Magnification, times	1
Operating voltage, V	2,2-3,4



Exporter:

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Electron-Optical Image Converter with the Second Generation Micro-Channel Plate

EPM 63

Application in night vision devices.

KEY CHARACTERISTICS:

Material of photocathode	Multi-alkaline
Window material	Fiber-optical plate
Photocathode effective diameter, mm	17
Light efficiency, $\mu\text{a/lm}$	320
Max. Resolution in center, ln/mm	45
Gain factor	min 3×10^7
Brightness, kd/m^2	max 1×10^{-3}
Magnification, times	1,5
Operating voltage, V	2,0-3,4



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Displays

3.1. Data Displays

3.2. Plasma Panels

3.3. Cathode-Ray Tubes

/ 3

LED Based Single Multi-Color Detector (indicator) with Lengthy Output Surface

Designed to monitor the state (parameter space) of various equipment (machines and mechanisms), including color coding of a definite state. Provides friendly perception of information with peripheral vision, eliminating translation to vision focus indicator.

KEY CHARACTERISTICS:

$I_{dir.}$, mA	20
I_v , mCd	≥ 300
$U_{dir.}$, V	$\leq 3,8$

FEATURES:

- design of a detector allows getting uniform fluorescent light of the output surface with blue, green, yellow and red colors, as well as any combination thereof;
- possibility of making single-, double- and triple-color detectors;
- detector has semi-cylinder surface with the radius of 12mm and 4-6 mm height.



Exporter:

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Web: www.roselgroup.com

Manufacturer:

JSC «OPTRON»

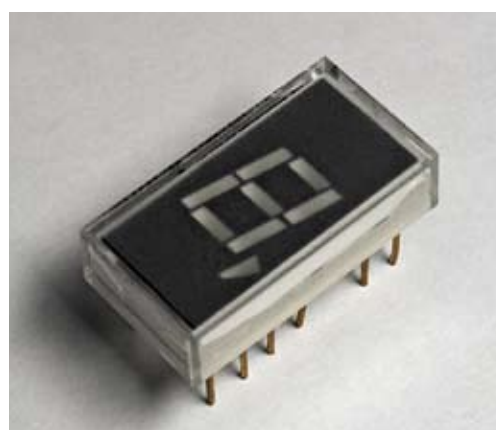
Add.: 53, Scherbakovskaya str., Moscow, 105318,
the Russian Federation
Tel.: (495) 366-92-59, 369-64-80
Fax: (495)366-27-62, 369-59-46
E-mail: optron@optron.ru, abd@optron.ru, mark@optron.ru
Web-site: www.optron.ru

Single Bit Digital Displays (indicators)

KIPTS14A-1/7K, KIPTS 14B-1/7K, KIPTS 14V-1/7K, KIPTS 14G-1/7K, KIPTS 15A-1/7M, KLTS302V, KLTS302G, KLTS302D, KLTS302E

KEY CHARACTERISTICS:

Product type	Luminescent color	Character height, mm	$I_{v. avr.}$, mCd
KIPTS14A-1/7K	Red	12	≥ 250 at $I_{dir} (conv) = 5$ mA
KIPTS 14B-1/7K	Red	12	≥ 250 at $I_{dir} = 5$ mA
KIPTS 14V-1/7K	Red	12	≥ 400 at $I_{dir} = 5$ mA
KIPTS 14G-1/7K	Red	12	≥ 400 at $I_{dir} = 5$ mA
KIPTS 15A-1/7M	Red & Green	20	≥ 500 at $I_{dir}=20$ mA
KLTS302V	Green	-	≥ 200 at $I_{dir}=20$ mA
KLTS 302G	Green	-	≥ 400 at $I_{dir}=20$ mA
KLTS 302D	Green	-	≥ 800 at $I_{dir}=20$ mA
KLTS 302E	Green	-	≥ 1500 at $I_{dir}=20$ mA



Exporter:

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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC «OPTRON»

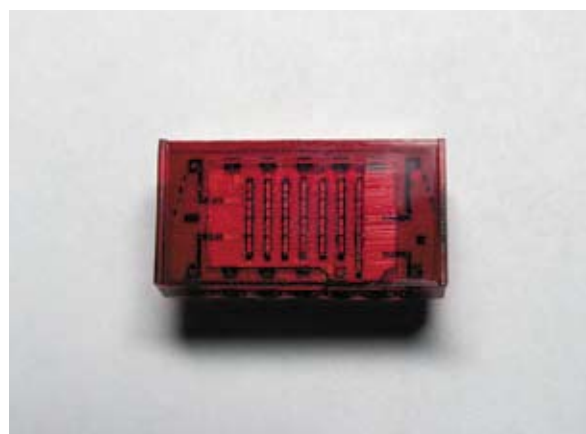
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Web-site: www.optron.ru

Multi-Bit Digital Displays

KIPTS 17A-4/7K, KIPTS 18A-5/7K, KIPV04A-5/8K, KIPV04B-5/8K

KEY CHARACTERISTICS:

Product type	Bit number	Luminescent color	Character height, mm	$I_{v. avr.}$, mCd
KIPTS 17A-4/7K	4	Red	4	≥ 50 at $I_{dir}=3$ mA
KIPTS 18A-5/7K	5	Red	4	$\geq 0,05$ at $I_{dir}=3$ mA
KIPV04A-5/8K	5	Red	4	≥ 50 at $I_{dir}=3$ mA
KIPV04B-5/8K	5	Red	4	≥ 50 at $I_{dir}=3$ mA



Exporter:

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Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

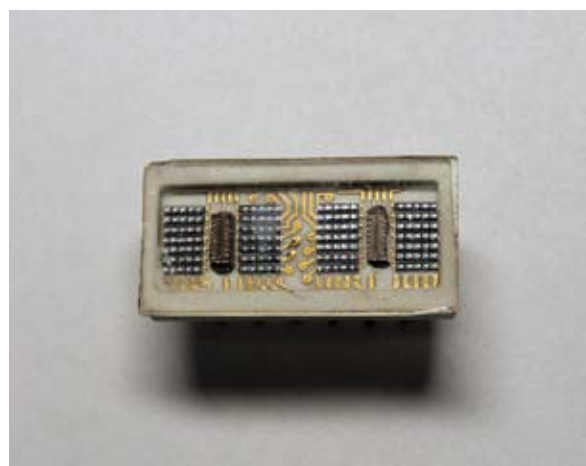
JSC «OPTRON»

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Controlled Multi-Bit Matrix Displays IPV70A-4/5x7K, KIPV70A-4/5x7K, IPV73A-4/5x7L, KIPV73A-4/5x7

KEY CHARACTERISTICS:

Product type	Bit number	Luminescent color	Character height, mm	$I_{v,avr.}$ mCd
IPV70A-4/5x7K	4	Red	4,1	≥ 120 at $U_{cc}=5,0V$
KIPV70A-4/5x7K	4	Red	4,1	≥ 90 at $U_{cc}=5,0V$
IPV73A-4/5x7L	4	Green	4,1	≥ 850 at $U_{cc}=5,0V$
KIPV73A-4/5x7L	4	Green	4,1	≥ 850 at $U_{cc}=5,0V$



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Web-site: www.optron.ru

Bar Displays

KIPT20A-7K, KIPT 20B-7L, KIPT20B-7M, KIPT 21B-5L, KIPT21V-5M

KEY CHARACTERISTICS:

Product type	Elements number	Luminescent color	$I_{v,avr},$ mCd
KIPT20A-7K	7	Red	≥ 400 at $I_{dir}= 20$ mA
KIPT20B-7L	7	Green	≥ 400 at $I_{dir}= 20$ mA
KIPT20V-7M	7	Red-Green	≥ 400 at $I_{dir}= 20$ mA
KIPT21B-5L	5	Green	≥ 400 at $I_{dir}= 20$ mA
KIPT21V-5M	5	Red-Green	≥ 400 at $I_{dir}= 20$ mA

Exporter:

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Web-site: www.optron.ru

Display Modules KIPGO8A-8x8K

KEY CHARACTERISTICS:

Luminescent color	Size, mm	Pixel diameter, mm	$I_{v. avr.}$, mCd
Red	64-element matrix 100x100	12	≥ 5000 at $I_{dir} = 20$ mA

FEATURES:

Possibility of manufacturing modules with significantly increased light intensity allowing device application in very bright light.

Exporter:

JSC "Ruselectronics"

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Web-site: www.optron.ru

AC/DC PLASMA DISPLAYS

Designed to be components of display panels at public facilities such as railroad stations, airports, exhibitions and conference halls.

KEY CHARACTERISTICS:

Descriptions	Data Capacities (# of triad cells)	Pixel Sizes (mm)	Luminance (cd/m ²)	Angles of View (Degrees)
DC type for Processor type of typed-in displays	16 × 16 / 32 × 32 / 64 × 64	12.6 & 3	250 / 100 / 50	160
AC type for typed-in displays 128x128	128 × 128	-	250	160

FEATURES:

- thin
- long life
- no EM radiative emissions
- mechanically robust

Exporter:

JSC "Ruselectronics"

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Manufacturer:

JSC "Plasma"

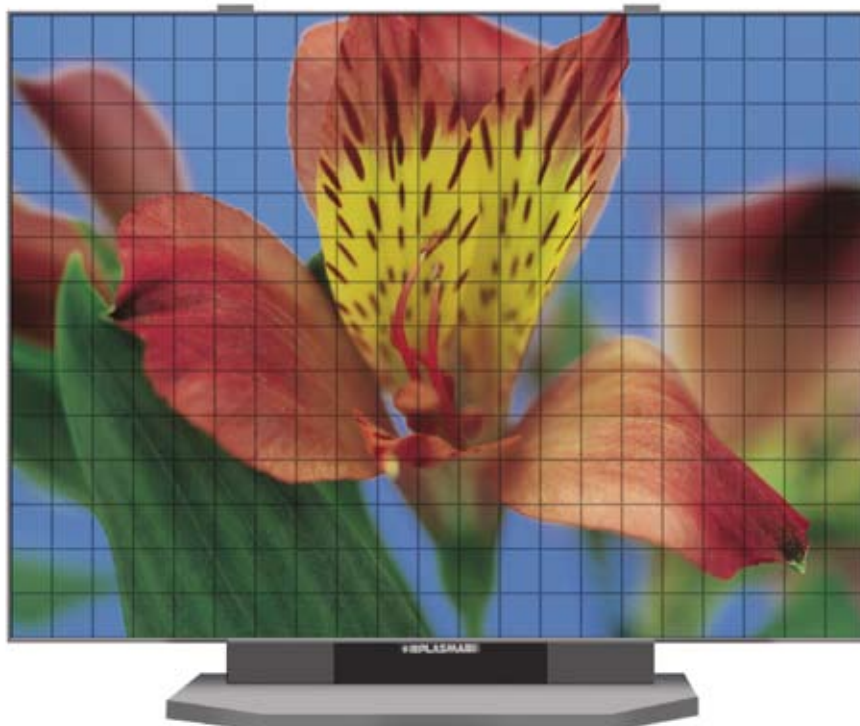
Add.: 24, Tsiolkovsky str., Ryazan, 390023, the Russian
Federation
Tel: (4912) 24-90-62
Fax: (4912) 44-06-81
E-mail: plasma_aga@niigrp.ryazan.ru
Web: www.plasma.com.ru

Industrial Plasma Displays

Areas of Application: aviation, railroad facilities, etc.

KEY CHARACTERISTICS:

Pixel Sizes (mm)	Luminance (cd/m ²)
≤0.19 (Black & White)	100 to 300
0.3 (Full Colored)	



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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Plasma"

Add.: 24, Tsiolkovsky str., Ryazan, 390023, the Russian
Federation
Tel: (4912) 24-90-62
Fax: (4912) 44-06-81
E-mail: plasma_aga@niigrp.ryazan.ru
Web: www.plasma.com.ru

Projection Tube 6LK71

Designed to operate together with optical devices depicting information in graphical and character representation in aircrafts.

KEY CHARACTERISTICS:

Focus	electrostatic
E-beam deflection	electromagnetic
Display color	green
Post luminescent time, sec	average ($10^{-2} - 10^{-1}$)
Filament voltage, V	6,3
Filament current, A	0,27 – 0,33
Focusing voltage, V	0 – 400
Voltage on second anode, V	15000
Display brightness (measured at $I_{a2} = 150 \mu\text{A}$), kd/m^2	≥ 6000
Line width (measured at $I_{a2} = 150 \mu\text{A}$), mm	
In the center	$\leq 0,20$
At the edge	$\leq 0,22$
Min. non-failure operating time, hours.	1000

FEATURES:

Possibility of using the tube at low atmospheric pressure up to 670 Pa (5mm of mercury column).



Exporter:

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Manufacturer:

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107023, the Russian Federation
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E-mail: melz@rol.ru
www.melz.ct.ru

Emitters

4.1. Lasers

4.2. X-ray Tubes

/ 4

LCD family of CO₂ Lasers

LCD 1A

For labeling and use in printing industry

LCD-10WGFopr, LCD- 50W, and LCD- 10WG-2T

Areas of Application: labeling operations, microelectronics and research

LCD-10A and LCD- 25W

Areas of Application: medicine, engraving operations and printing industry.

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (W)	Spectrum	Similar Devices (Manufacturer & P/N)
LCD - 1A	10.6	1.5	TEM ₀₀	Robin TR
LCD - 10WG	9.2 to 10.8	2-8	TEM ₀₀	Lasertech LTG-70
LCD - 50W	10.6	50.0	TEM ₀₀	Coherent GEM-50
LCD - 10WG-2T (dual line)	9.2 to 10.8	10.0	TEM ₀₀	Lasertech LTG-70
LCD - 10A	10.6	10.0	TEM ₀₀	Sinrad 48-1
LCD - 25W	10.6	30.0	TEM ₀₀	Coherent GEM-30

FEATURES:

- small size
- stable emission
- tuning and fixed-wavelength operation (LCD - 10WG-2T).



Exporter:

JSC "Ruselectronics"

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Manufacturer:

JSC "Plasma"

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Web: www.plasma.com.ru

GKL Line of He-Cd Lasers

GKL 10U Designed to be used in stereolithography

GKL 30UM(I) Designed to be used in research applications

GKL 100V, GKL 60V (I) and GKL 40(I)

Areas of Application: materials processing, holography and research applications

GKL 50V, GKL 100V(I) and GKL 100(I)

Areas of Application: stereolithography, research (such as biophysics, biochemistry and medicine), manufacturing of holographic or diffraction-instrument components.

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (mW)	Spectrum	Similar Devices (Manufacturer & P/N)
GKL 10U	0.32	10	TEM ₀₀	Kimmon IK 311RKE
GKL 30UM(I)	0.32	35	TEM _{mn}	Kimmon I15 3252R E
GKL 100V	0.44	100	TEM ₀₀	Kimmon
GKL 60V (I)	0.44	80	TEM ₀₀	Kimmon IK 410 IR-F
GKL 40(I)	0.32; 0.44	15;50	TEM _{mn} /TEM ₀₀	Kimmon IK 535IR-D
GKL 50V	0.44	60	TEM ₀₀	Kimmon IK 4401R-D / IK 4601R-E
GKL 100V(I)	0.44	30;100	TEM _{mn} /TEM ₀₀	Kimmon IK 4131 I-G
GKL 100(I)	335; 442	20;100	TEM ₀₀	Kimmon IK 5552 R-F

FEATURES:

feature good cost/performance relationship.



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GKKL Line of He-Cd Lasers: GKKL 15UM and GKKL 30UM(I)

Areas of Application: materials processing, holography and research applications

GKKL 8UM(I) and GKKL 20V

Areas of Application: stereolithography, research (such as biophysics, biochemistry and medicine), manufacturing of holographic or diffraction-instrument components

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (mW)	Spectrum	Similar Devices (Manufacturer & P/N)
GKKL 15UM	0.32	15	TEMmn	Kimmon IK 315 RR-D
GKKL 30UM(I)	0.32	25	TEMmn	Kimmon IK 3202 R-D
GKKL 8UM(I)	0.32	12	TEMmn	Kimmon IK 3151 R-E
GKKL 20V	0.44	20	TEMmn	Kimmon IK 4153 R-C

FEATURES:

- small size
- weatherproof



Exporter:

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Manufacturer:

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Web: www.plasma.com.ru

GN Line of Visible He-Ne Lasers: GN 2P, GN 5P and GN 25-1

Areas of Application: research, medicine, measuring instruments, microelectronics.

GN 15-1, GN 40, GN 50, GN 60, GN 70 and GN 80

Areas of Application: microelectronics, machine building, instrument manufacturing, geodesy, construction, medicine, agriculture, and measurement systems.

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (W)	Spectrum	Similar Devices (Manufacturer & P/N)
GN 2P	0.63	2	TEM ₀₀	Melles Griot, 05LH P 073
GN 5P	0.63	5	TEM ₀₀	Melles Griot, 05LH P 151
GN 25-1	0.63	25	TEM ₀₀	107Specta Ph
GN 15-1	0.63	15	TEM ₀₀	Melles Griot, 05LH P925
GN 40	0.63	40	TEM _{mn}	Melles Griot, 05LH R 931
GN 50	0.63	50	TEM _{mn}	-
GN 60	0.63	60	TEM _{mn}	-
GN 70	0.63	70	TEM _{mn}	-
GN 80	0.63	80	TEM _{mn}	-

FEATURES:

- cost/performance relationship
- small size



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LGN Line of He-Ne Lasers

LGN 220SF

Single-Wavelength Lasers

Areas of Application: research, medicine, measurement systems, microelectronics, printing industry and holography

LGN 118-2V (LGN 118-3V)

dual- and single-triple-wavelength He-Ne Lasers

Applications: Adjustments of optical systems

LGN 220, LGN 2236-1

Visible He-Ne Lasers

Areas of Application: microelectronics, machine building, instrument manufacturing, geodesy, construction, medicine, agriculture, and measurement systems

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (W)	Spectrum	Similar Devices (Manufacturer & P/N)
LGN-220SF	0,63	40	-	Melles Griot, LHP-929
LGN-118-2B	0,63;1,15	10;5	TEMmn	-
LGN-118-3B	0,63; 1,15; 3,339	10;5;5	TEMmn	-
LGN-223-1	0,63	10	TEMoo	Melles Griot, 05LHP-991
LGN-220	0,63	70	TEMoo	-

FEATURES:

- cost/performance relationship
- small size



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AIL/ LGI Line of Nitrogen Lasers

AIL 05, AIL 3, LGI 511

Applications: research, microelectronics, photography.

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (W)	Pulse Power (μJ)	Spectrum
AIL 05	0.34	0.5	2.5	TEM ₀₀
AIL 3	0,34	3	30	TEM ₀₀
LGI 511	0.34	240	0.24	TEM _{mn}

FEATURES:

- high pulse power AIL 50
- short pulse width AIL 50



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Web: www.plasma.com.ru

LG 106M4/LG 106M5, D-2, M-951 Ar Lasers

Designed for use in research, educational establishments and shows

KEY CHARACTERISTICS:

P/Ns	Wavelengths (μm)	Average Power (W)	Spectrum	Similar Devices (Manufacturer & P/N)
LG 106M4 / LG 106M5	0.46 to 0.51	4/5	TEMmn	Coherent
D-2	0.46 to 0.51	20	TEMmn	
M-951	0.46 to 0.51	10	TEMmn	



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Rotating-Anode X-Ray Tubes BD 125 Line, BD 150 Line

Area of Application: radiological medical diagnostics.

KEY SPECIFICATIONS:

P/Ns	Focal Spot Sizes (mm)	Power (kW)	Target Dia/ Angle (mm/deg)	Target Heat Capacity (kJ)	Anode Rotation Frequency (RPS)	Max Filament Voltage/Current		Dimensions (mm)	
						Voltage, U_f (V)	Current, I_f (A)	Max. Length	Envelope Dia
6-10-BD8-125	0,8 1,5	6,0 10,0	57/17	50	50	4,6 7,5	7,0 8,5	225	85
20-40BD40-125	1,2 2,0	20,0 40,0	70 /17	100	50	9,0 13,0	5,5 5,5	251	108
2,5-50BD21-150	0,3 1,0	2,5 50,0	100 /17	120	50	4,0 13,5	4,5 8,5	290	140
20-50BD22-150	1,0 2,0	20,0 50,0	100/17	120	50	7,8 13,5	7,0 8,5	290	140
2.5-30BD29-150	0,3 1,2	2,5 30,0	100 /17	100	50	4,0 12,5	4,5 7,0	290	140
30-50BD39-150	1,2 2,0	30,0 50,0	88 /17	135	50	10,2 13,8	5,5 5,5	250	121
15-40BD46-150	0,6 1,2	15,0 40,0	88 /14	225	50	9,0 14,5	5,5 5,5	250	121
25-50BD52-150	1,2 2,0	25,0 50,0	88 /14	225	150	7,5 15,0	6,2 6,5	270	130



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Manufacturer:

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Tel.: (812) 554-91-08
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E-mail: svetlana@svetlanajsc.ru

BDM Line of Fixed-Anode X-Ray Tubes

Area of Application: radiological medical diagnostics.

KEY SPECIFICATIONS:

P/Ns	Focal Spot Sizes (mm)	Power (kW)	Target Angles (deg)	Target Heat Capacity (kJ)	Max Voltage (kV)	Max Filament Voltage/Current		Dimensions (mm)	
						Voltage, U_f (V)	Current, I_f (A)	Max. Length	Envelope Dia
1,7BDM18-100	1.0	1.7	19	28	100	4.20	4.7	146	42
0,75-3,2BDM23-105	0.6 1.6	0.75 3.2	12	60	105	4.0 6.0	3.5 4.5	142	60
8BDM22-110	2.6	8.0	19	30	110	9.5	4.5	152	52
0,6-3BDM29-125	0.6 1.4	0.6 3.0	15	30	125	6.1 5.6	3.5 4.2	145	52



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X-Ray Tubes: BDM Line

Areas of Application: dental examinations and therapy.

KEY SPECIFICATIONS:

P/Ns	Focal Spot Sizes (mm)	Power (kW)	Target Angles (deg)	Target Heat Capacity (kJ)	Max Filament Voltage/Current		Dimensions (mm)	
					Voltage, U_f (V)	Current, I_f (A)	Max. Length	Envelope Dia
0,2BDM7-50	0.8	0.2	19	6	7.07	3.2	73	30.5
1,3BDM15-75	0.8	1.3	19	15	4.3	4.3	112	40
0,39 BDM 17-70*	0.8	0.39	19	8	4.1	2.45	78	31
1,1 BDM 32-90	0.8	1.1	5	18.5	8.0	4.0	150	44.5

* *Controlled-anode-current three-electrode tube.*



Exporter:

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X-Ray Rubes: BPV/ BPM/ BPK Lines

Area of Application: industrial nondestructive tests of materials.

KEY SPECIFICATIONS:

P/Ns	Operating Anode Voltage (kV)	Power (kW)	Max. Filament Voltage/Current		Focal Spot Sizes (mm)	Emerging Beam Angle (degrees)	Dimensions (mm)	
			Voltage, U_f (V)	Current, I_f (A)			Max. Length	Envelope Dia
1,5BPV7-150	150	1.5	4.4	4.3	4.5 *	360 × 45	643	102
0,8BPM14-160	160	0.8	5.6	4.5	1.2	40	187	70
4BPM8-250	250	4.0	5.6	4.5	3.8	40	395	103
1BPM12-300	300	1.0	5.0	4.2	2.5	40	330	101
1,2-3BPM5-300	300	1.2 3.0	3.5 4.5	4.5 4.5	1.5 4.0	40	395	105
0,48BPK9-160	160	0.48	6.6	4.4	1.4x1.4	60 × 80	190	67
1BPK12-200	200	1.0	4.5	4.2	3.8	40 × 360	209	70
1,2BPK21-200	200	1.2	5.7	4.2	2.2x3.0	40 × 60	210	70
0,8BPK5-220	220	0.8	4.5	4.0	1.6	50	305	101
1,3BPK16-260	260	1.3	5.9	4.2	2.4x3.0	30 × 60	340	101
1,3BPK19-260	260	1.3	5.9	4.2	5.0	40 × 360	340	101
1,8BPK11-300	300	1.8	4.4	4.2	2.8x3.0	40 × 60	280	90
1,5BPK14-300	300	1.5	4.5	4.2	5.0	40 × 360	280	90
1,5BPK20-300	300	1.5	6.5	4.5	3.0x3.0	40 × 60	236	116
1,3BPK24-320	320	1.3	4.2	3.2	5.0	40 × 360	314.5	105

* Controlled by the focusing coil current.

** Equipped with built-in protection from unused X-rays.



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X-Ray Tubes: IMA Line

Area of Application: industrial nondestructive material quality tests.

KEY SPECIFICATIONS:

P/Ns	Tube Voltage (kV)	Focal Spot Sizes (mm)	Pulse Repetition Rates (s ⁻¹)	Dimensions (mm)	
				Max. Length	Envelope Dia
IMA2-150D	140 to 170	2.3	15	30	40
IMA5-320D	190 to 270	2.3	5	53.5	115
IMA6D	90 to 110	2.1	100	29	63



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BUK 6 X-Ray Tube

Area of Application: industrial nondestructive material quality tests.

KEY SPECIFICATIONS:

Type	Electron Energy (MeV)	Injection Voltage (kV)	Injection Current (A)	Dose Rate (R/min)	Dimensions (mm)		
					Diameter	Height	Inner Diameter
BUK 6	6	40	0.8	0.3	294	45	71



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BPM Line of X-Ray Tubes

Area of Application: Luggage/cargo inspection.

KEY SPECIFICATIONS:

P/Ns	Max. Anode Voltage (kV)	Power (kW)	Max. Filament Voltage/Current		Focal Spot Sizes (mm)	Anode Target Angles (Deg)	Dimensions (mm)	
			Voltage, U_f (V)	Current, I_f (A)			Max. Length	Envelope Dia
0,3BPM25-150	160	0.3	4.2	4.4	0.8	32	193	67
0,32BPM30-160 *	160	0.32	3.6	3.3	0.6	19	192	67
0,32BPM34-160*	160	0.32	3.6	3.3	0.8	10	192	67
0,8BPM36-160	160	0.8	5.5	4.4	0.8 × 0.8	10	190	67
0,2BPM38-100	100	0.2	6.0	2.6	0.6	19	135	42

* Equipped with built-in protection from unused X-rays.



Exporter:

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Bulk-Anode X-Ray Tubes BSV Line

Area of Application: industrial analysis of materials structure.

KEY SPECIFICATIONS:

P/Ns	Anode Voltage (kV)	Power (kW)	Be Window Thickness (mm)	Max. Filament Voltage/Current		Focal Spot Sizes (mm)	Target Materials	Dimensions (mm)	
				Voltage, U_f (V)	Current, I_f (A)			Max. Length	Envelope Dia
BSV27	60	2.5	0.3	4.0	4.0	1.6 × 10.0	W, Mo, Cu, Cr Ag, Co, Ni Fe V	236	55
		2.0							
		1.6							
		1.2							
BSV28	60	2.4	0.3	4.0	4.0	1.0 × 10.0	W, Mo Cu, Ag Cr, Co Ni, Fe V	236	55
		2.0							
		1.8							
		1.5							
		1.0							
BSV29	60	2.1	0.3	4.0	4.0	0.4 × 8.0	W, Mo Cu, Ag Cr, Co, Ni Fe, V	236	55
		1.5							
		1.3							
		0.9							
BSV40	60	2.0	0.3	10.0	4.0	0.4 × 8.0	W, Mo Cu Cr, Co Fe	240	61
		1.5							
		1.3							
		0.9							
BSV41	60	3.0	0.3	10.0	4.0	0.4 × 12.0	W, Mo Cu Cr, Co Fe	240	61
		2.2							
		1.5							
		1.1							
BSV42	60	1.0	0.3	10.0	4.0	0.15 × 8.0	W, Mo Cr, Co Fe	240	61
		0.8							
		0.3							
BSV43	60	2.4	0.3	10.0	4.0	1.0 × 10.0	W, Mo Cr, Co Fe	240	61
		1.8							
		1.5							
BSV44	30	0.6	0.3	1.6	3.2	0.2 × 1.4	Mo, Co, Cu, Cr, V	150	35
BSV45	60	2.7	0.3	12.0	4.0	2.0 × 12.0	Cu, W, Mo, Cr, Co, Fe	240	61
		2.2							



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Through-Anode X-Ray Tubes BS Line

Area of Application: industrial analysis of material structure.

KEY SPECIFICATIONS:

P/Ns	Max. Voltage (kV)	Power (kW)	Max. Filament Voltage/Current		Focal Spot Sizes (mm)	Anode Target Materials	Dimensions (mm)	
			Voltage, U_f (V)	Current, I_f (A)			Max. Length	Envelope Dia
BS1	45	4.5/2.3 *	2.0	3.9	0.1/0.04	Mo, Ag, Cu, Re Cr	42	205
	45		2.0	3.8	0.1/0.04			
BS6	100	5.0/2.0 *	1.9	3.9	0.1/0.02	Mo, Ag, Cu, Re	55	210

* With additional magnetic focusing.



Exporter:

JSC "Ruselectronics"

Add.: 9,b,7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Svetlana"

Add.: 27, Engels ave., St. Petersburg, 194156,
the Russian Federation
Tel.: (812) 554-91-08
Fax: (812) 553-70-01
E-mail: svetlana@svetlanajsc.ru

Through-Anode X-Ray Tubes BH Line

Area of Application: industrial materials spectrum analysis.

KEY SPECIFICATIONS:

P/Ns	Max. Tube Voltage (kV)	Power (kW)	Max. Filament Voltage/Current		Focal Spot Sizes (mm)	Anode Target Materials	Dimensions (mm)	
			Voltage, U_f (V)	Current, I_f (A)			Max. Length	Envelope Dia
BH2	10	0.0005 (0.005 s-rad)	1.5	3.2	N/A	Au, Ag, Ti	15	70
BH3	25	0.01	2.5	2.3	N/A	Cu, Ge, Mo	20	105
BH7	50	10.0	2.2	3.6	1.2	V, Mo, Ag, W	42	210
BH9	50	12.0	2.2	3.5	2.0	Ge, Mo, Ag, Cu, W, Ti, Rh, Cr	28	112
BH10	50	50.0	6.3	0.8	N/A	Cr, Mo, Ag, Re	26	80



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JSC "Svetlana"

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the Russian Federation
Tel.: (812) 554-91-08
Fax: (812) 553-70-01
E-mail: svetlana@svetlanajsc.ru

Bulk-Anode X-Ray Tubes BHV Line

Area of Application: industrial materials spectrum analysis.

KEY SPECIFICATIONS:

P/Ns	Anode Voltage (kV)	Power (kW)	Be Window Thickness (mm)	Max. Filament Voltage/Current		Focal Spot Sizes (mm)	Target Materials	Dimensions (mm)	
				Voltage, U_f (V)	Current, I_f (A)			Max. Length	Envelope Dia
BVH6	50	3.0 5.0	1.2	15.0	5.6	5,0 × 28,0	Ag W, Mo, Cu	270	66
BVH7	50	3.5 5.0	0.5 (1.0)	6.8	6.0	6,0	Re, Au, Pd Cu, Cr	245	35
BVH9	25	2.5	0.3	6.8	6.0	6,0	Cr, Pd	175	35
BVH12	50	2.5	0.3	6.8	6.0	6,0	Cr, Pd	180	35
BVH13	25	1.75	0.2	6.8	6.0	6,0	Cr, Pd	175	35
BVH17	60	0.24	0.145	2.0	1.4	1,4	Mo, Re, Cr, Pd	268	66
BVH18	35	3.5	1.0	3.4	100	100	Re	345	61



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Microwave Devices and Vacuum Tubes

5.1. Isolators and Circulators

5.1. Spark Gaps

5.3. Thyratrons

5.4. Phase Shifters

/ 5

MILLIMETER-WAVEBAND WAVEGUIDE ISOLATORS & CIRCULATORS

Areas of Application: wireless RF/telecommunications systems, satellite communication systems, computer networks.

KEY SPECIFICATIONS:

Descriptions	Bands (GHz)	Average Power (kW)
Low-Power Devices Including Cryogenic and Faraday-Effect Types	26 to 170	≤0.002
High-Power Devices	26 to 60	≤100
Super-High Power Devices	30 to 40	≤300



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Web: www.roselgroup.com

Manufacturer:

FERRITE DOMEN Company

Add.: 8, Chernigovskaya str., St. Petersburg, 196084,
the Russian Federation
Tel.: (812) 384 -84-11
Fax: (812) 388-37-91
E-mail: info@domen.ru
Web: www.domen.ru

COAXIAL ISOLATORS & CIRCULATORS

Areas of Application: cellular-system base stations, other wireless telecommunication systems.

KEY SPECIFICATIONS:

Descriptions	Bands (GHz)	Average Power (kW)
Medium Power Devices	0.2 to 18	0.15 to 0.6
High-Power Devices	0.1 to 4	0.25 to 20
Super-High Power Devices	0.1 to 1.4	20 to 150



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RO 43, RO 48 and RO 49 Dischargers

Areas of Application: non-destructive tests (X-ray equipment), pulsed medical instruments (lipotrippers, defibrillators) and lasers.

KEY SPECIFICATIONS:

P/Ns	Breakdown Voltage (kV)	Pulse Current (kA)	Switchable Energy (J)
RO 43	150	1	2
RO 48	100	1	2
RO 49	250	1	6



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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Plasma"

Add.: 24, Tsiolkovsky str., Ryazan, 390023, the Russian
Federation
Tel: (4912) 24-90-62
Fax: (4912) 44-06-81
E-mail: plasma_aga@niigrp.ryazan.ru
Web: www.plasma.com.ru

RK161 through RK167 Discharge Switches

Designed to be reliable components in aviation engine ignition systems, pulsed crack detectors and other process-related equipment.

KEY SPECIFICATIONS:

Dynamic Breakdown Voltages (kV)	Switchable Power Capacity (W)	Pulsed Currents (kA)
1.9 to 10.8	30 to 80	0.8 to 2.5

FEATURES:

- small size
- capable to operate for long time periods in harsh weather/mechanical environment.



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Web: www.plasma.com.ru

RU Line of Controllable Dischargers

RU 62

Applications: pulsed medical instruments such as lipotrippers and defibrillators.

RU 69

Designed to be used in aviation engine ignition systems.

RU 73, RU 77 and RU 78

Designed for use in seismic explorations (as generators to supply pulses to neutron tubes employed in neutron logging).

KEY SPECIFICATIONS:

P/Ns	Anode Voltage (kV)	Switchable Energy (J)	Pulse Currents (kA)
RU 62	4 to 10	23 to 300	5 to 16
RU 69	2 to 4	4 to 400	4 to 10
RU 73	15 to 21	2 to 4	5 to 10
RU 77	10 to 12	0.2 to 4	0.8 to 4
RU 78	20 to 27	0.2 to 4	0.8 to 4

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Web: www.plasma.com.ru

THYRISTORS

TGI3 500/16

Designed to modulate or switch power in radars.

TGI1 3000/30

Designed to be used as shock drivers in radars.

TGI2 1000/25

Designed to be used in laser power supplies.

TGI2 500/20

Designed to be used in CO₂, nitrogen, metal-vapor or eximer lasers.

KEY SPECIFICATIONS:

P/Ns	Anode Voltage (kV)	Anode Pulse Current (A)	Averaged Anode Current (A)
TGI3 500/16	16	500	10,5
TGI1 3000/30 (Modulation Mode/Generation Mode)	25/16.5	3000/2500	3/2.5
TGI2 1000/25	25	1000	1
TGI2 500/20	20	500	0.5



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Web: www.roselgroup.com

Manufacturer:

JSC "Plasma"

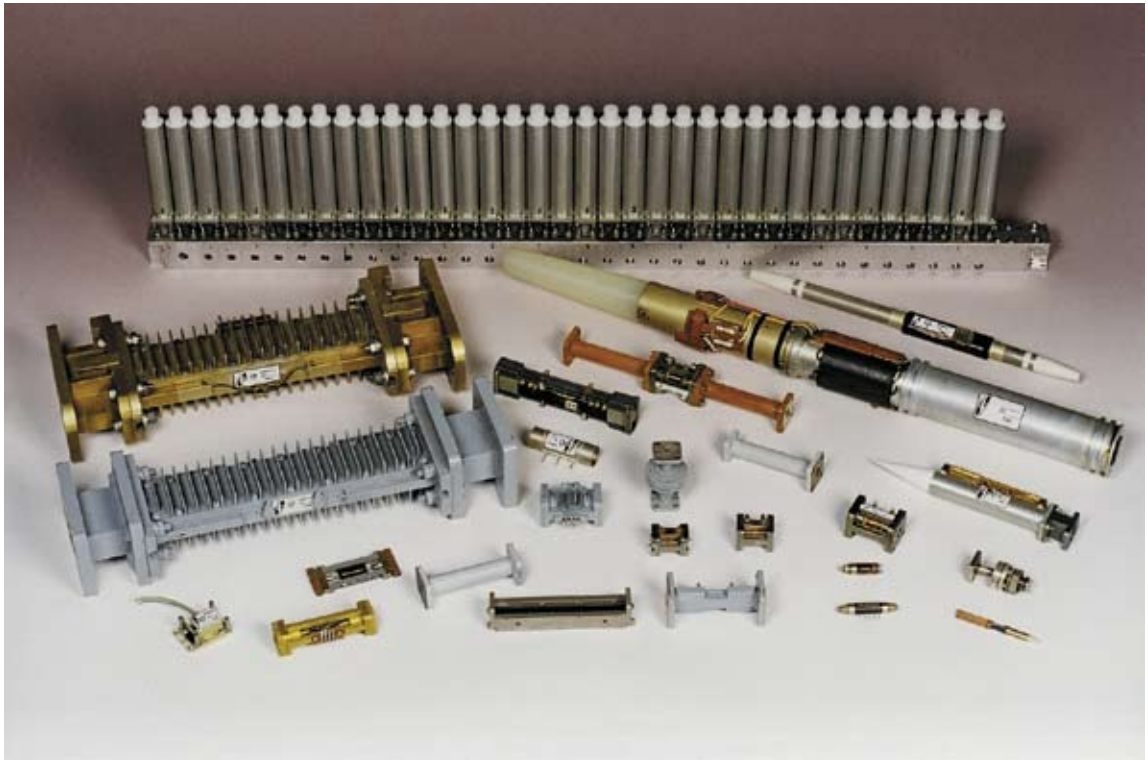
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E-mail: plasma_aga@niigrp.ryazan.ru
Web: www.plasma.com.ru

MILLIMETER-WAVEBAND FERRITE PHASE SHIFTERS

Area of Application: radar antenna/feeding transmission lines.

KEY SPECIFICATIONS:

Descriptions	Bands (GHz)	Average Power (kW)
Waveguide Phase Shifters	26 to 75	≤1
Antenna Array Phase Shifters	26 to 110	≤1



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Electronic Equipment and Systems

6.1. Amorphous or Nanocrystalline Alloys

6.2. Heterojunction Structures

6.3. Monocrystals

6.4. Hyperpure Materials

/ 6

Amorphous and Nanocrystalline Alloy Tapes “AMAG”

Amorphous alloy tape based on cobalt «AMAG 170-186»

Nanocrystalline alloy tape based on iron «AMAG 200»

Application: inductive components in special-application devices, PC power supply pulse transformer cores, interfaces of digital data transfer networks, inductive components in mobile communication switching systems, anti-theft sensors, inductive components of electronic power meters, heating elements in warm room coatings. The tapes replace electro-technical steel, permalloy and ferrites.

- nominal thickness range 18-25 $\mu\text{m} \pm (2-3) \mu\text{m}$ in a roll;
- nominal width range from 4.0 mm to 25.0 mm $\pm (0.1-0.2)$ mm

KEY CHARACTERISTICS:

Alloy property	AMAG 200	AMAG 186	AMAG 183	AMAG 180	AMAG 179	AMAG 172	AMAG 171	AMAG 170
Induction B_{10} , T	1,2	0,90	0,75	0,68	0,66	0,60	0,58	0,55
Coercive force H_f , A/cm	0,015	0,025	0,015	0,003	0,003	0,003	0,003	0,002
Magnetic permeability μ at 10 kHz	≥ 30000	2200	10 000	35 000	50 000	70 000	80 000	100 000
Magnetic permeability μ at 1 MHz	≥ 2500	1800	2 000	3 000	3 000	3 000	3 200	3 500
Max. Magnetic permeability μ_{MAX} , 10^3	600	1000	500	1000	800	1000	1000	1000
Specific loss at induction 0.2 T, $P_{0,2}$, W/kg at 10 kHz	1 – 1,5	1,5 – 2	1 – 2	1 – 1,5	1 – 1,5	0,5 – 1	0,5 – 1	0,5 – 1
Specific loss at induction 0.2 T, $P_{0,2}$, W/kg at 100 kHz	30 – 40	45 – 55	30 – 40	20 – 30	20 – 30	20 – 25	20 – 25	20 – 25
Crystallization temperature, °C	530	470	525	505	510	520	525	530
Curie temperature, °C	570	430	350	275	265	235	225	200
Density, g/cm ³	7,3	7,7	7,7	7,7	7,7	7,7	7,7	7,7
Linear hysteresis loop squareness ratio, not more	0,1	0,03	0,05	0,05	0,05	0,1	0,15	0,20
Rectangular hysteresis loop squareness ratio, at least	0,9	0,9	0,9	0,9	0,9	0,9	0,9	0,9
Biased magnetostriction, 10^{-7}	+20	+0,5	+10	+1	+2	-1	-1	+1

Exporter:

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Manufacturer:

JSC “Scientific and Research Institute of Electronic Engineering Materials” (NIIMET)

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Lithium Niobate Wafers

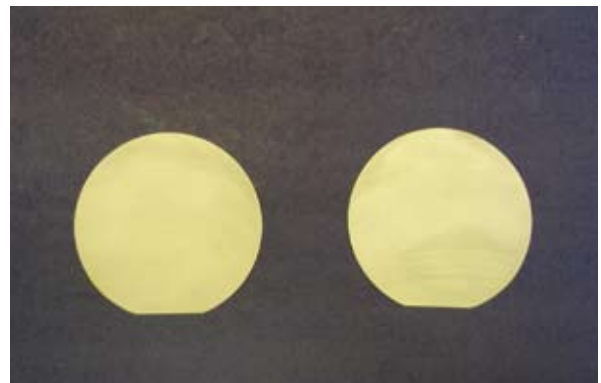
Round

With rectangular cross section

Application in quantum electronics and piezoelectric filters on Surface Acoustic Waves (SAW) used in medicine for locally applied electric & magnetic field of ultra-high frequency..

ROUND WAFERS KEY PARAMETERS:

Round wafers key parameters:					
Wafer type	dimension, mm		bent, mm	SAW velocity (Vsaw), m/s	Flat type (at turn)
	diameter	thickness			
WaferØ62,3-I-0,5÷1-LN	62,3	0,5÷1	≤20	Not defined	Y/+127°51´
WaferØ62,3-II-0,5÷1-LN	62,3	0,5÷1	≤20	3968,0≤Vsaw≤3973,5	Y/+127°51´
WaferØ62,3-III-0,5÷1-LN	62,3	0,5÷1	≤20	3973,6≤Vsaw≤3979,5	Y/+127°51´
WaferØ62,3-IV-0,5÷1-LN	62,3	0,5÷1	≤20	3979,6≤Vsaw≤3985,5	Y/+127°51´
Key parameters for wafers with rectangular cross section:					
Wafer type	dimensions, mm		Wafer bent, mm, not more	SAW velocity (Vsaw), m/s	Flat type (at turn)
	diameter	thickness			
Wafer40x20x1-yz-LN	62,3	0,5÷1	20	Not defined	Y/+127°51´
WaferØ62,3-II-0,5÷1-LN	62,3	0,5÷1	20	3968,0≤Vsaw≤3973,5	Y/+127°51´
WaferØ62,3-III-0,5÷1-LN	62,3	0,5÷1	20	3973,6≤Vsaw≤3979,5	Y/+127°51´



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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "BOGORODITSK PLANT OF TECHNO-CHEMICAL PRODUCTS" (BTCP)

Add.: 43, Vyazovskij per., Bogoroditsk, 301801,
Tula region, the Russian Federation
Tel/fax: (48761) 21 774, 22 359
E-mail: info@btcp.tdn.ru
Web: <http://www.btcp.tdn.ru>

Heterostructures AlGaAs/GaAs

Application in remote control systems, data transfer, medical instruments, automobile industry, third generation night vision electron-optical converter photo cathodes.

KEY CHARACTERISTICS:

Semiconductor wafers for visible LEDs.

Symbol	Product type	Emission wavelength, nm
DH 650-665	AlGaAs(DH)/p-GaAs	650-665
MDH 650-665	AlGaAs(DH)/p-GaAlAs	650-665
MDH 650-665	AlGaAs(DH)/n-GaAlAs	650-665

Semiconductor wafers for infrared LEDs.

Symbol	Product type	Emission wavelength, nm
DH 680-790	AlGaAs(DH)/p-GaAs	680-790
DH 800-860		800-860
MDH 720-790	AlGaAs(DH)/p-GaAlAs	720-790
MDH 800-850		800-850
MDH 860-880		860-880
MDH 900-940		900-940
MDH 800-850	AlGaAs(DH)/n-GaAlAs	800-850
MDH 860-880		860-880
MDH 900-940		900-940

Semiconductor wafers for visible LEDs.

Type	Material, substrate	$\lambda_p, \pm 5\text{nm}$	Light intensity (mCd) at 20mA		Reverse voltage $V_r, \text{min}, \text{V}$ $I_r=10\mu\text{A}$	Response time, ns	
			min	typ		τ_r	τ_f
DH...N	AlGaAs(DH)/p-GaAs	650-665	12	15	8	40	30
DH...P	AlGaAs(DH)/n-GaAs	650-665	9	12	8	40	30
MDH...P	AlGaAs(DH)/n-GaAlAs	650-665	18	25	8	50	35
MDH...N	AlGaAs(DH)/ p-GaAlAs	650-665	20	30	5	50	35

Semiconductor wafers for infrared LEDs

Type	Material, substrate	$\lambda_p, \pm 5\text{nm}$	Light intensity (mCd) at 20mA		Reverse voltage $V_r, \text{min}, \text{V}$ $I_r=10\mu\text{A}$	Response time, ns		
			min	typ		τ_r	τ_f	
DH...N	AlGaAs(DH)/p-GaAs	730-790	0.8	1.2	1.65	8	40	30
		800-860	0.8	1.2	1.5	8	40	30
MDH...N	AlGaAs(DH)/p-GaAlAs	730-790	2.5	3.5	1.75	8	40	30
		800-870	2.5	3.5	1.55	8	35	30
MDH...P	AlGaAs(DH)/n-GaAlAs	820-880	3.0	4.0	1.45	8	25	20
		890-920	2.5	3.5	1.35	8	400	400

Exporter:

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Manufacturer:

JSC "Scientific and Research Institute of Electronic
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LED CHIPS

KEY CHARACTERISTICS:

Visible led chips

Color, material, structure	Type	Peak wavelength (nm)	V_f (V)		I_v (mcd)		I_f (mA)
			typ	max	min	typ	
Red GaAlAs/GaAs SH N-side up	RLC-006-2	650	1.85	1.90	2.5	4.0	20
			1.68	1.85	1.3	2.0	10
	RLC-006-3		1.85	1.90	3.5	5.5	20
			1.68	1.85	1.9	3.0	10
Red GaAlAs/GaAs DH P-side up	RLC-152-4	655	1.85	1.90	5.5	8.0	20
			1.68	1.85	2.8	4.0	10
Red GaAlAs/GaAs DH N-side up	RLC-007-4	650	1.85	1.90	5.0	8.0	20
			1.68	1.85	3.0	4.0	10
	RLC-007-5		1.85	1.90	7.0	10.0	20
			1.68	1.85	3.5	5.0	10
Red GaAlAs/GaAlAs DDH N-side up	RLC-009	650	1.90	2.0	15.0	28.0	20
			1.75	1.9	8.0	15.0	10
Red GaAlAs/GaAlAs DDH P-side up	RLC-010	655	1.90	2.0	9.0	15.0	20
			1.75	1.9	5.0	8.0	10
Green GaP/GaP P-side up	GLC-001	565	2.1	2.5	5.0	8.0	20
			1.95	2.15	1.5	3.0	10

IR led chips

Material, Structure	Type	Peak wavelength, (nm)	V_f (V)		P_o (mW)		I_f (mA)
			typ	max	min	typ	
GaAlAs/GaAs DH N-side up	IRC-005	730-790	1.65	1.75	0.8	1.2	20
	IRC-005	800-890	1.35	1.45	0.8	1.2	20
GaAlAs/GaAlAs DDH N-side up	IRC-009	730-790	1.85	1.95	3.0	3.5	20
		800-880	1.60	1.80	4.0	4,5	20
GaAlAs/GaAlAs DDH P-side up	IRC-004	800-860	1.40	1.55	4.0	4,5	20
		900-940	1.50	1.65	2.0	3.0	20

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E-mail: niimet@kaluga.net
Web: <http://jsc-niimet.narod.ru>

Super pure metal gallium

Application in production of monocrystal and hetero-epitaxial structures.

KEY CHARACTERISTICS:

Component	Concentration, % weight, max.	Component	Concentration, % weight, max.
Ni	2×10^{-6}	Si	2×10^{-5}
Zn	3×10^{-6}	Bi	1×10^{-5}
Cu	1×10^{-6}	Cr	1×10^{-6}
Sn	5×10^{-6}	Mn	2×10^{-6}
Al	5×10^{-6}	S	1×10^{-5}
Pb	5×10^{-6}	Se	1×10^{-5}
Mg	6×10^{-6}	Te	1×10^{-5}
Fe	1×10^{-5}		



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Web: <http://jsc-niimet.narod.ru>

Super pure metal Arsenic

Application in production of monocrystal and hetero-epitaxial structures.

KEY CHARACTERISTICS:

Component	Concentration, % weight, max.	Component	Concentration, % weight, max.
Al	$<5 \times 10^{-6}$	Mn	$<5 \times 10^{-7}$
Zn	$<5 \times 10^{-6}$	Na	$<2 \times 10^{-6}$
Te	$<5 \times 10^{-6}$	Cu	$<1 \times 10^{-7}$
Si	$<5 \times 10^{-6}$	Sn	$<2 \times 10^{-6}$
S	$<5 \times 10^{-6}$	Cr	$<5 \times 10^{-7}$
Fe	$<5 \times 10^{-6}$	Pb	$<2 \times 10^{-6}$
Mg	$<5 \times 10^{-6}$		



Exporter:

JSC "Ruselectronics"

Add.: 9,b.7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Scientific and Research Institute of Electronic
Engineering Materials" (NIIMET)

Add.: 1, Gagarin str., Kaluga, 248600, the Russian Federation
Tel: (4842) 74-44-38
Tel/fax: (4842) 74-44-01
E-mail: niimet@kaluga.net
Web: <http://jsc-niimet.narod.ru>

Electronic Equipment and Systems

- 7.1. Medical Equipment
- 7.2. Oil/Gas Industry Equipment
- 7.3. Electronic Industry Machines and Tools
- 7.4. Alarm/Security Devices or Systems
- 7.5. Systems for Data Monitoring,
Quality Inspection or Analysis

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Microwave Therapy Apparatus «UHF-30M»

Designed for medical treatment by locally applied Ultra High Frequency electrical or magnetic field.

KEY SPECIFICATIONS:

High frequency oscillation , MHz	27,120 ± 0,163
Nominal value at continuous oscillation, W	30
Output power adjustment, steps	3



Exporter:

JSC "Ruselectronics"

Add.: 9,b,7, Tverskaya str., Moscow, 125009,
the Russian Federation
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Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Central Research Institute of Measuring Equipment"

Add.: 66, Moskovskaya str., Saratov, 410002,
the Russian Federation
Tel.: (8452) 27-12-80, 74-02-96
Fax: (8452)-23-60-70
E-mail: cime@cime.ru
Web: www.cime.ru

Microwave Therapy Apparatus «UHF-70-01»

Designed for medical treatment by locally applied Ultra High Frequency electrical or magnetic field.

KEY SPECIFICATIONS:

High frequency oscillation , MHz	27,120 ± 0,163
Nominal value at continuous oscillation, W	70
Output power adjustment, steps	7



Exporter:

JSC "Ruselectronics"

Add.: 9,b,7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Central Research Institute of Measuring Equipment"

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the Russian Federation
Tel.: (8452) 27-12-80, 74-02-96
Fax: (8452)-23-60-70
E-mail: cime@cime.ru
Web: www.cime.ru

Microwave Therapy Apparatus «UHF-80-04»

Designed for medical treatment by locally applied Ultra High Frequency electrical or magnetic field in continuous oscillation – single mode and in pulse modulation and continuous oscillation – double mode.

KEY SPECIFICATIONS:

High frequency oscillation , MHz	27,120 ± 0,163
Nominal value at continuous oscillation, W	80
Output power adjustment, steps	7



Exporter:

JSC "Ruselectronics"

Add.: 9,b,7, Tverskaya str., Moscow, 125009,
the Russian Federation
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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Central Research Institute of Measuring Equipment"

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Fax: (8452)-23-60-70
E-mail: cime@cime.ru
Web: www.cime.ru

Microwave Therapy Apparatus UHF50-02 «Arrow»

Designed for medical treatment by locally applied Ultra High Frequency electrical or magnetic field. The first model among new generation microwave therapy apparatuses, allowing to solve the problem of fitting out physiotherapy divisions with adequate apparatuses.

KEY SPECIFICATIONS:

Output power P_{max} , W	50
High frequency oscillation, MHz	27,120 ± 0,163
Output power adjustment, steps	4

FEATURES:

- Solid-state design;
- Automatic apparatus adjustment at all power steps, tracing type



Exporter:

JSC "Ruselectronics"

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the Russian Federation
Tel.: +7 (495) 221-80-85/86
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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Central Research Institute of Measuring Equipment"

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the Russian Federation
Tel.: (8452) 27-12-80, 74-02-96
Fax: (8452)-23-60-70
E-mail: cime@cime.ru
Web: www.cime.ru

Ozone Generator

Designed to generate preset ozone concentration for bactericidal cleaning, air deodorization in rooms, bactericidal cleaning of linen and shoes, curing dermatitis, burns, fungus infections.

KEY SPECIFICATIONS:

Ambient temperature, °C	+10÷+35
Efficiency at least , g/min	0,9±1
Ozone generation time, minutes	1÷99
Generation switch OFF	automatic



Exporter:

JSC "Ruselectronics"

Add.: 9,b,7, Tverskaya str., Moscow, 125009,
the Russian Federation
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Fax: (8452)-23-60-70
E-mail: cime@cime.ru
Web: www.cime.ru

Explosion-Proof Thermal Cabinets Non-Detachable 3.909.013 Detachable TO-E 1 150.000

Designed for accommodating test devices, automation and tele-mechanic instruments running at temperature range from +5°C to +25°C.

To be installed on open areas as well as in rooms with explosive risk class from B-1a to B-1g, category of explosive compounds from PAT1 to PAT5 at temperature range from -50°C to +45°C.

KEY SPECIFICATIONS:

Explosion marking	2ExedmIIBT4X
Heating	electrical (P = 200W, 400 W)



Exporter:

JSC "Ruselectronics"

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Tel.: (8452) 27-12-80, 74-02-96
Fax: (8452)-23-60-70
E-mail: cime@cime.ru
Web: www.cime.ru

Surface Mounting Automatic System UPM-200M

Designed for automatic lead and leadless surface mount based on both PCB CAD data and tables filled out by technologists or process calibration results.

KEY SPECIFICATIONS:

Max. PCB size, mm	150x190
Max size of components, mm	from 0,8x0,8 to 15x15
Max. number of components, units	44 (88)
Mounting accuracy, mm	±0,1
Dimensions, mm	800x750x850
Mass, kg	120

FEATURES:

- PCB coordinates are related to its control points
- built-in dispenser delivers preset amount of glue compound and soldering cream to the PCB.
- mounting head allows automatic exchange of instruments and use of elements with automatic centering
- TV camera and monitor allow the operator to control and align the components during mounting on PCB
- the system requires compressed air and vacuum.



Exporter:

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Add.: 9,b,7, Tverskaya str., Moscow, 125009,
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E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "NIZHEGORODSKY INSTITUTE OF TECHNOLOGY
AND INDUSTRIAL ENGINEERING" (NIITOP)

Add.: 2, Nartova str., Nizhny Novgorod, 603950,
the Russian Federation
Tel.: (8312) 12-38-10 / Fax: (8312) 12-39-22
E-mail: niitop@niitop.ru
Web-site: www.niitop.ru

Diamond instrument

in the form of ring crown for dicing and cutting round chips and drilling holes in polycor, ceramics, sapphire, glass and in the form of cut disks for separating sapphire wafers, polycor, glass, quartz, ceramics and carbides.

Application in radioelectronics, namely in discrete high voltage devices.

The instrument is highly effective when used in the tools with rotating speed more than 1000 revolutions/ min.

KEY PARAMETERS:

dimensions, mm	Diamond grain
56x40x(0,025-0,15) 75x60x(0,07-0,15) 75x40x(0,07-0,15)	ASM (ACH) 5/3 - 40/28
56x40x(0,1-0,4) 75x60x(0,1-0,4) 75x40x(0,1-0,4)	ASM (ACH) 40/28 - 60/40 AC 50/40 - 100/80
(5-40)x10x0,1 (10-40)x10x0,12 (10-40)x12x0,15	ASM (ACH) 14/10 - 60/40 AC 50/40 - 63/50



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Manufacturer:

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E-mail: niitop@niitop.ru
Web-site: www.niitop.ru

Development of Technology and Equipment Set for Electron-Optical Image Converter (EOIC) of 2+ Generation

The service includes:

- development of customized EOIC process flow;
- development of manufacturing line preliminary technical design;
- development and supply of customized technological and test equipment with tooling;
- development and supply of process and design documentation;
- joint start up of manufacturing line and pilot run;
- personnel training.

Key characteristics of EOIC 2+:

Photocathode integral sensitivity, $\mu\text{A}/\text{lm}$	350 – 500
Conversion factor	$2,3 \times 10^4$
Limiting resolution at 10^{-3} lux, lines/mm	34 – 36
Signal/Noise Ratio at 10^{-4} lux, dB	40
Required power supply, V	2,5 – 3,2
Dimensions (diameter/length), mm	43 / 29,4
Production volume, units/year	1000

Exporter:

JSC "Ruselectronics"

Add.: 9,b.7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "National Research Institute "Electron"

Add.: 68, M. Toreza ave., St. Petersburg, 194223,
the Russian Federation
Tel.: (812) 552-36-00, 552-22-76, 552-20-87
Fax: (812) 552-31-97
E-mail: electron@nevsky.net
Web: www.electron.spb.ru

Development of Technology and Equipment Set for Large-Format and Linear Transmission Charge Coupled Devices

The service includes:

- development of device layout, simulation of technological processes as well as electrical and physical characteristics of device structures;
- development of customized process flow;
- development of manufacturing line preliminary technical design;
- development and supply of customized technological and test equipment with tooling;
- development and supply of process and design documentation;
- joint start up of manufacturing line and pilot run;
- Personnel training.

KEY CHARACTERISTICS:

Device name	Matrix based devices	Linear devices
Total elements	Up to 4096 x 4096	-
Number of photosensitive elements	-	Up to 12000
Element size, μm	11x11	6,5x6,5
Number of registers	2	2
Signal output frequency, MHz	40	500
Dynamic range	> 6000	> 6000

Exporter:

JSC "Ruselectronics"

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Fax: (812) 552-31-97
E-mail: electron@nevsky.net
Web: www.electron.spb.ru

Multi Edge Cutting Instrument UR.PM-100

Designed for oriented incision or through separation of silicon wafers and insulating materials.

KEY CHARACTERISTICS:

Wafer diameter, mm	up to 200
Fixed table turn, degree	60, 90, 120
Increment of manual table turn, min	±1,0
Power – three phase AC voltage, frequency, V; Hz	380; 50
Consumption power, kVA	≤2,0
Dimensions, mm	1200x800x1300
Mass, kg	≤350

FEATURES:

- incision or through separation is performed with one disk or a set of diamond disks mounted at defined pitch.
- control system is based on hard-wired logic ensuring instrument run in "debug" and "auto" mode.
- can be integrated in service equipment.



Exporter:

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Web: www.roselgroup.com

Manufacturer:

JSC "NIZHEGORODSKY INSTITUTE OF TECHNOLOGY AND
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603950, the Russian Federation
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Web-site: www.niitop.ru

Clean Rooms

JSC Moselectronproekt is a pioneer in the development of project documentation and construction of clean rooms for production facilities with electron vacuum hygienic conditions and the related media.

The company is a head project organization in the Federal Agency for Industry of the Russian Federation for investment projects related to the reconstruction and upgrading of radioelectronic production facilities.

On the basis of JSC Moselectronproekt a Technical Education Center has been established for training clean room managers, operators and service personnel. Fragments of different class clean rooms are located on the Center's premises for training purposes.



Exporter:

JSC "Ruselectronics"

Add.: 9,b.7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Moselectronproekt" ("MosEP")

Add.:12, Kosmonavta Volkova str., Moscow,
127299, the Russian Federation
Tel.: (495) 150-46-40, 708-22-58, 708-27-19
Fax: (495) 150-52-97
E-mail: info@mosep.ru
Web: www.mosep.ru

NABAT (IP332-1)
 NABAT 1 (IP332-1/1)
 NABAT 2 (IP332-1/2SK)
 NABAT 3 (IP332-1/3)

Multi-spectral IR Flame Detectors

The NABAT flame detectors are designed to detect fire accompanied by electromagnetic emissions originating at the point of ignition, smolder or an early explosion process, and can be used in a conventional as well as in an explosive environment. A detector of this type switches over from a watchdog mode to a FIRE mode as soon as it detects EM emission.

KEY SPECIFICATIONS:

Part Numbers:	
NABAT (IP332-1)	Daisy-chain connection, conventional or explosion-proof design
NABAT 2 (IP332-1/2SK)	Dry contacts, conventional design
NABAT 3 (IP332-1/3)	To be plugged into RID 6M socket
Maximum within-3-sec Reliable Response Distances (m)	≥17 to 25
Maximum Allowable Background Illumination (lx):	
By Electric Fluorescent Source	2500
By Incandescent Lamp	250
Nominal Consumed Currents:	
Watchdog Mode	≤200
FIRE Mode	20 to 5
Operating Temperature Range (°C)	+55 to -55
Overall Dimensions (mm):	
IP332-1 / IP332-1/2SK	≤90 × 90 × 105
IP332-1/3	≤Ø118 × 52
Mass (g)	≤260
MTBF (hrs)	≥60 × 10 ³
Guaranteed Service Life Referenced to Beginning of Service (months).	18

FEATURES:

- IP332-1/2SK's potential application: a detector of an extinguished gas burner
- high sensitivity combined with interference immunity, including immunity to flickering light sources spanning over wide ranges of color and/or intensity
- immune to background illumination such as solar exposure
- resistant to single mechanical half-sine shocks 30-msec long with a peak acceleration of up to 50 m/sec² (5g)
- customized options available

Exporter:

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 the Russian Federation
 Tel.: +7 (495) 221-80-85/86
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 E-mail: rosel@roselgroup.com
 Web: www.roselgroup.com

Manufacturer:

JSC "Scientific Research Institute "Giricond"
 (NII "GIRICOND")

Add.: 10, Kurchatova str., St. Petersburg, 194223,
 the Russian Federation
 Tel: (812) -297-15-63, (812)-297-63-63
 Fax: (812) -552-60-57
 E-mail: giricond@giricond.spb.ru
 Web: www.giricond.spb.ru

NABAT 4 (IP332-1/4) Analog-Output Multi-spectral IR Flame Detector for Fire Extinguishing Systems

This flame detector is designed for use under relatively harsh conditions such as an extended operating temperature range, higher-than-usual mechanical impacts, an adverse background, and a high operational reliability.

KEY SPECIFICATIONS:

Operating Temperature Range (°C)	-60 to +85
Maximum Allowable Background Incandescent Lamp Illumination (lx)	≤5000
Spherical Angle of View (°)	≥100
With Optical Adapter	5
Metal Package Mass (g)	400
Overall Dimensions (mm)	≤ 90 × 90 × 48

FEATURES:

- immune to solar exposure of up to 100,000 lx
- immune to IR emissions from objects heated up to 400 °C
- internal/external performance monitoring including self-test capability
- immune to sine vibrations with accelerations of up to 10g ranging from 1 to 500 Hz
- resistant to single shocks with a peak acceleration of 500g
- resistant to multiple shocks with a peak acceleration of 150g
- analog output with a conditioned output current of 0 to 20 mA
- potential application: gas burner flame monitor



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Manufacturer:

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Add.: 10, Kurchatova str., St. Petersburg, 194223,
the Russian Federation
Tel: (812) -297-15-63, (812)-297-63-63
Fax: (812) -552-60-57
E-mail: giricond@giricond.spb.ru
Web: www.giricond.spb.ru

Stationary gas sensor with intrinsically safe detectors «EGS»

Gas-analyzing system is intended for the control on objects of industrial and household purpose.

KEY SPECIFICATIONS:

gas monitoring	CH ₄ , C ₃ H ₈ , C ₆ H ₁₄ (hexane), CO ₂ (infrared) O ₂ , NH ₃ , NO ₂ , SO ₂ , CO, H ₂ S, H ₂ , Cl ₂ (electrochemical) flammables gases (catalytic)
operating range of system covers hydrocarbons concentration range, %	0,1 -100
operation temperature range, °C	-20...+55
explosion-proof mark	1ExibIIC4

FEATURES:

- accepts more than 100 gas detectors
- provides optimal configuration for customers
- equipped with digital output RS-485
- designed for use in environments with power deficit (mines and other installations with autonomous power supply)



Exporter:

JSC "Ruselectronics"

Add.: 9,b.7, Tverskaya str., Moscow, 125009,
the Russian Federation
Tel.: +7 (495) 221-80-85/86
Fax: +7 (495) 221-80-87
E-mail: rosel@roselgroup.com
Web: www.roselgroup.com

Manufacturer:

JSC "Russian Central Institute of Electronstandart" (RNIIES)

Add.: 2, Pobeda Square, St. Petersburg,
196143, the Russian Federation
Tel.: (812) 373-33-81
Fax: (812) 373-52-53
E-mail: info@elstandart.spb.ru
Web: www.elstandart.spb.ru

Explosion-proof Fixed Optical Gas Analyzer «EGOS-O»

Gas-analyzer is intended for the control on objects of industrial and household purpose

THE BASIC TECHNICAL CHARACTERISTICS:

gas monitoring	CO ₂
operation temperature range, °C	-40...+75
probe sampling	diffusion
dimensions, mm	185x175x120
mass, kg	2,5
explosion-proof mark	1ExIIBT4

FEATURES:

- extender temperature range up to +75 °C
- alarm trigger time less than 10 s
- stability of reference point and sensitivity
- equipped with digital, analog, relay output



Exporter:

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Web: www.elstandart.spb.ru

Leak Detector «TGP-11»

Portable high sensitivity semiconductor leak monitor for professional use.

THE BASIC TECHNICAL CHARACTERISTICS:

methane sensitivity, %	0,001
operation temperature range, °C	- 25...+50
alarm trigger time less than, s	1
the non-stop operation time more than, h	10
dimensions, mm	124x80x37
mass, kg	0,3
explosion-proof mark	1ExdIIBCT4

FEATURES:

- over 20 detectable combustible gasses and vapors
- the device is belt-attachable.



Exporter:

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Web: www.elstandart.spb.ru

Oil-in-Water&Soil Analyzer NEVOD

High sensitivity oil-water infrared Analyzer for professional use.

THE BASIC TECHNICAL CHARACTERISTICS:

The range of oil concentration values, mg/dm ³	0.04....1000
Measurement setup time, s	60

FEATURES:

- outdoor tests with the help of the external battery;
- zero stability;
- the device is computer-enabled.



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Universal Gauge of Environmental Parameters MES-200A

THE BASIC TECHNICAL CHARACTERISTICS:

monitoring atmospheric pressure in the range, kPa	80 110
monitoring humidity in the range, %	10 98
monitoring atmospheric pressure in the range, kPa	80 110
monitoring air temperature in the range, °C	- 40 ... +85
monitoring air flow in the range, m/s	0,1 ... 20
monitoring toxic gases	CO, H ₂ S, SO ₂
dimensions, mm	180x85x53
mass, kg	0,4
explosion-proof mark	1ExdibIICT4

FEATURES:

- built-in data logger;
- the device is computer-enabled;
- the device can be used in control systems as a set of sensors with universal interface.



Exporter:

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