



Your **Source** For **InfraRed**

HAWKEYE
TECHNOLOGIES

IR Source Datasheets

This interactive PDF contains the complete compilation of datasheets for our products. Please utilize the links to find the product that best suits your needs. If you need additional information, please contact us so our engineers may assist you directly.

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IR-1X Datasheets

Products #	IR Source	Reflector Type	Reflector Diameter	Reflector Length	Reflector Part #
IR-12	IR-12				
IR-12K	IR-12K				
IR-12-P-1	IR-12	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC234
IR-12K-P-1	IR-12K	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC234
IR-12-E-1	IR-12	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC233
IR-12K-E-1	IR-12K	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC233
IR-12-P-2	IR-12	Parabolic	2" (50.8 mm)	1.3" (33.0 mm)	IR-RMC247
IR-12K-P-2	IR-12K	Parabolic	2" (50.8 mm)	1.3" (33.0 mm)	IR-RMC247
IR-12-E-2	IR-12	Elliptical	2" (50.8 mm)	1.3" (33.0 mm)	IR-RMC230
IR-12K-E-2	IR-12K	Elliptical	2" (50.8 mm)	1.3" (33.0 mm)	IR-RMC230
IR-12-P-3	IR-12	Parabolic	3" (76.2 mm)	2.5" (63.5 mm)	IR-RMC246
IR-12K-P-3	IR-12K	Parabolic	3" (76.2 mm)	2.5" (63.5 mm)	IR-RMC246
IR-12-E-3	IR-12	Elliptical	3" (76.2 mm)	2.5" (63.5 mm)	IR-RMC248
IR-12K-E-3	IR-12K	Elliptical	3" (76.2 mm)	2.5" (63.5 mm)	IR-RMC248

IR-2X Datasheets

Products #	IR Source	Reflector Type	Reflector Diameter	Reflector Length	Reflector Part #
IR-21	IR-21				
IR-21V	IR-21V				
IR-22	IR-22				
IR-22V	IR-22V				
IR-21-P-1	IR-21	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC234
IR-21-E-1	IR-21	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC233
IR-21V-P-1	IR-21V	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC234V
IR-21V-E-1	IR-21V	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC233v

IR-3X Datasheets

Products #	IR Source	Reflector Type	Reflector Diameter	Reflector Length	Reflector Part #
IR-30NC	IR-30				
IR-30	IR-30				
IR-30K/NC	IR-30K				
IR-30K	IR-30K				
IR-30-P-05	IR-30	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC393
IR-30-E-05	IR-30	Elliptical	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC233.5
IR-30K-P-05	IR-30K	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC393
IR-30K-E-05	IR-30K	Elliptical	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC233.5

IR-4X Datasheets

Products #	IR Source	Reflector Type	Reflector Diameter	Reflector Length	Reflector Part #
IR-40NC	IR-40				
IR-40	IR-40				
IR-41NC	IR-41				
IR-41	IR-41				
IR-43NC	IR-43				
IR-43	IR-43				
IR-41-P-05	IR-41	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC483
IR-41-E-05	IR-41	Elliptical	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC484
IR-43-P-05	IR-43	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC485
IR-43-E-05	IR-43	Elliptical	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC486

IR-SiX Datasheets

Products #	IR Source	Reflector Type	Reflector Diameter	Reflector Length	Reflector Part #
IR-Si207	IR-Si207				
IR-Si217	IR-Si217				
IR-Si253	IR-Si253				
IR-Si272	IR-Si272				
IR-Si295	IR-Si295				
IR-Si311	IR-Si311				
IR-Si207-P-1	IR-Si207	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC432
IR-Si207-E-1	IR-Si207	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC397
IR-Si217-P-1	IR-Si217	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC432
IR-Si217-E-1	IR-Si217	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC397
IR-Si253-P-05	IR-Si253	Parabolic	0.5" (12.7 mm)	1" (25.4 mm)	IR-RMC475
IR-Si253-E-05	IR-Si253	Elliptical	0.5" (12.7 mm)	1" (25.4 mm)	IR-RMC476
IR-Si253-P-1**	IR-Si253	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC432
IR-Si253-E-1***	IR-Si253	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC397
IR-Si272-P-1	IR-Si272	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-RMC432
IR-Si272-E-1	IR-Si272	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-RMC397
IR-Si295-P-2	IR-Si295	Parabolic	2" (50.8 mm)	1.3" (33.02 mm)	IR-RMC247
IR-Si295-E-2	IR-Si295	Elliptical	2" (50.8 mm)	1.3" (33.02 mm)	IR-RMC230
IR-Si311-P-2	IR-Si311	Parabolic	2" (50.8 mm)	1.3" (33.02 mm)	IR-RMC4247
IR-Si311-E-2	IR-Si311	Elliptical	2" (50.8 mm)	1.3" (33.02 mm)	IR-RMC230
IR-Si311-P-3	IR-Si311	Parabolic	3" (76.2 mm)	2.5" (63.5 mm)	IR-RMC246

IR-5X, 7X, and 8X Datasheets

Product #	IR Source	Reflector Type	Reflector Diameter	Reflector Length	Reflector Part #
IR-50NC	IR-50				
IR-50	IR-50				
IR-55	IR-50	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC300
IR-56	IR-50	Parabolic	0.400" (10.2 mm)	0.360" (9.1 mm)	IR-RMC305
IR-57	IR-50	Elliptical	1" (25.4 mm)	0.750" (19 mm)	IR-RMC353
IR-70NC	IR-70				
IR-70	IR-70				
IR-74	IR-70	Parabolic	0.360" (9.1 mm)	0.295" (7.5 mm)	IR-RMC482
IR-75	IR-70	Parabolic	0.5" (12.7 mm)	0.621" (15.8 mm)	IR-RMC474
IR-76	IR-70		0.400" (10.2 mm)	0.335" (8.5 mm)	IR-RMC477
IR-77	IR-70	Elliptical	0.500" (12.7 mm)	0.500" (12.7 mm)	IR-RMC487
IR-80NC	IR-80				
IR-80	IR-80				
IR-85	IR-80	Parabolic	0.212" (5.4 mm)	0.500" (12.7 mm)	IR-RMC488

Specialty Datasheets

Product	Power, W	Current, A	Voltage, V	Radiating Area, mm	Temp, °C	Source Material
IR-C178	3.18	1.06	3	2.1 x 3.8	850	Kanthal
IR-C174-A	3.98	1.59	2.5	1.74 x 2.75	1030	Kanthal
IR-C198	7.2	1.44	5	3.0 x 4.5	960	Kanthal
IR-C186	7.7	1.54	5	3.0 x 4.5	1000	Kanthal
IR-C181	8.37	1.86	4.5	3.5 x 4.5	950	Kanthal
IR-C257	10.38	1.73	6	3.5 x 3.5	930	Kanthal
IR-C127	33.6	12	2.8	3.5 x 19	950	NiCr
IR-C197	34.21	3.11	11	3.4 x 25	925	NiCr

Accessories Datasheets

Windows

Material	Transmitting Range (microns)	Characteristics
Sapphire	0.17 - 5.0	Durable, scratch resistant, very transparent
CaF ₂	0.15 - 9.0	High transmission, water-soluble crystal
ZnSe	0.55 - 20.0	Durable, wide transmitting range, lower transmittance (without AR coating)
AR* Silicon	1.2 - 10.0	Robust, not effected by moisture, inexpensive

Parabolic Reflectors

Elliptical Reflectors

Parabolic Reflector Datasheets

Part #	Type	Diameter	Length	IR Source
IR-RMC482	Parabolic	0.360" (9.1 mm)	0.295" (7.5 mm)	IR-70
IR-RMC478	Parabolic	0.360" (9.1 mm)	0.345" (8.7 mm)	IR-70
IR-RMC477	Parabolic	0.400" (10.2 mm)	0.335" (8.5 mm)	IR-70
IR-RMC305	Parabolic	0.400" (10.2 mm)	0.360" (9.1 mm)	IR-50
IR-RMC474	Parabolic	0.500" (12.7 mm)	0.621" (15.8 mm)	IR-70
IR-RMC393	Parabolic	0.500" (12.7 mm)	0.646" (16.4 mm)	IR-30
IR-RMC300	Parabolic	0.500" (12.7 mm)	0.646" (16.4 mm)	IR-50
IR-RMC483	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-40
IR-RMC485	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-43
IR-RMC-234	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-12, IR-12K, IR-21
IR-RMC-234V	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-21V
IR-RMC234M	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-12/TC, IR-12K/TC
IR-RMC432	Parabolic	1" (25.4 mm)	1" (25.4 mm)	IR-Si207, IR-Si217, IR-Si253, IR-Si272
IR-RMC247	Parabolic	2" (50.8 mm)	1.3" (33.0 mm)	IR-12, IR-12K
IR-RMC247M	Parabolic	2" (50.8 mm)	1.3" (33.0 mm)	IR-12/TC, IR-12K/TC
IR-RMC247MS	Parabolic	2" (50.8 mm)	1.3" (33.0 mm)	IR-Si295, IR-Si311
IR-RMC246	Parabolic	3" (76.2 mm)	2.5" (63.5 mm)	IR-12, IR-12K
IR-RMC246M	Parabolic	3" (76.2 mm)	2.5" (63.5 mm)	IR-12/TC, IR-12K/TC
IR-RMC246MS	Parabolic	3" (76.2 mm)	2.5" (63.5 mm)	IR-Si311

Elliptical Reflector Datasheets

Part #	Type	Diameter	Length	IR Source
IR-RMC484	Elliptical	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-40
IR-RMC486	Elliptical	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-43
IR-RMC353	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-50
IR-RMC233	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-12 , IR-12K , IR-21
IR-RMC233M	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-12/TC , IR-12K/TC
IR-RMC233V	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-21V
IR-RMC397	Elliptical	1" (25.4 mm)	1" (25.4 mm)	IR-Si207 , IR-Si217 , IR-Si253 , IR-Si272
IR-RMC230	Elliptical	2" (50.8 mm)	1.3" (33.0 mm)	IR-12 , IR-12K
IR-RMC230M	Elliptical	2" (50.8 mm)	1.3" (33.0 mm)	IR-12/TC , IR-12K/TC
IR-RMC230MS	Elliptical	2" (50.8 mm)	1.3" (33.0 mm)	IR-Si295 , IR-Si311
IR-RMC248	Elliptical	3" (76.2 mm)	2.5" (63.5 mm)	IR-12 , IR-12K
IR-RMC248M	Elliptical	3" (76.2 mm)	2.5" (63.5 mm)	IR-12/TC , IR-12K/TC

IR-12 Emitter Datasheet

The IR-12 is a thermal emitter appropriate for use in laboratory and field instrumentation due to its long life and stable properties.

Recommended (Maximum) Operating Parameters

Voltage, V	5.0 (6.5)
Temperature °C	900 (1100)
Current, A	2 (2.5)
Power, W	10 (16.7)

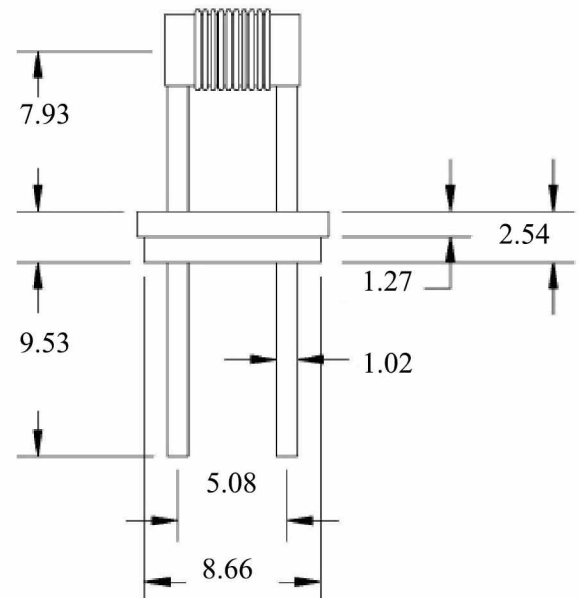
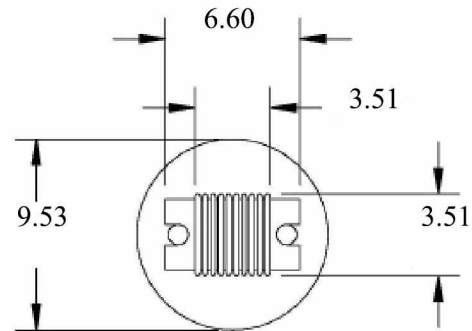
Properties at Recommended Parameters

Typical Life	70,000 Hours
Emissivity, %	80
Active Area	3.5 mm X 3.5 mm

To achieve increased on-axis optical power, or to target a particular wavelength, the IR-12 can be supplied with a reflector, a window or with both. To learn more, please visit our website.



Note: All dimensions in mm



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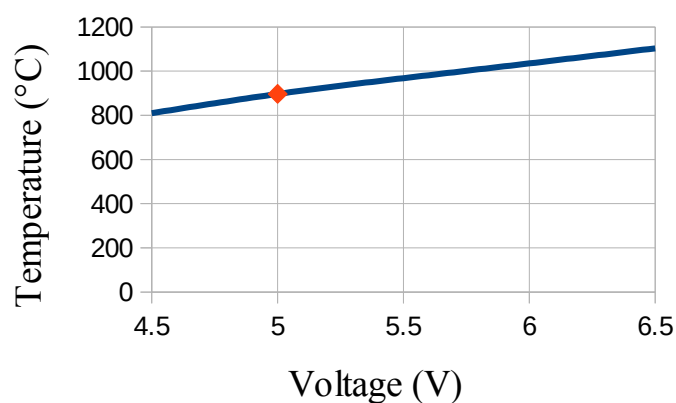
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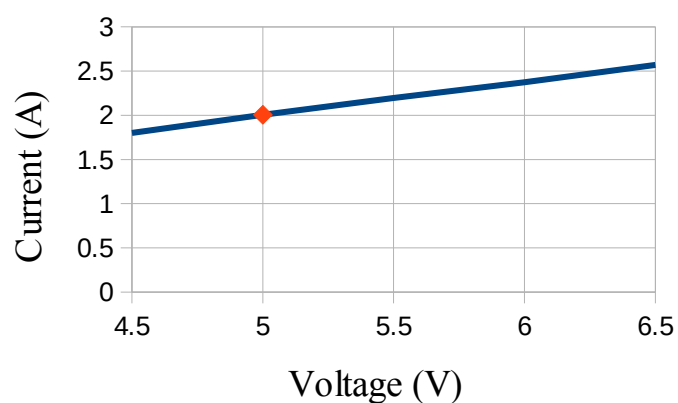
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V	A	W	°C
4.5	1.8	8.1	810
5.0	2.0	10.0	896
5.5	2.2	12.1	968
6.0	2.4	14.2	1035
6.5	2.6	16.7	1103

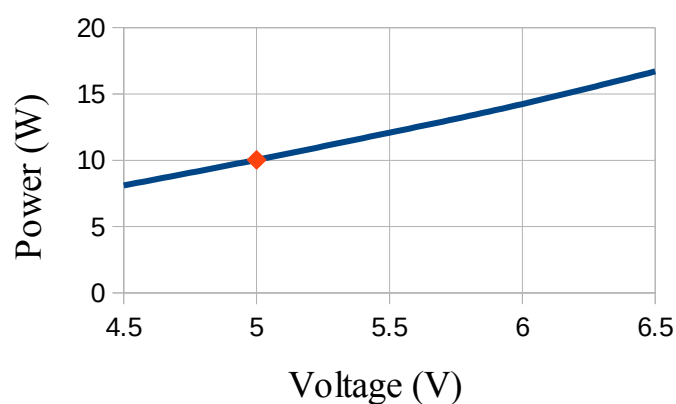
Temperature vs. Voltage



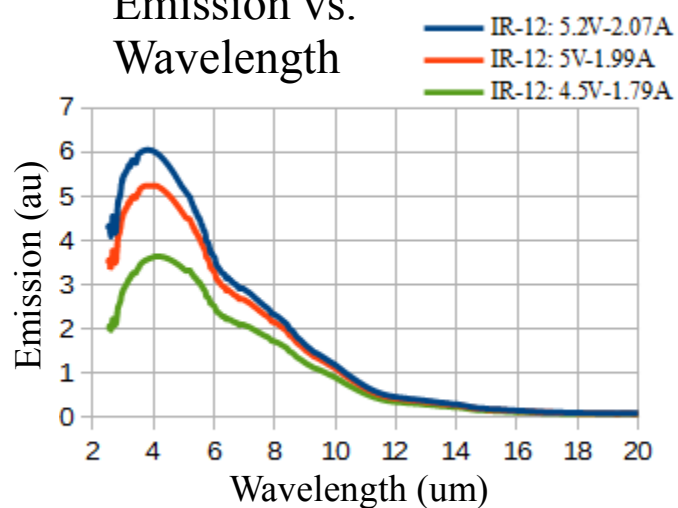
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



♦: Recommended to Maximize Lifetime

IR-12K Emitter Datasheet

The IR-12K is a thermal emitter appropriate for use in laboratory and field instrumentation due to its long life and stable properties.

Recommended (Maximum) Operating Parameters

Voltage, V	6.0 (8.0)
Temperature °C	975 (1255)
Current, A	1.8 (2.5)
Power, W	11 (19.9)

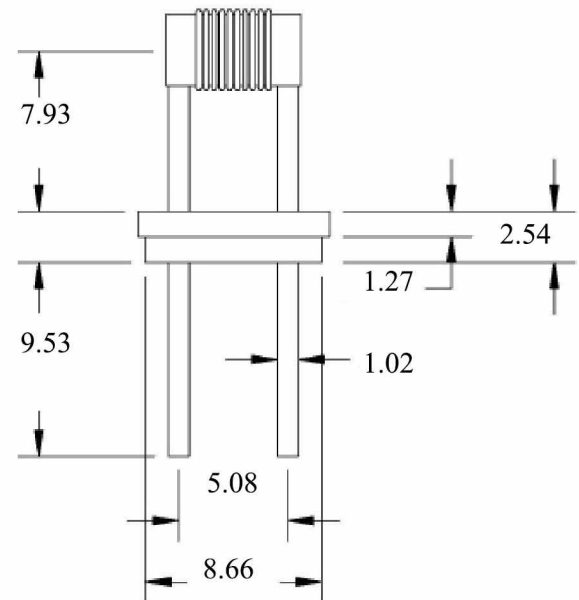
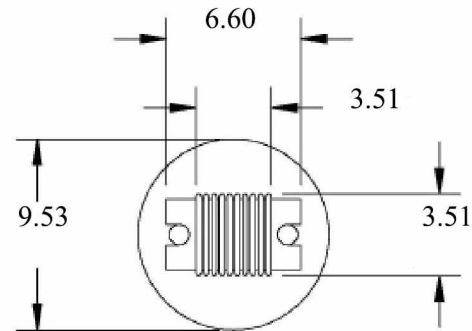
Properties at Recommended Parameters

Typical Life	70,000 Hours
Emissivity, %	70
Active Area	3.5mm X 3.5mm

To achieve increased on-axis optical power, or to target a particular wavelength, the IR-12 can be supplied with a reflector, a window or with both. To learn more, please visit our website.



Note: All dimensions in mm



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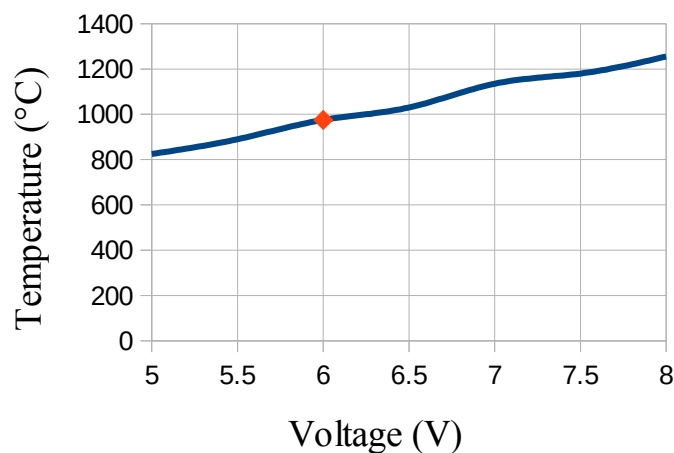
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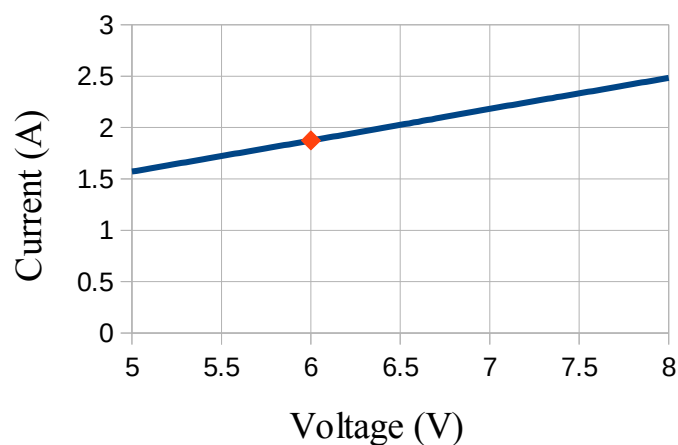
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V	A	W	°C
5.0	1.6	7.9	825
5.5	1.7	9.5	890
6.0	1.9	11.2	975
6.5	2.0	13.2	1030
7.0	2.2	15.3	1135
7.5	2.3	17.50	1180
8.0	2.5	19.9	1255

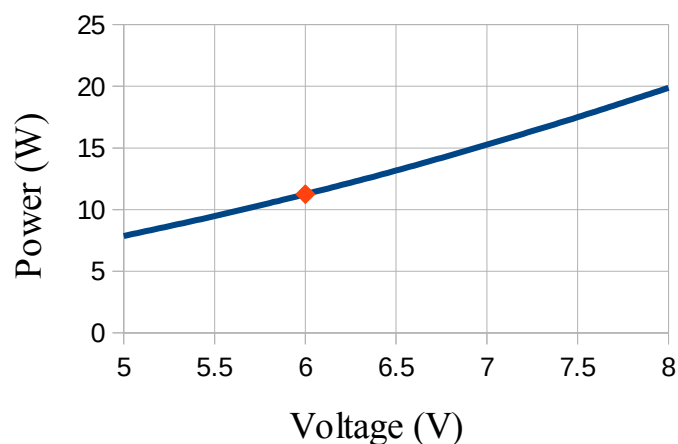
Temperature vs. Voltage



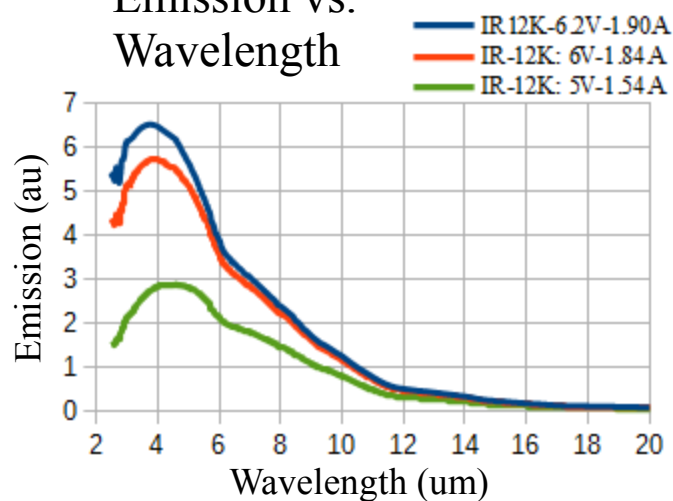
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-21 Emitter Datasheet

The IR-2X series of emitters has a variety of sizes to choose from, including different base sizes and different mounting orientations.

Recommended (Maximum) Operating Parameters

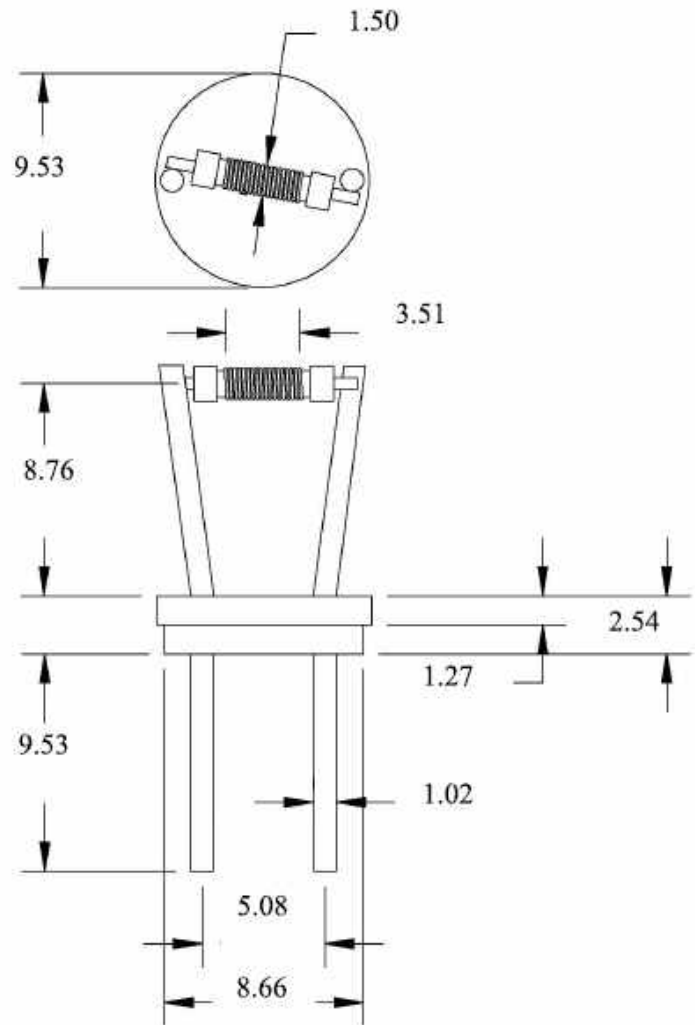
Voltage, V	5.0 (6.25)
Temperature °C	800 (1015)
Current, A	0.8 (1.03)
Power, W	4.0 (6.44)

Properties at Recommended Parameters

Life	30,000 Hours
Emissivity, %	80
Active Area (mm)	1.5 X 3.5



Note: All dimensions in mm



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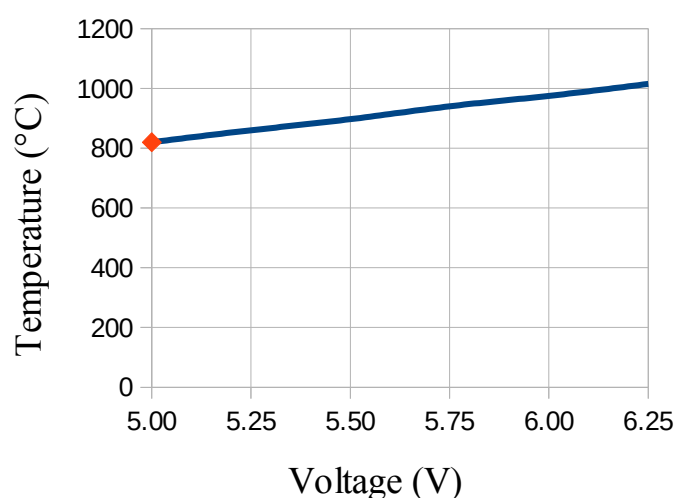
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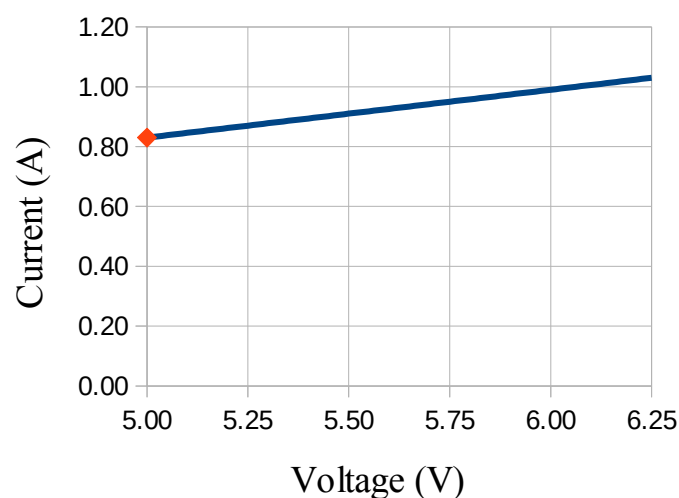
Sample Data Points

V	5.00	5.25	5.50	5.75	6.00	6.25
A	0.83	0.87	0.91	0.95	0.99	1.03
W	4.15	4.57	5.01	5.46	5.94	6.44
°C	820	860	897	940	975	1015

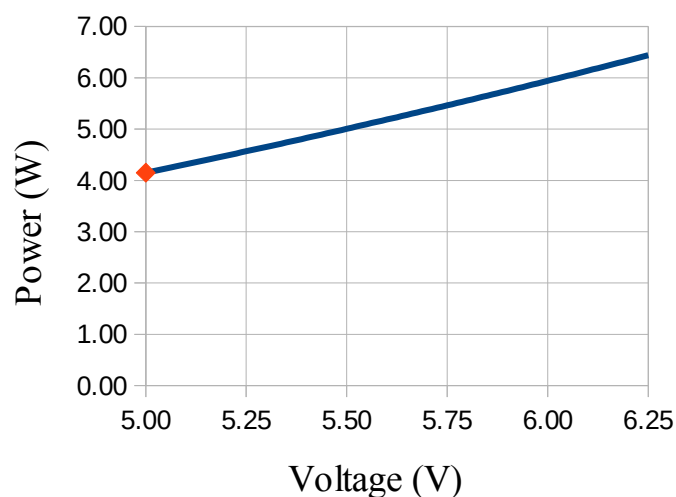
Temperature vs. Voltage



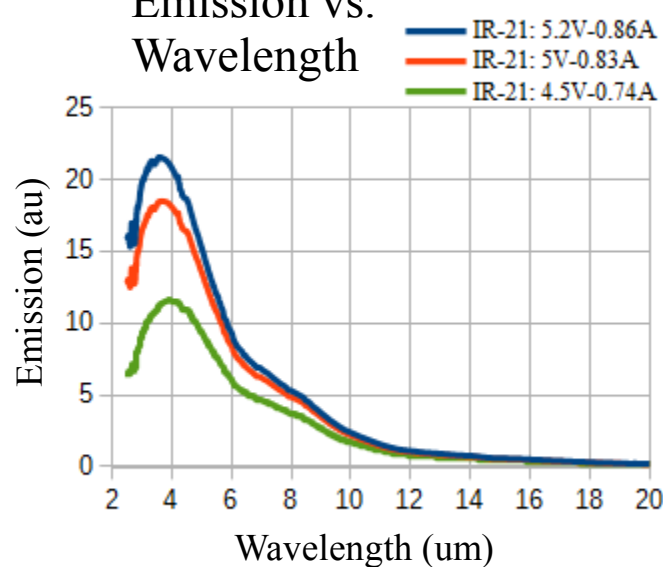
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-21V Emitter Datasheet

The IR-2X series of emitters has a variety of sizes to choose from, including different base sizes and different mounting orientations.

Recommended (Maximum) Operating Parameters

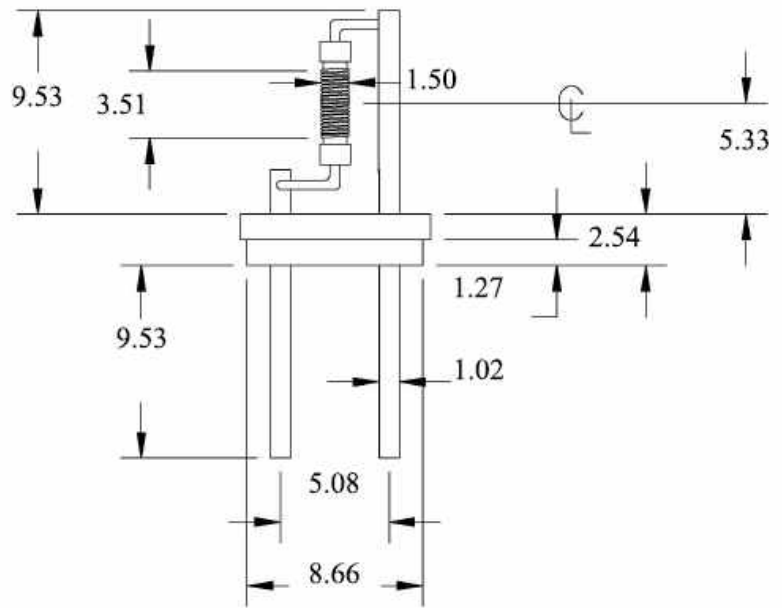
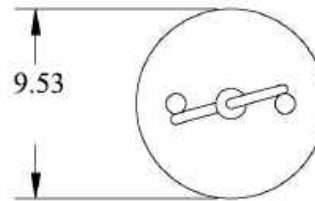
Voltage, V	5.0 (6.25)
Temperature °C	800 (1015)
Current, A	0.8 (1.03)
Power, W	4.0 (6.44)

Properties at Recommended Parameters

Life	30,000 Hours
Emissivity, %	80
Active Area (mm)	1.5 X 3.5



Note: All dimensions in mm



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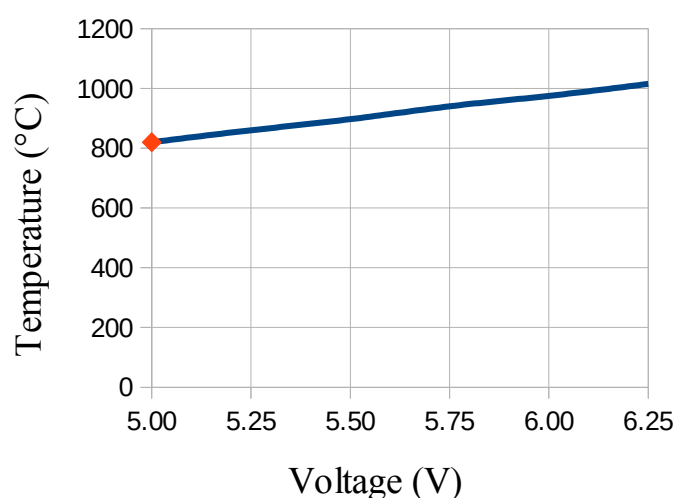
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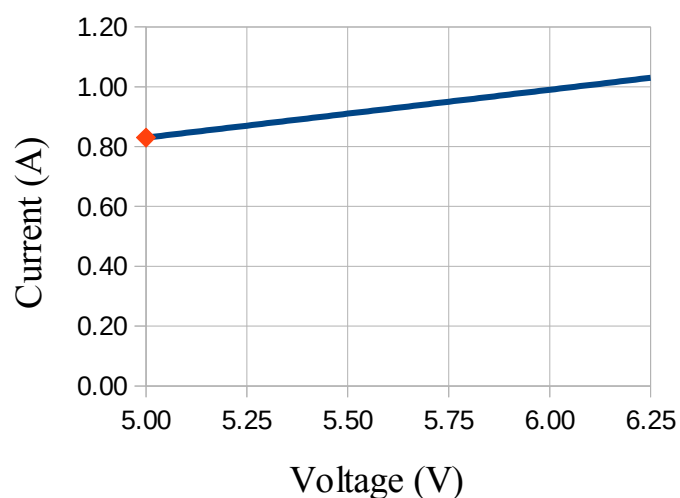
Sample Data Points

V	5.00	5.25	5.50	5.75	6.00	6.25
A	0.83	0.87	0.91	0.95	0.99	1.03
W	4.15	4.57	5.01	5.46	5.94	6.44
°C	820	860	897	940	975	1015

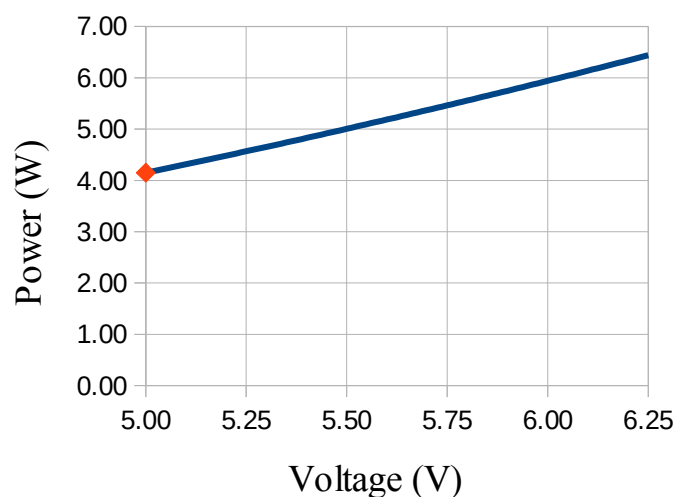
Temperature vs. Voltage



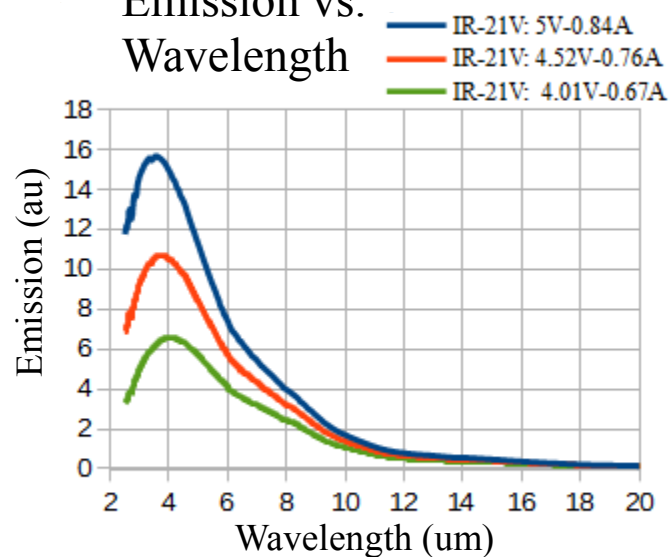
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-22 Emitter Datasheet

The IR-2X series of emitters has a variety of sizes to choose from, including different base sizes and different mounting orientations.

Recommended Operating Parameters

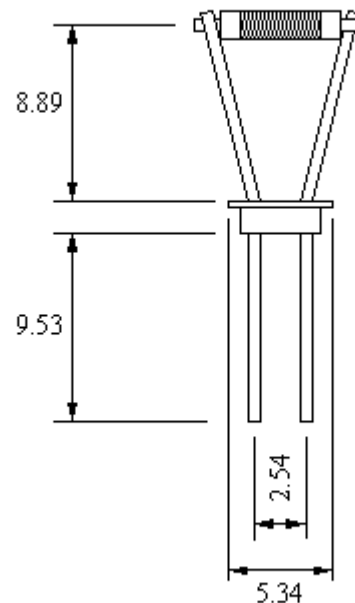
Voltage, V	5.0
Temperature °C	900
Current, A	0.8
Power, W	4.0

Recommended Operating Parameters

Life	30,000 Hours
Emissivity, %	80
Active Area (mm)	1.5 X 3.5



Note: All dimensions in mm



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Website: www.hawkeyetechnologies.com

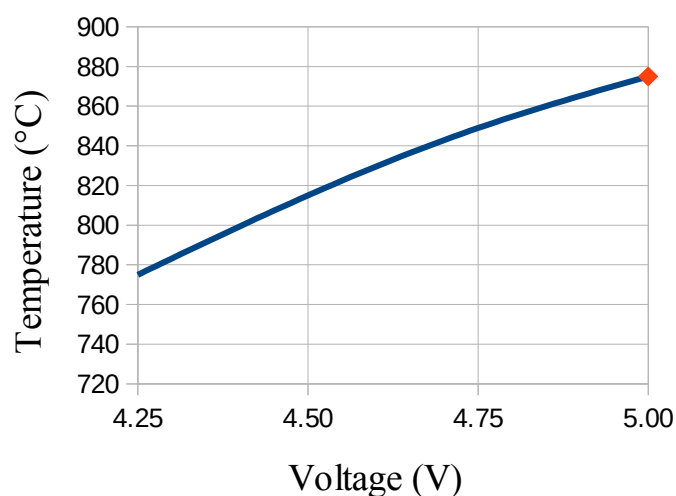
Published June 4, 2014.

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Please visit our website for the most up to date information.

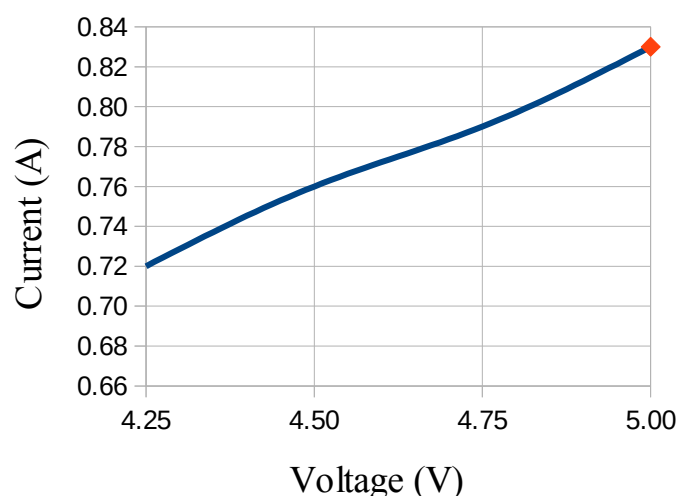
Sample Data Points

V	4.25	4.50	4.75	5.00
A	0.7	0.8	0.8	0.8
W	3.0	3.4	3.8	4.2
°C	775	815	849	875

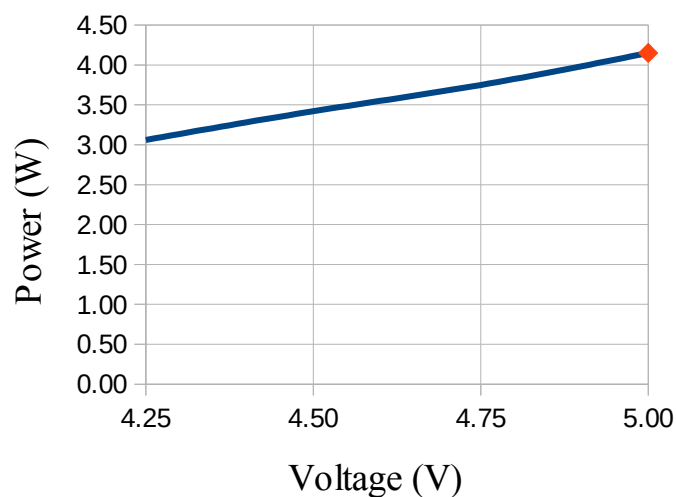
Temperature vs. Voltage



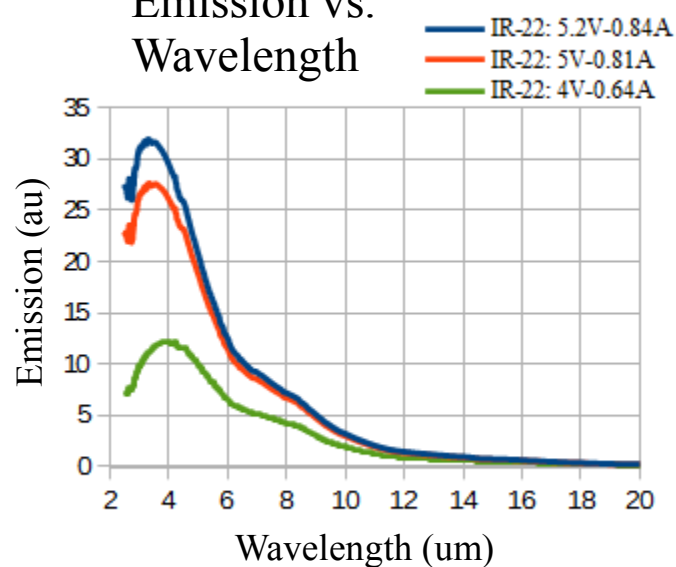
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-22V Emitter Datasheet

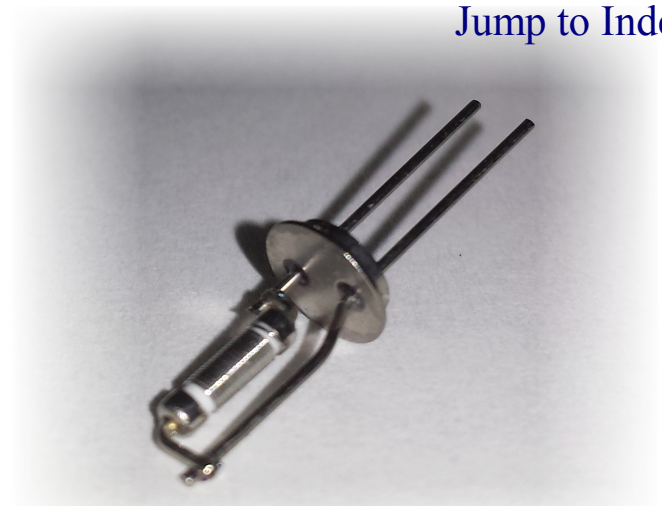
The IR-2X series of emitters has a variety of sizes to choose from, including different base sizes and different mounting orientations.

Recommended Operating Parameters

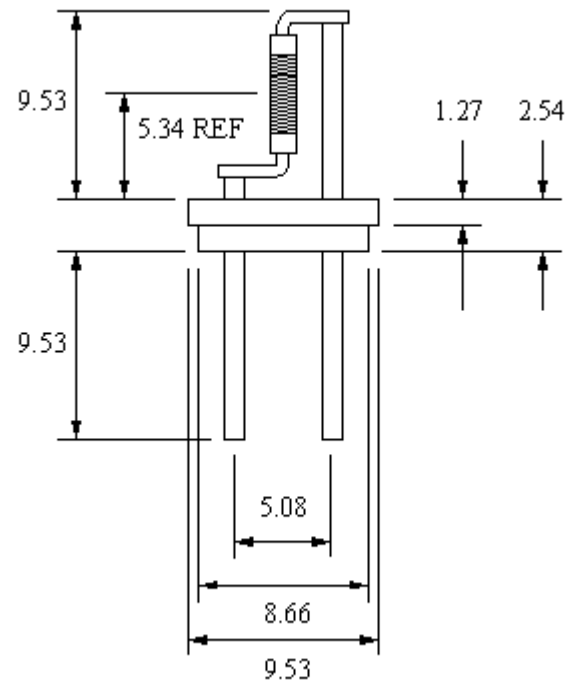
Voltage, V	5.0
Temperature °C	900
Current, A	0.8
Power, W	4.0

Properties at Recommended Parameters

Life	30,000 Hours
Emissivity, %	80
Active Area (mm)	1.5 X 3.5



Note: All dimensions in mm



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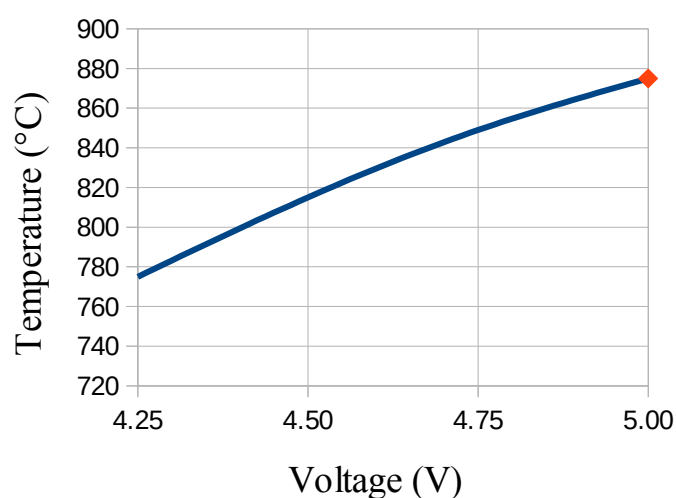
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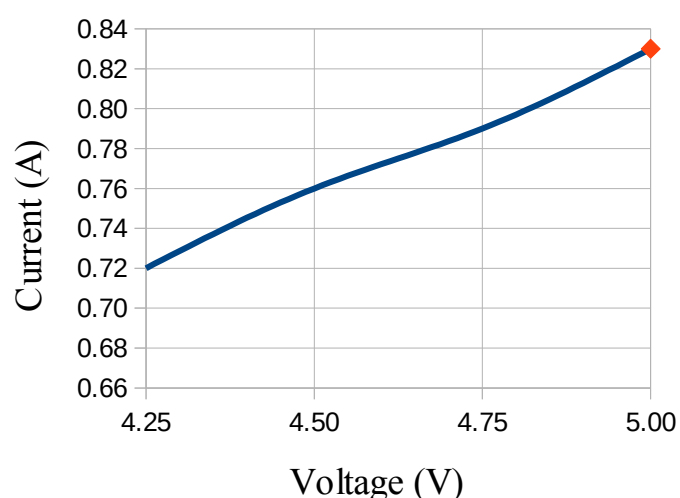
Sample Data Points

V	4.25	4.50	4.75	5.00
A	0.72	0.76	0.79	0.83
W	3.06	3.42	3.75	4.15
°C	775	815	849	875

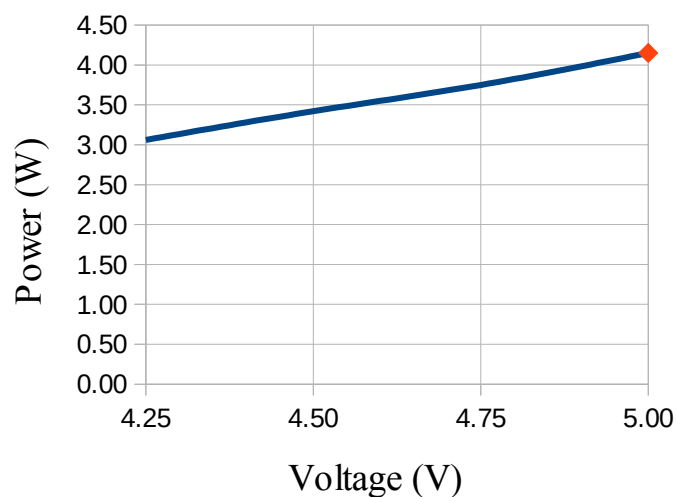
Temperature vs. Voltage



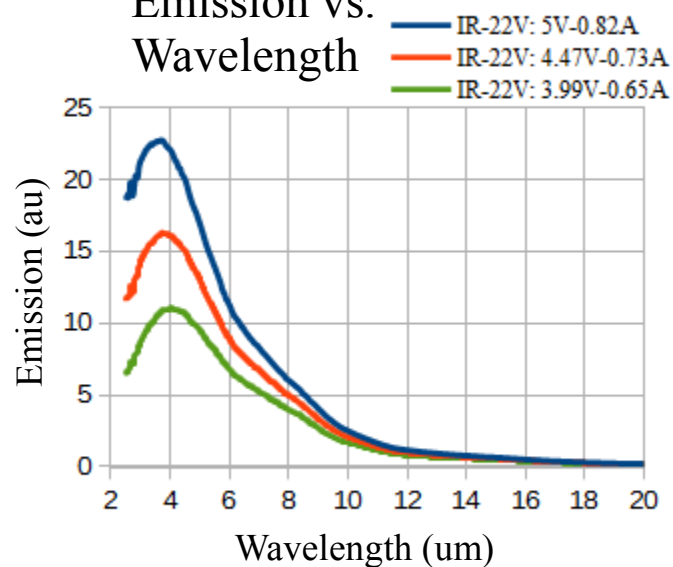
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-30 Emitter Datasheet

The IR-3X series of emitters operate at lower voltages than our 1X and 2X series, while still maintaining high temperatures.

Recommended Operating Parameters

Voltage, V	2.75
Temperature °C	925
Current, A	1.53
Power, W	4.2

Recommended Operating Parameters

Life	25,000 Hours
Emissivity, %	80
Active Area (mm)	1.8 X 1.8

Contact Information:

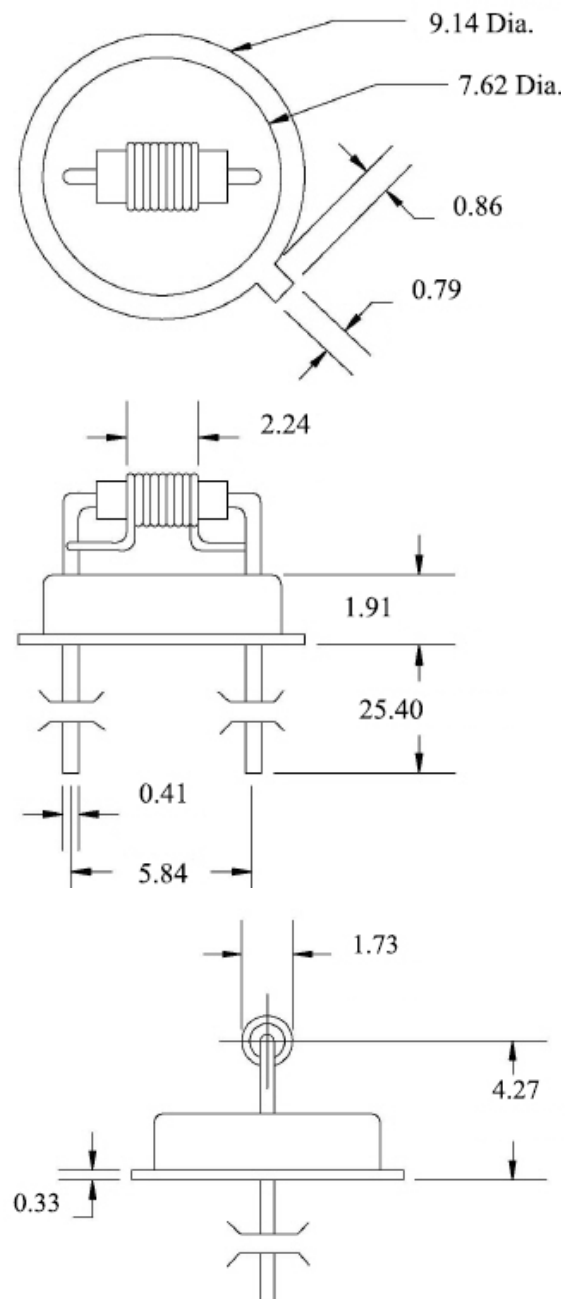
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Website: www.hawkeyetechnologies.com



Note: All dimensions in mm



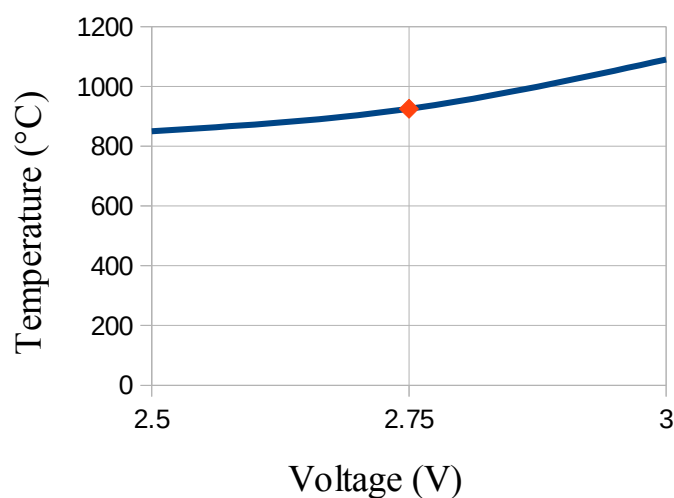
Published June 4, 2014.

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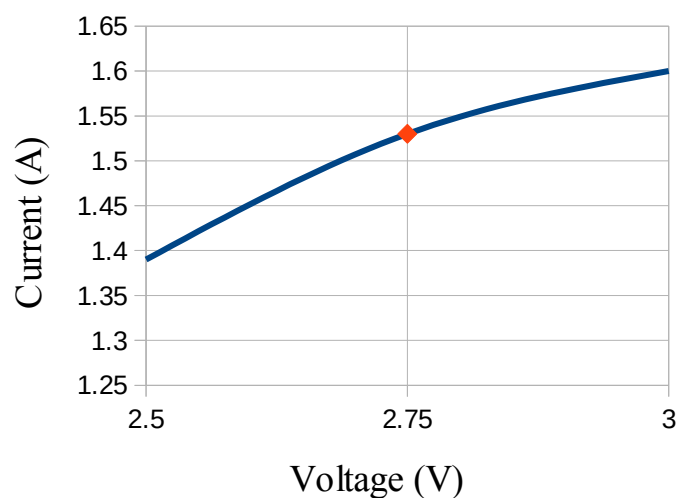
Sample Data Points

V	2.5	2.75	3
A	1.39	1.53	1.6
W	3.3	4.2	4.8
°C	850	925	1090

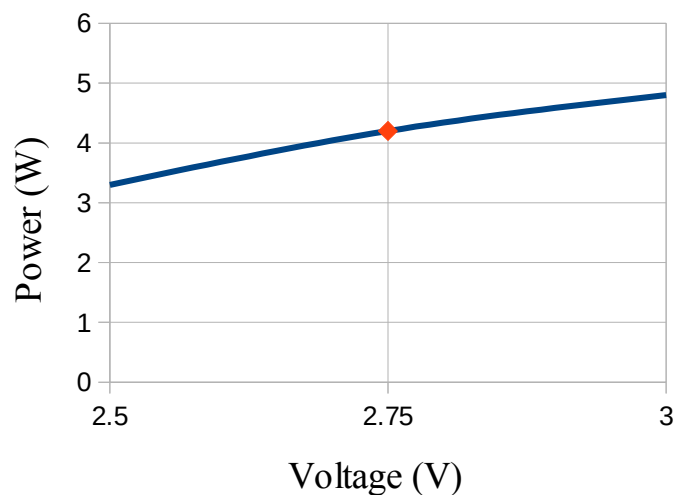
Temperature vs. Voltage



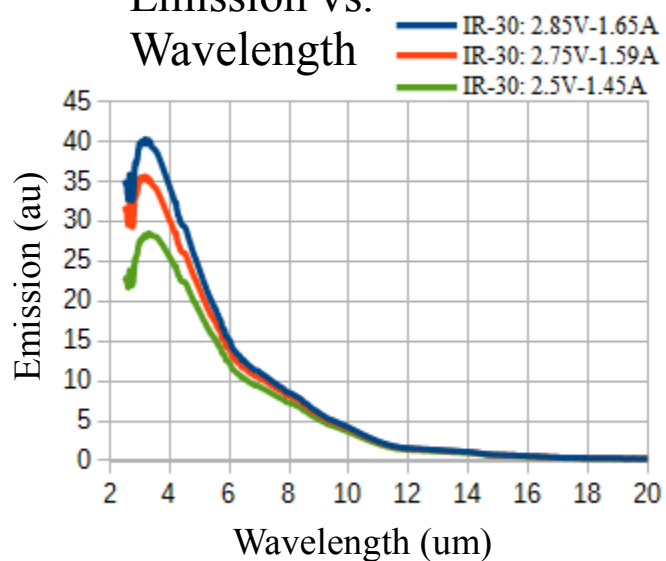
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-30K Emitter Datasheet

The IR-3X series of emitters operate at lower voltages than our 1X and 2X series, while still maintaining high temperatures.

Recommended Operating Parameters

Voltage, V	2.5
Temperature °C	950
Current, A	1.7
Power, W	4.2

Properties at Recommended Parameters

Life	25,000 Hours
Emissivity, %	70
Active Area (mm)	1.8 X 1.8

Contact Information:

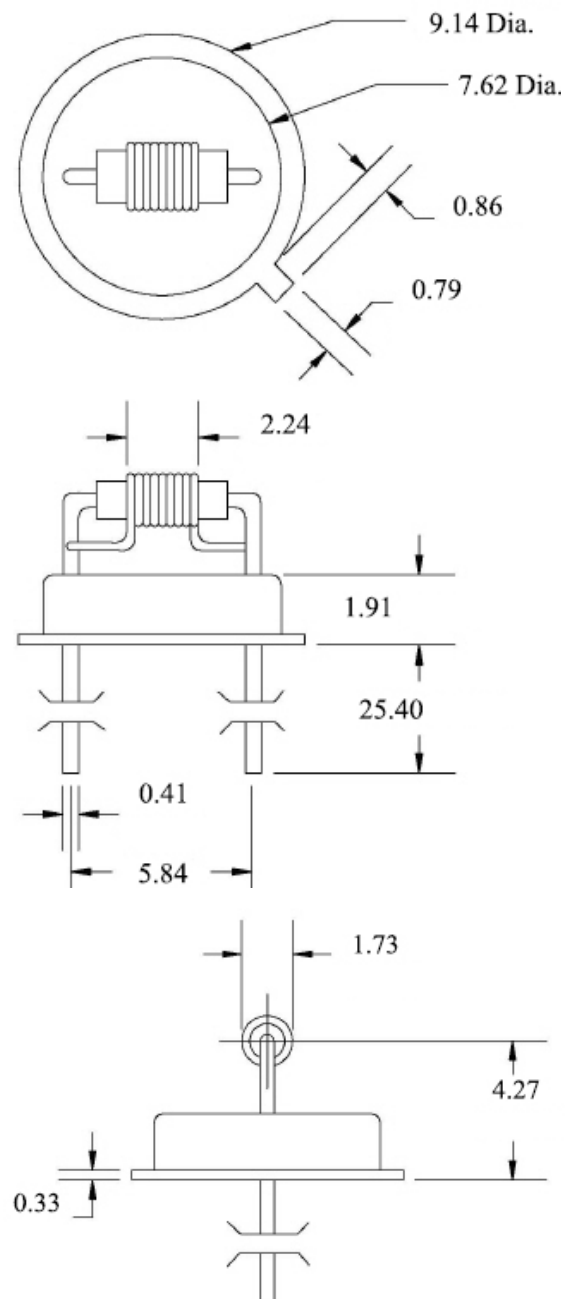
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Note: All dimensions in mm



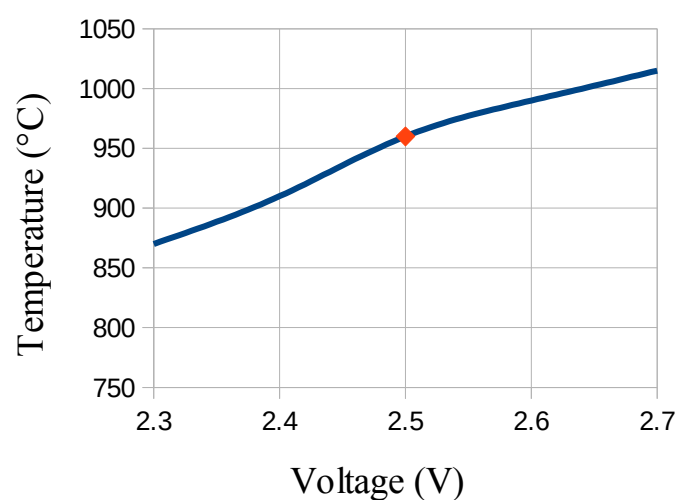
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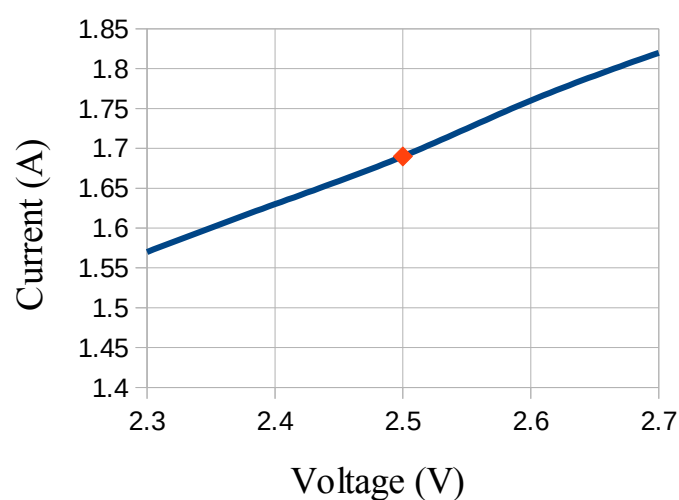
Sample Data Points

V	2.30	2.40	2.50	2.60	2.70
A	1.57	1.63	1.69	1.76	1.82
W	3.61	3.91	4.23	4.56	4.91
°C	870	910	960	990	1015

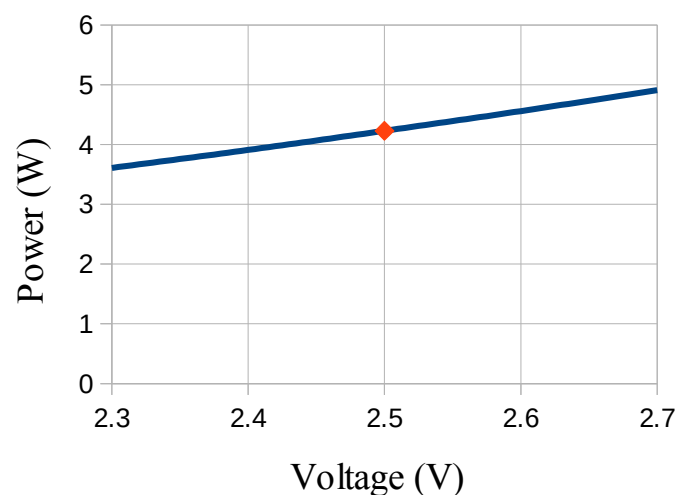
Temperature vs. Voltage



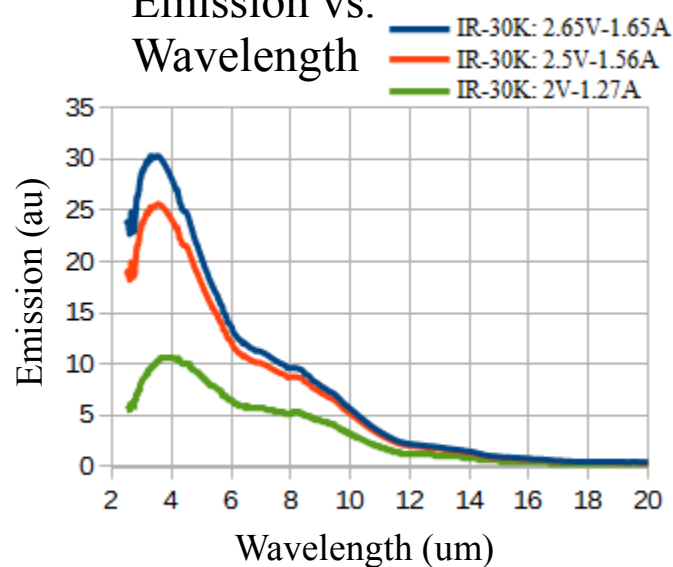
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Recommended to Maximize Lifetime

IR-40 Emitter Datasheet

The IR-4X series of emitters utilize a thin film source in order to provide reliable steady state output.

Maximum Operating Parameters

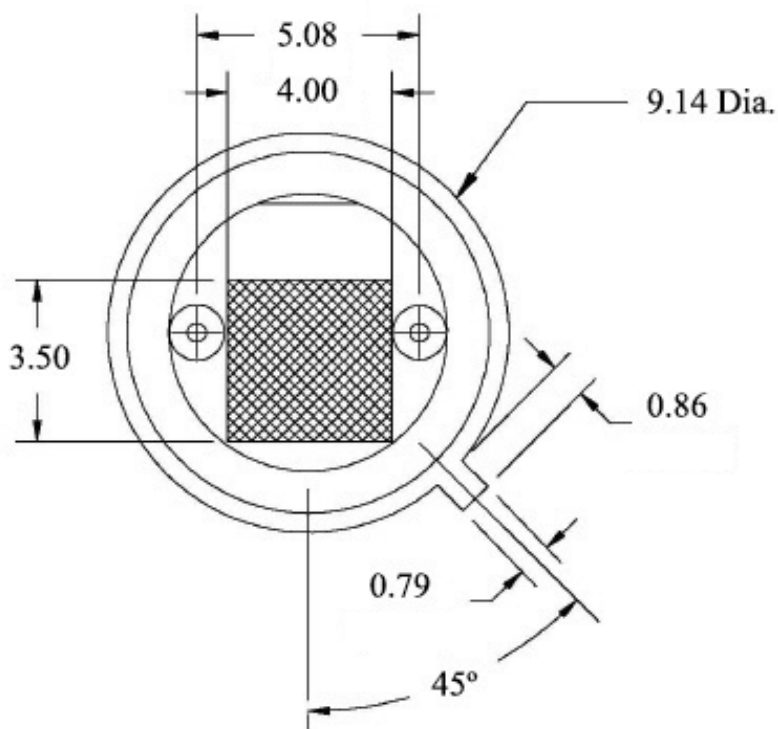
Voltage, V	26.0
Temperature °C	500
Current, A	.1
Power, W	2.5

Properties at Maximum Parameters

Life	25,000+ Hours
Emissivity, %	80
Active Area (mm)	4 X 3.5



Note: All dimensions in mm



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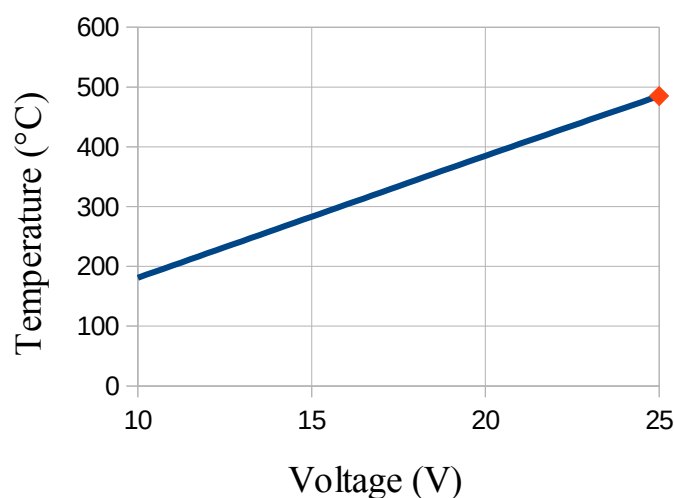
Published June 4, 2014.

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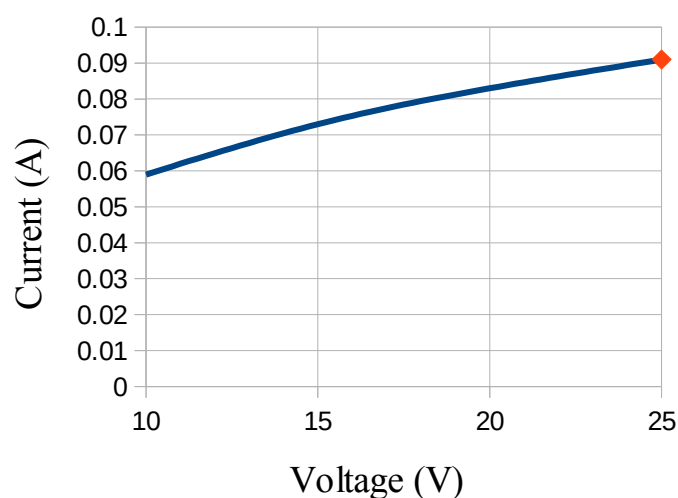
Sample Data Points

V	10	15	20	25
A	0.059	0.073	0.083	0.091
W	0.59	1.09	1.65	2.26
°C	181	283	385	485

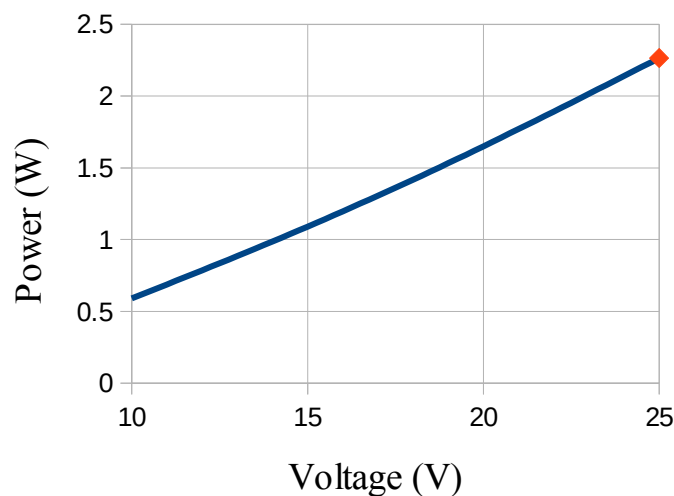
Temperature vs. Voltage



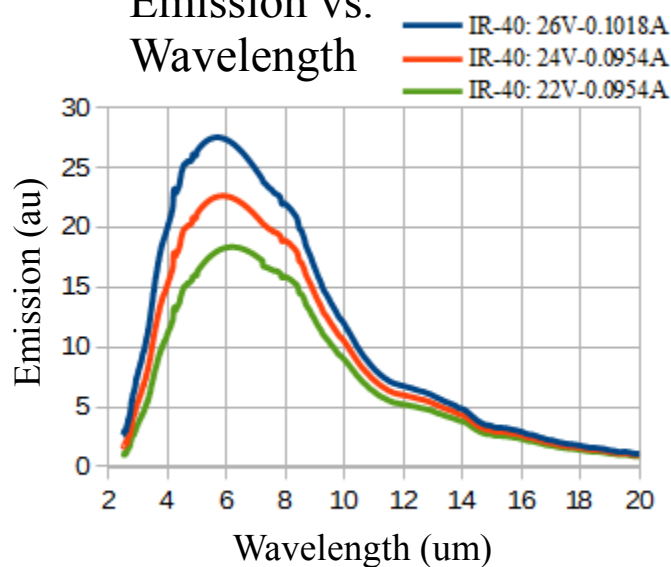
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-41 Emitter Datasheet

The IR-4X series of emitters utilize a thin film source in order to provide reliable steady state output.

Maximum Operating Parameters

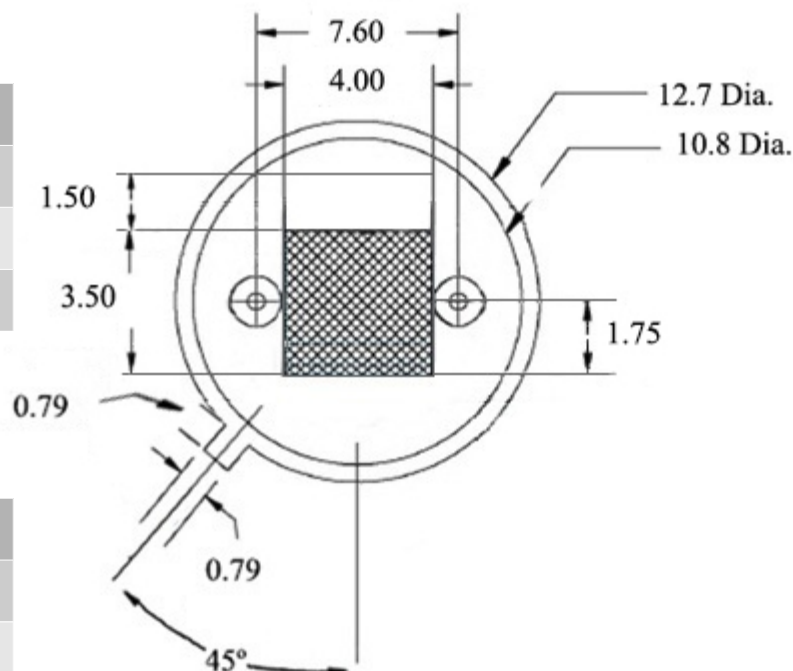
Voltage, V	26.0
Temperature °C	500
Current, A	.1
Power, W	2.5

Properties at Maximum Parameters

Life	25,000+ Hours
Emissivity, %	80
Active Area (mm)	4 X 3.5



Note: All dimensions in mm



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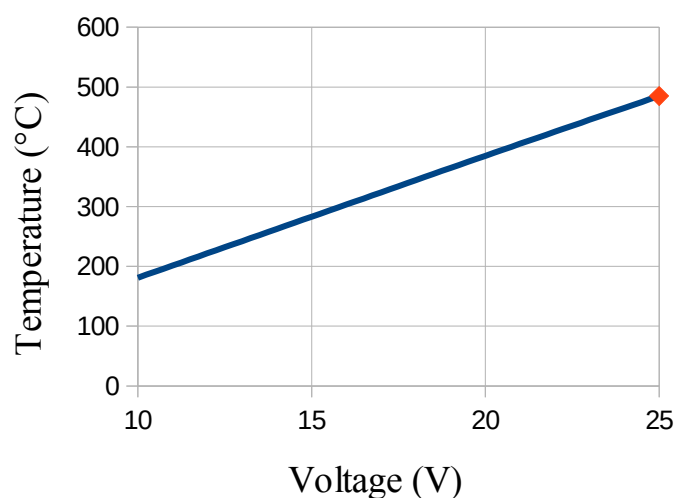
Published June 4, 2014.

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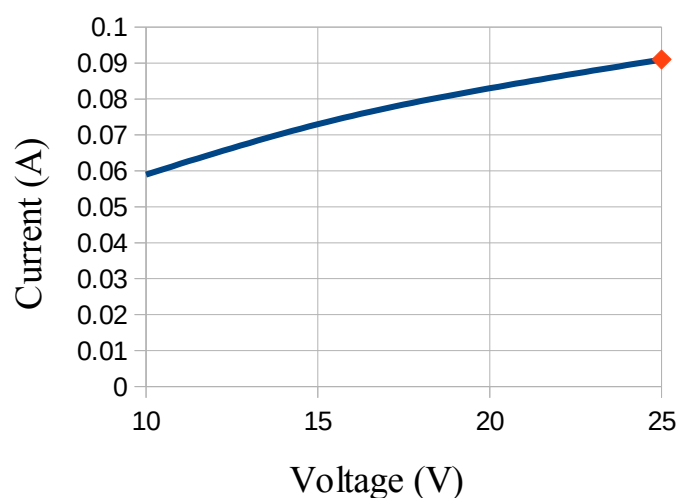
Sample Data Points

V	10	15	20	25
A	0.059	0.073	0.083	0.091
W	0.59	1.09	1.65	2.26
°C	181	283	385	485

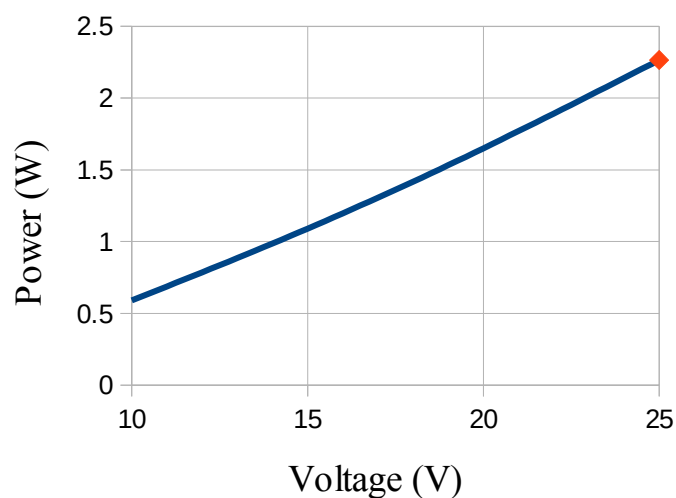
Temperature vs. Voltage



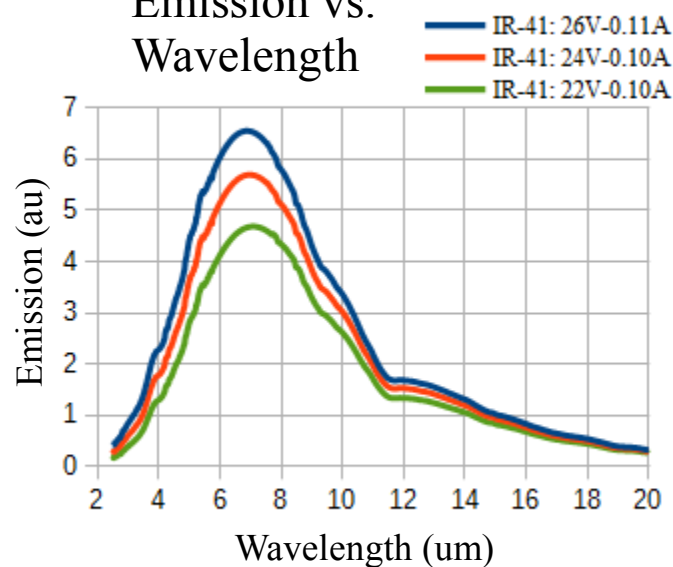
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-43 Emitter Datasheet

The IR-4X series of emitters utilize a thin film source in order to provide reliable steady state output.

Maximum Operating Parameters

Voltage, V	14.0
Temperature, °C	600
Current, A	.09
Power, W	1.3

Properties at Maximum Parameters

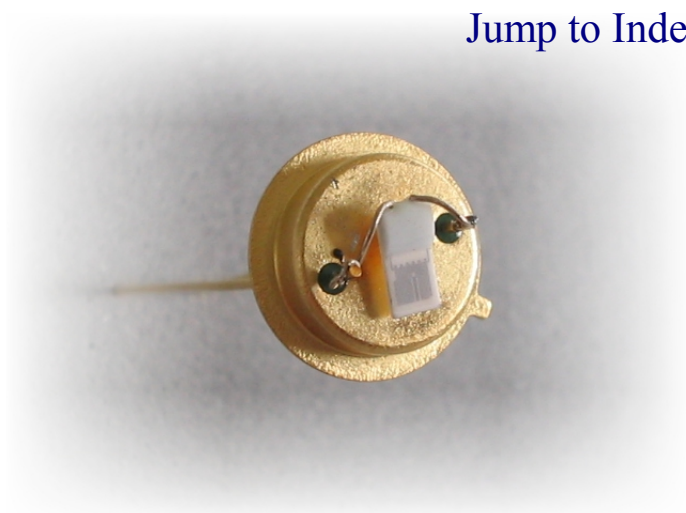
Life	25,000+ Hours
Emissivity, %	80
Active Area (mm)	1.5 X 1.5

Contact Information:

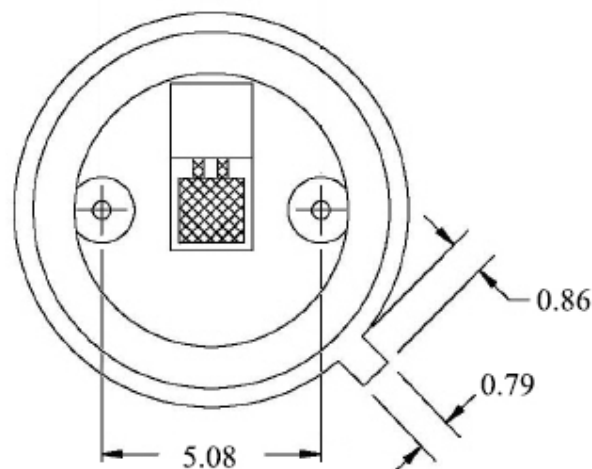
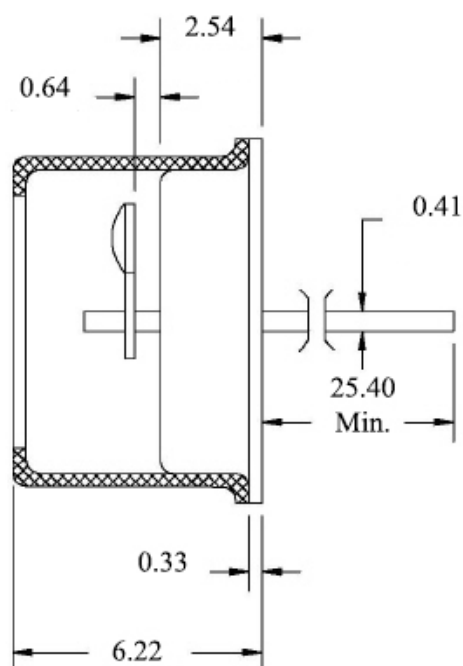
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Fax: +1-203-878-7462

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Website: www.hawkeyetechnologies.com



Note: All dimensions in mm

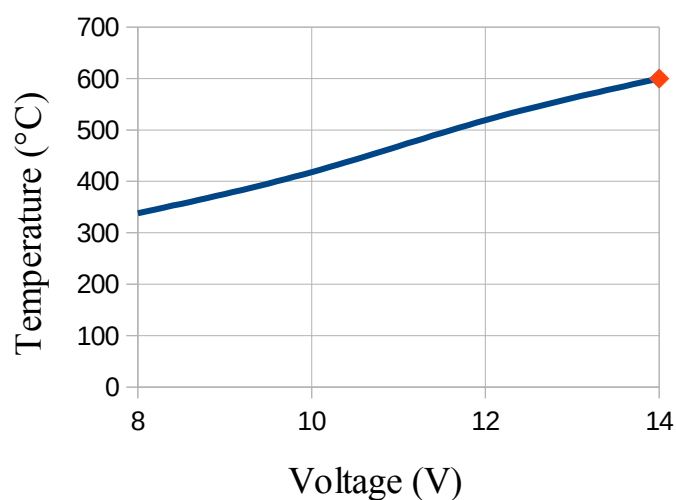


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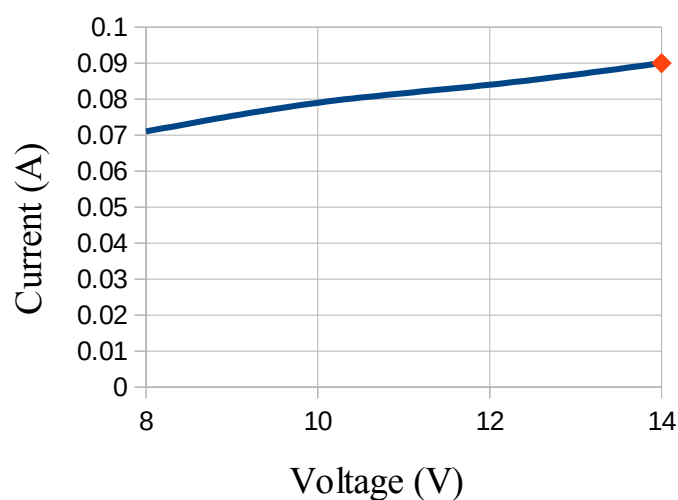
Sample Data Points

V	8	10	12	14
A	0.071	0.079	0.084	0.09
W	0.57	0.79	1	1.3
°C	338	418	519	600

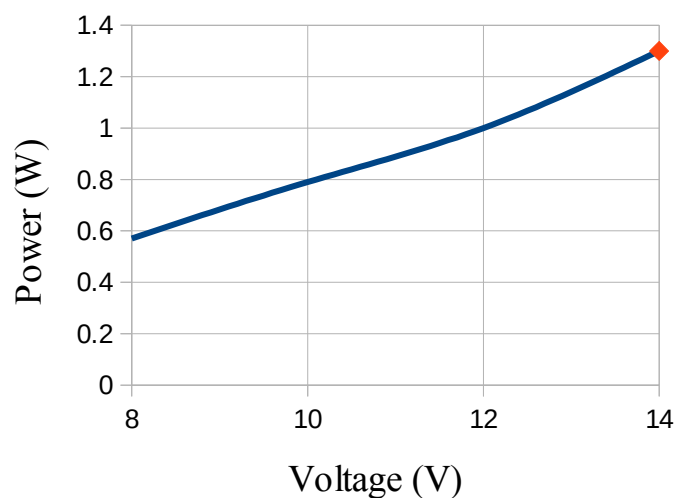
Temperature vs. Voltage



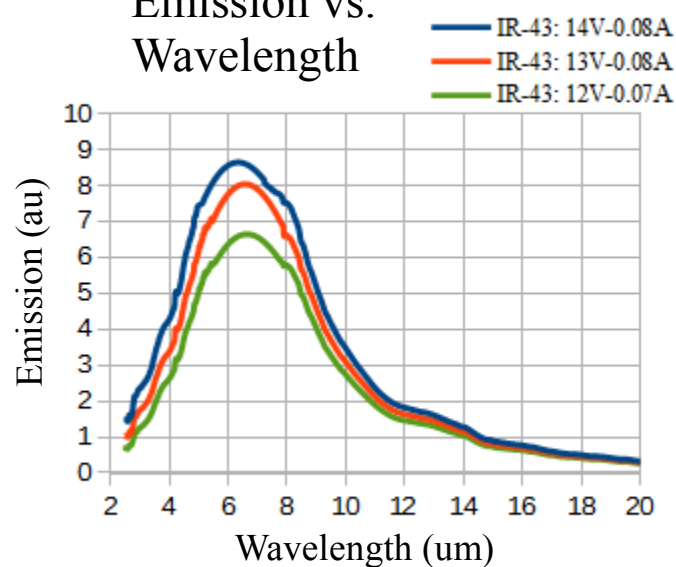
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-50 Emitter Datasheet

Our electrically modulated emitters pair high pulse rate and modulation depth with minimal resistance drift.

Typical Operating Parameters and Properties

Voltage, V	5.9 / 6.7 max.
Temperature, °C	650
Hot Resistance, Ohms	50 (45 - 55)
Current, mA	117
Power, mW	690
Modulation Frequency, Hz	1 - 100
Modulation Depth at 10 Hz	99.00%
Life at 1 Hz, 50% duty cycle	50,000 hours
Emissivity, %	80
Spectral Range, μm	1 - 20
Active Area, mm	1.7 x 1.7
Package	TO-5

Contact Information:

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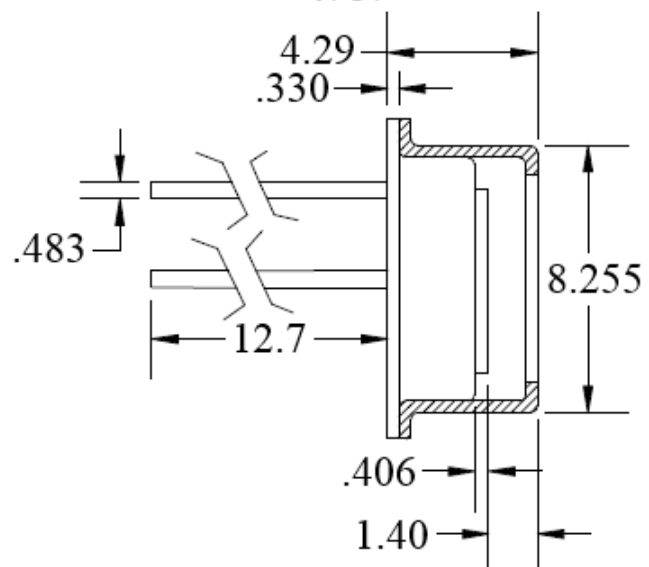
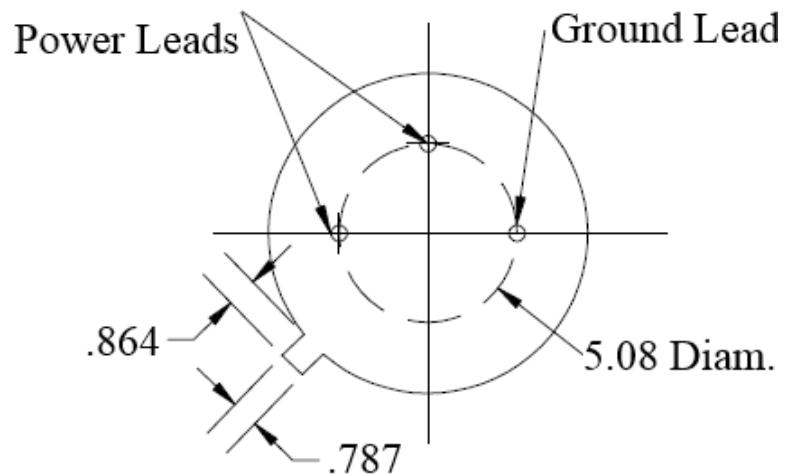
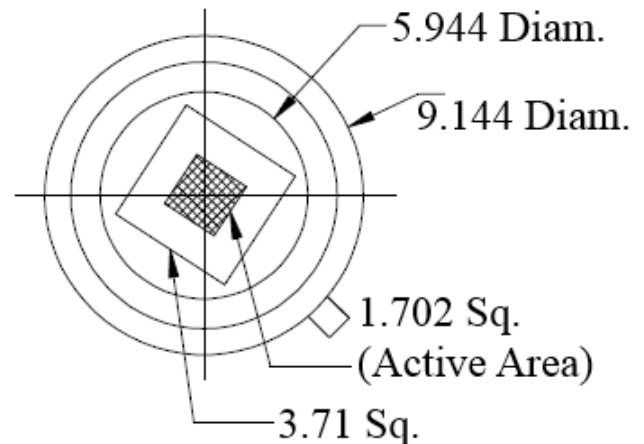
Fax: +1-203-878-7462

Email: info@hawkeyetechnologies.com

Website: www.hawkeyetechnologies.com



Note: All dimensions in mm



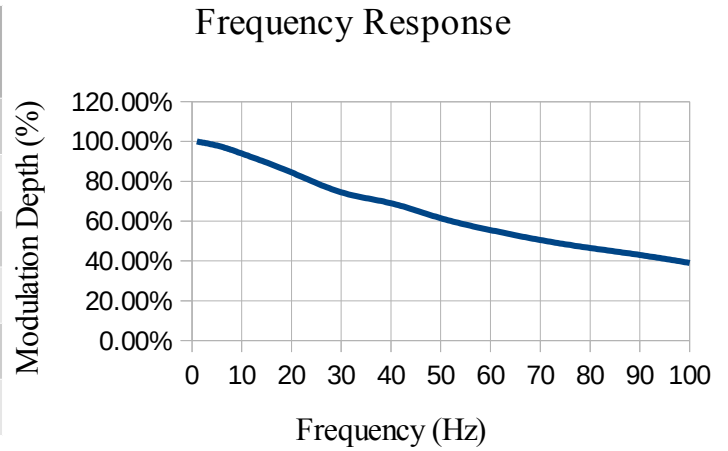
Published June 4, 2014.

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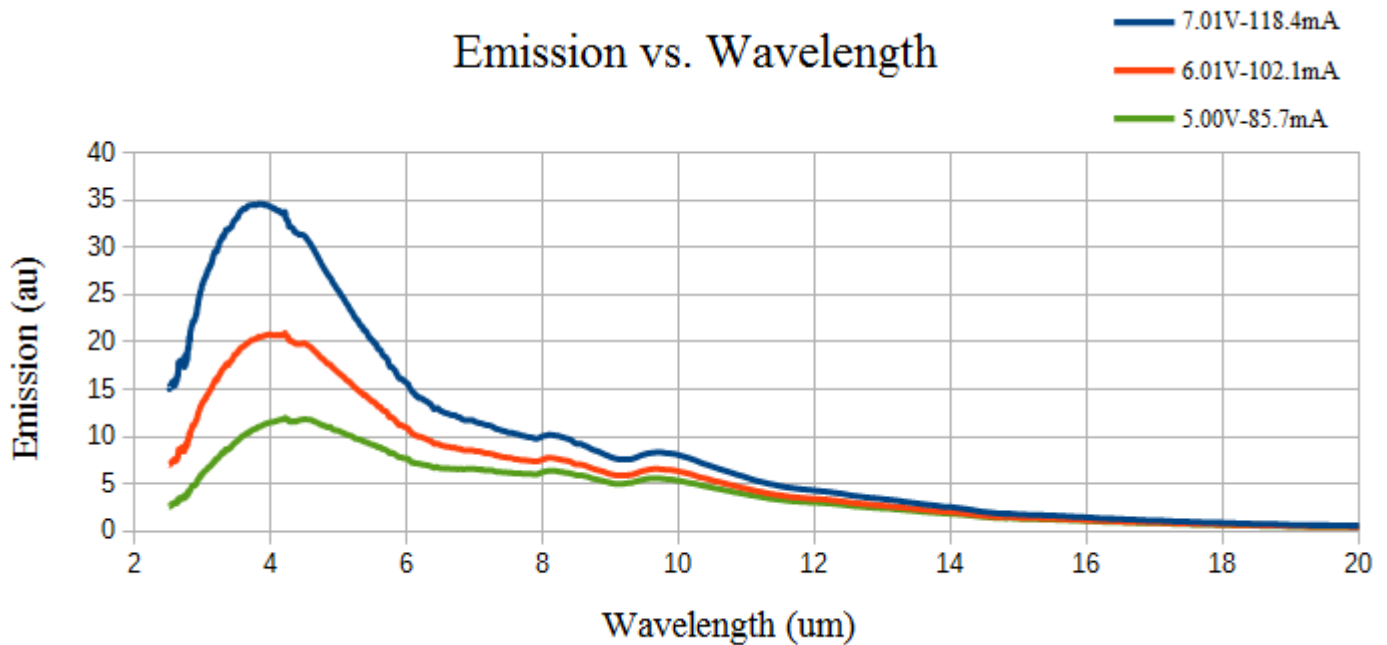
Sample Data Points

[Jump to Index](#)

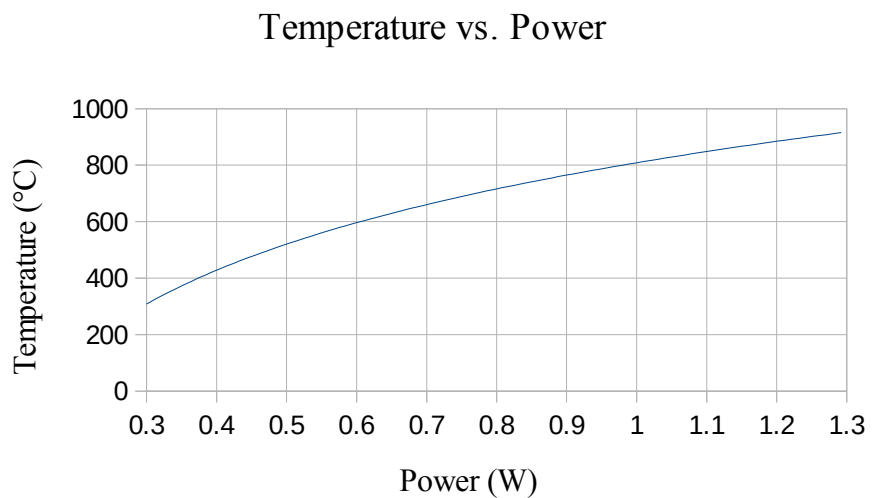
Frequency (Hz)	Mod. Depth (%)		
1	100.0	50	61.5
5	98.0	60	55.5
10	94.0	70	50.5
20	84.5	80	46.5
30	74.5	90	43.0
40	69.0	100	39.0



Emission vs. Wavelength

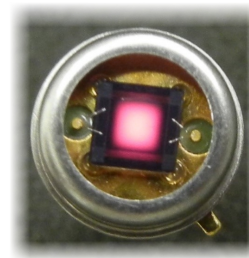


V	A	W	°C
4	0.09	0.34	365
5	0.10	0.52	537
6	0.12	0.74	684
7	0.14	1.0	807
8	0.16	1.3	915



IR-70 Emitter Datasheet

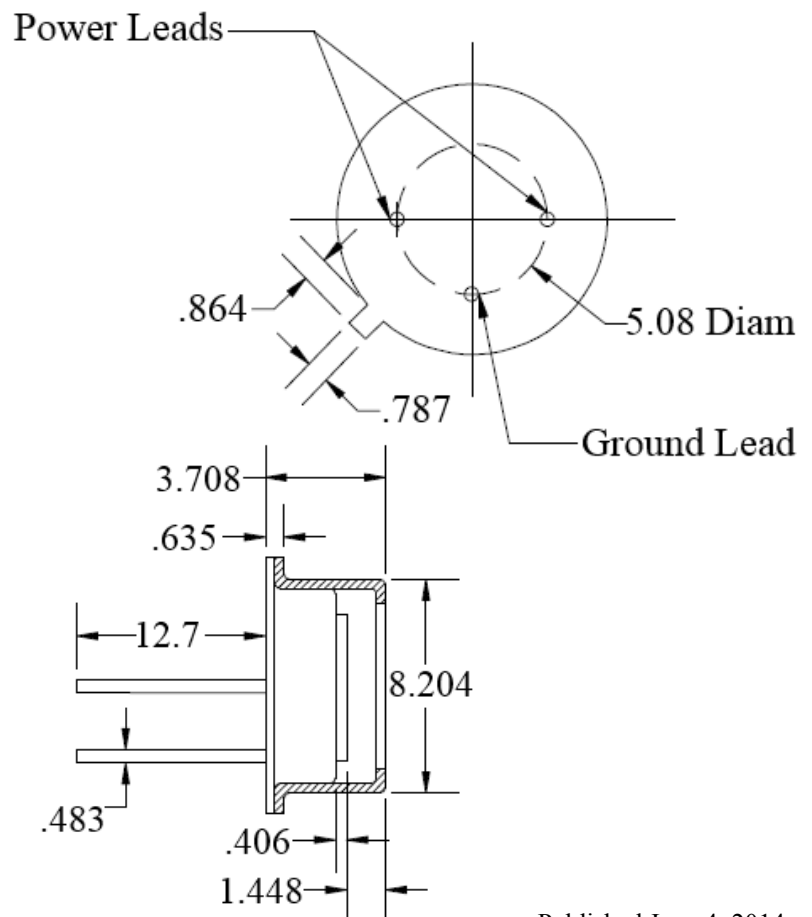
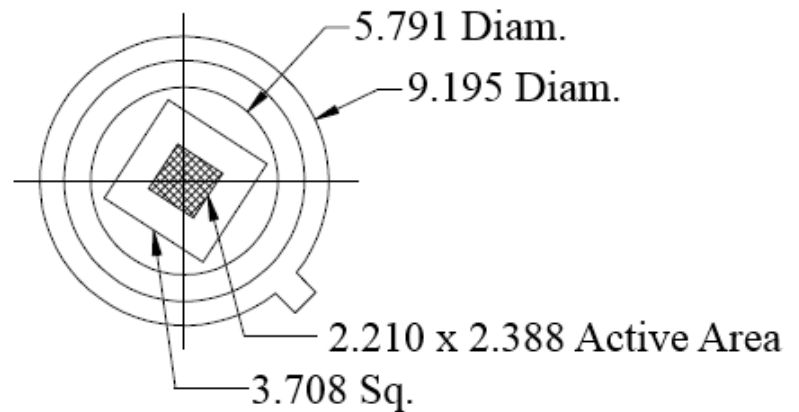
Our electrically modulated emitters pair high pulse rate and modulation depth with minimal resistance drift.



Note: All dimensions in mm

Typical Operating Parameters and Properties

Voltage, V	5.1 / 6.0 max.
Temperature, °C	700
Hot Resistance, Ohms	40 (35 - 45)
Current, mA	127
Power, mW	650
Modulation Frequency, Hz	1 - 100
Modulation Depth at 10 Hz, 650 mW	75.00%
Life at 1 Hz, 50% duty cycle	100,000 hours
Emissivity, %	80
Spectral Range, μm	1 - 20
Active Area, mm	2.2 x 2.2
Package	TO-39



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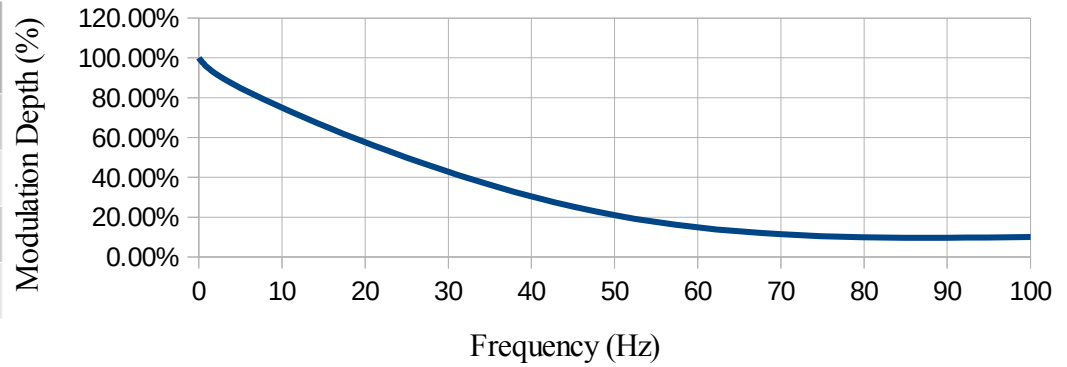
Specifications subject to change without notice.
 Please visit our website for the most up to date information.

Sample Data Points

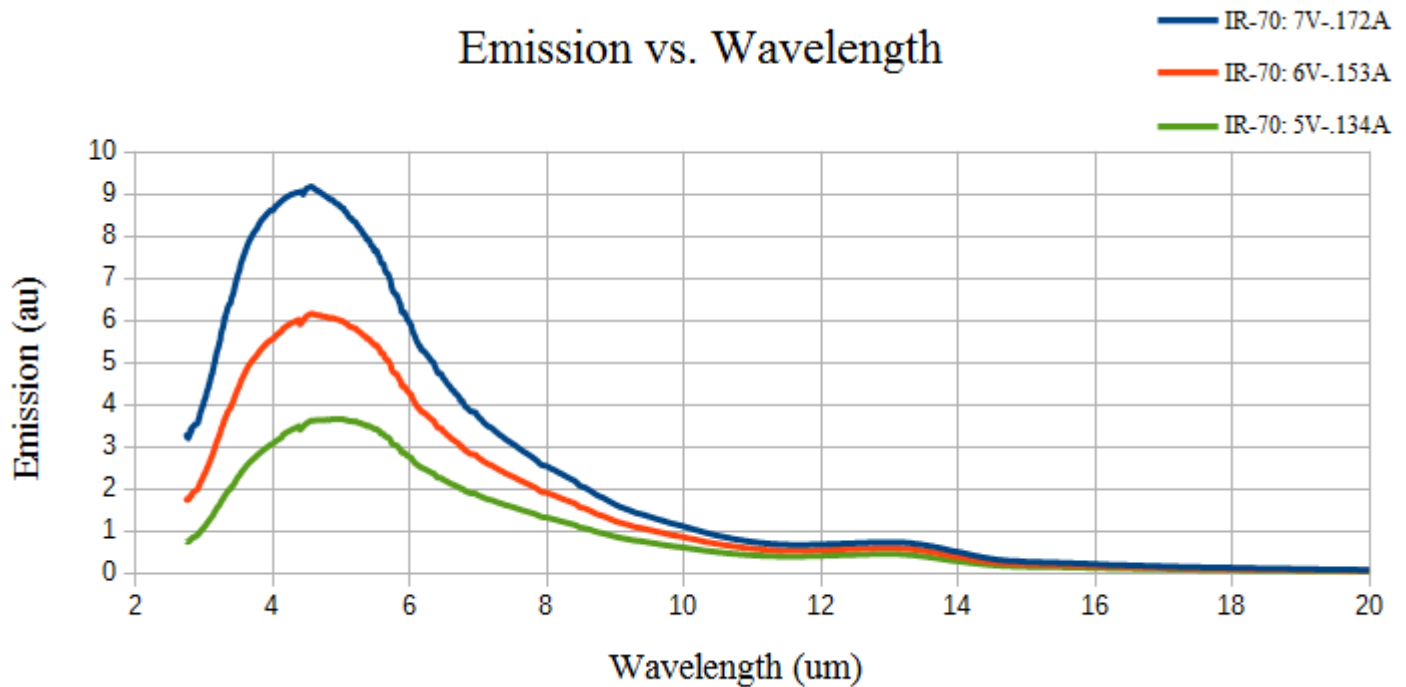
[Jump to Index](#)

Frequency Response at 650 mW

Frequency (Hz)	Mod. Depth (%)
1	100
10	75
50	21
100	10

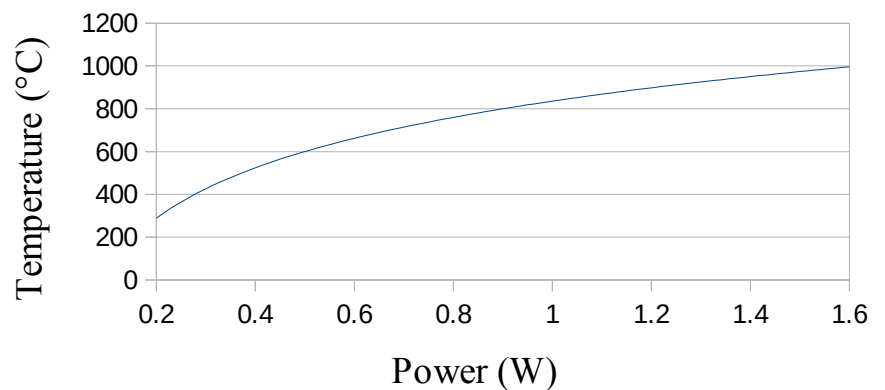


Emission vs. Wavelength



Temperature vs. Power

V	A	W	°C
4.000	0.097	0.388	505.50
5.000	0.125	0.625	691.00
5.100	0.127	0.650	700.00
6.000	0.149	0.893	781.50



IR-80 Emitter Datasheet

Our electrically modulated emitters pair high pulse rate and modulation depth with minimal resistance drift.

Typical Operating Parameters and Properties

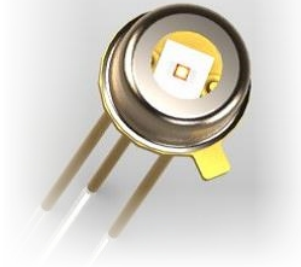
Voltage, V	3.0 / 3.2 max.
Temperature, °C	700
Hot Resistance, Ohms	45 (40 - 50)
Current, mA	66
Power, mW	200
Modulation Frequency, Hz	1 - 100
Modulation Depth at 10 Hz, 650 mW	95.00%
Life at 1 Hz, 50% duty cycle	≥5,000 hours
Emissivity, %	80
Spectral Range, μm	1 - 20
Active Area, mm	0.85 x 0.65
Package	TO-46

Contact Information:

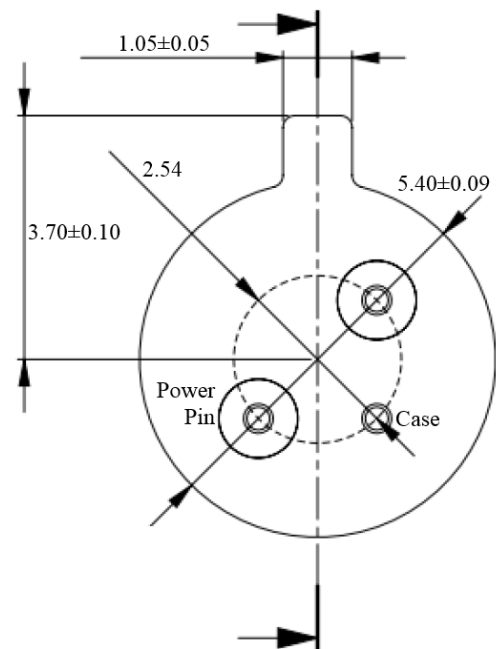
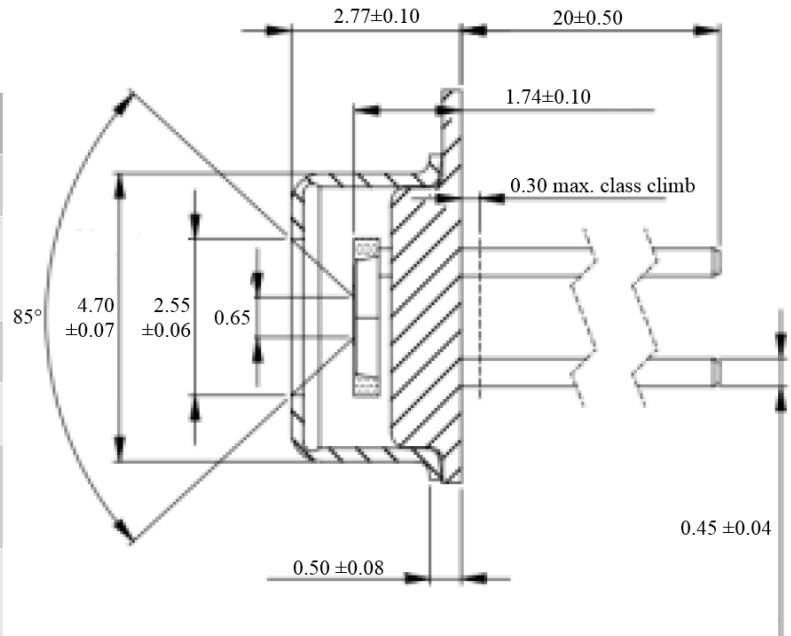
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Note: All dimensions in mm



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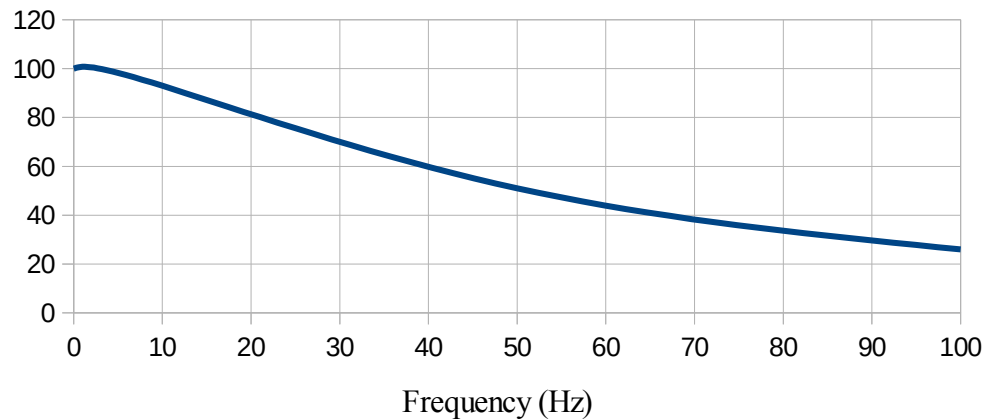
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Sample Data Points

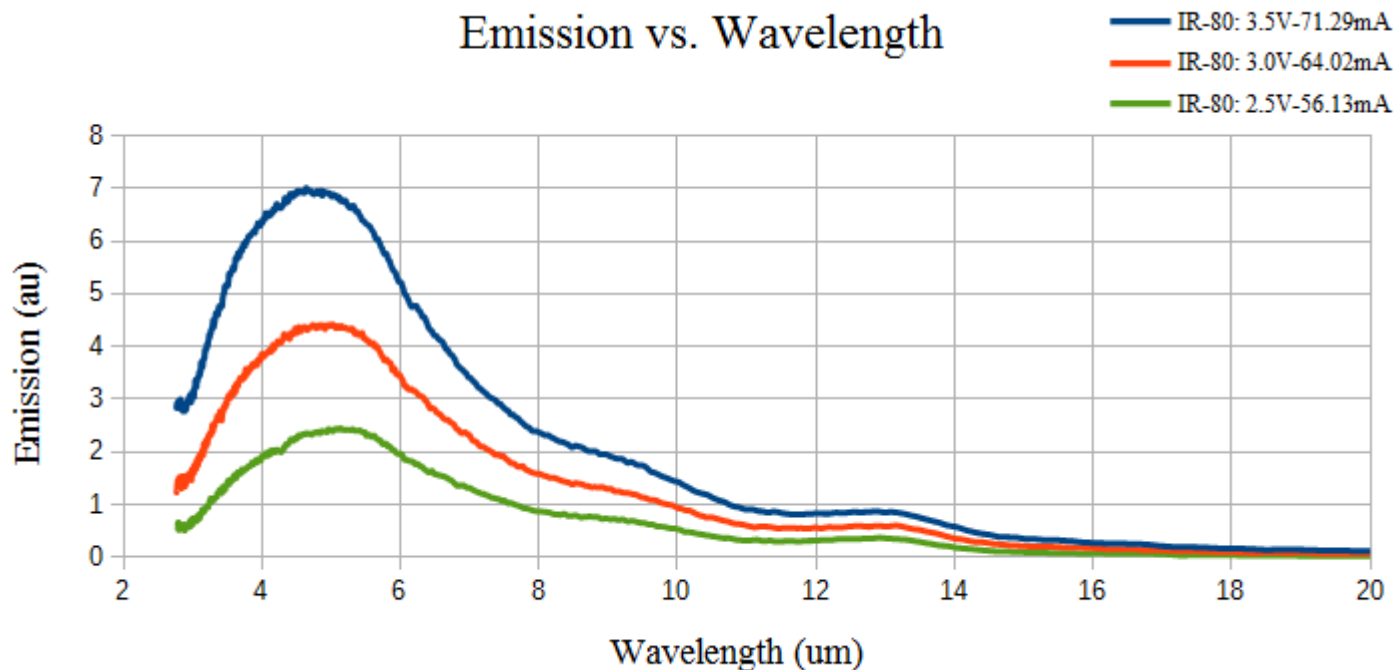
Frequency (Hz)	Mod. Depth (%)
1	100
10	95
50	51
100	26

Modulation Depth (%)

Frequency Response

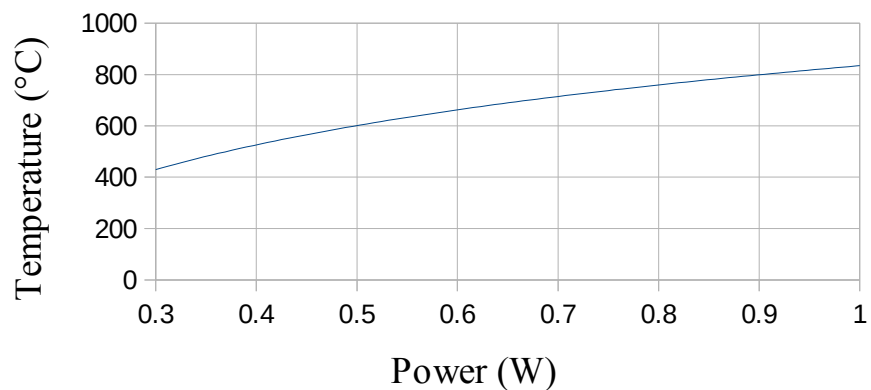


Emission vs. Wavelength



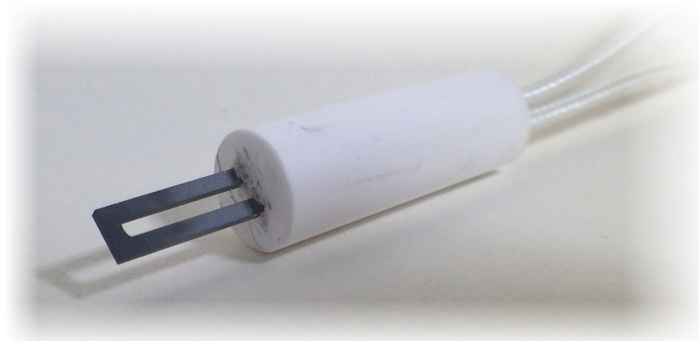
Temperature vs. Power

V	A	W	°C
4.000	0.097	0.388	505.50
5.000	0.125	0.625	691.00
5.100	0.127	0.650	700.00
6.000	0.149	0.893	781.50



IR-Si207 Emitter Datasheet

The IR-Si series emitters are designed to supply higher temperatures and greater output compared to other IR sources. The patented silicon nitride or silicon carbide material ensures a robust design.



Recommended (Maximum) Operating Parameters

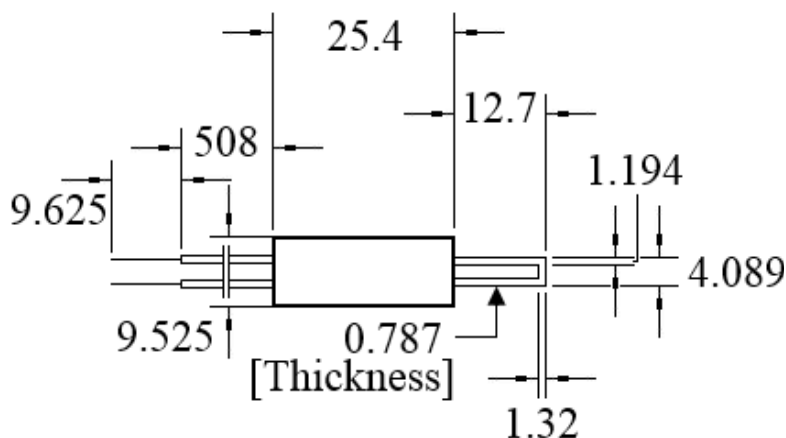
Voltage, V	12	(14)
Temperature °C	1260	(1455)
Current, A	1.6	(1.87)
Power, W	19.2	(26.18)

Properties at Recommended Parameters

Life	5,000+ Hours
Emissivity, %	80
Active Area (mm)	3 (L) X 4.4 (W)
Material	Silicon Carbide

IR-Si series emitters can be paired with elliptical or parabolic reflectors for a significantly more efficient collimation of energy. Windows are also available for specific transmitting ranges

Note: All dimensions in mm



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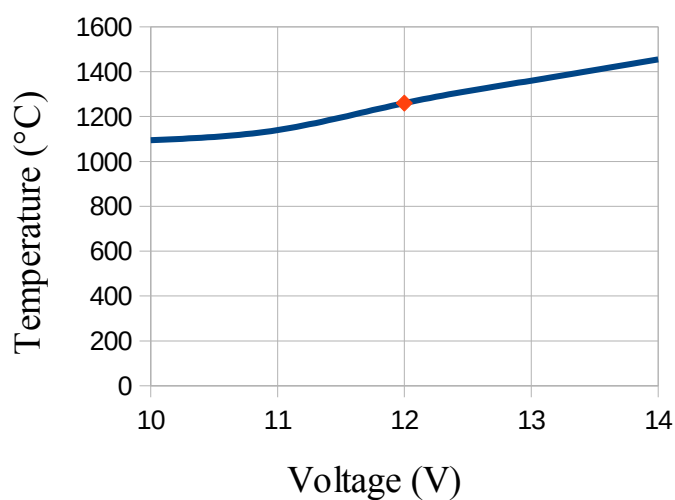
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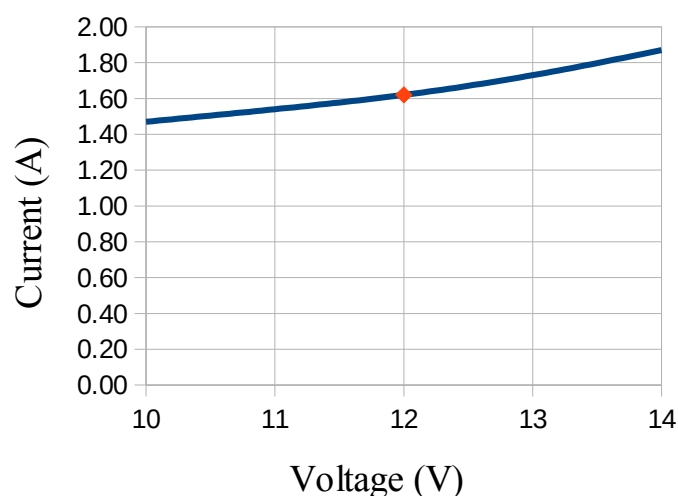
Sample Data Points

V	10.00	11.00	12.00	13.00	14.00
A	1.47	1.54	1.62	1.73	1.87
W	14.70	16.94	19.44	22.49	26.18
°C	1095	1140	1260	1360	1455

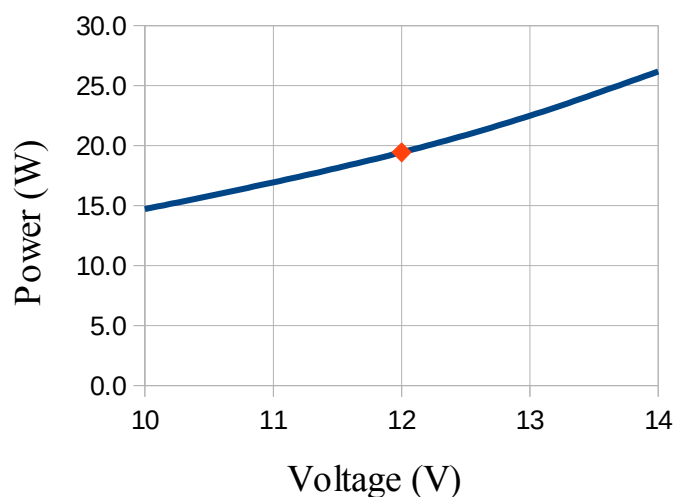
Temperature vs. Voltage



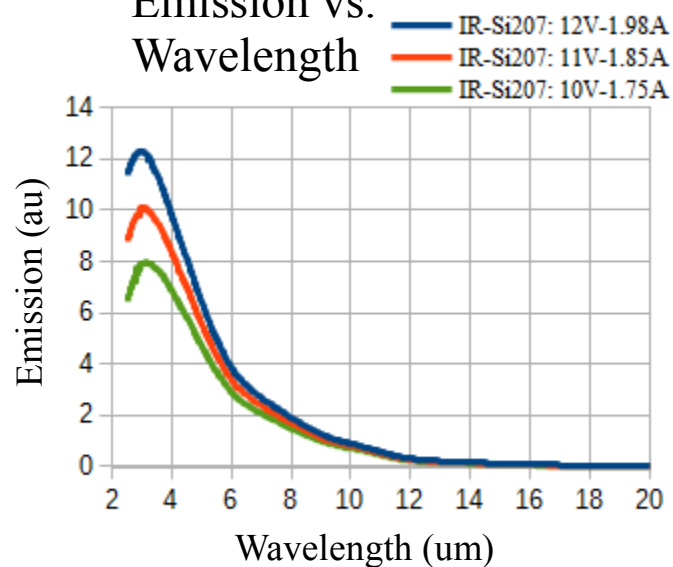
Current vs. Voltage



Power vs. Voltage



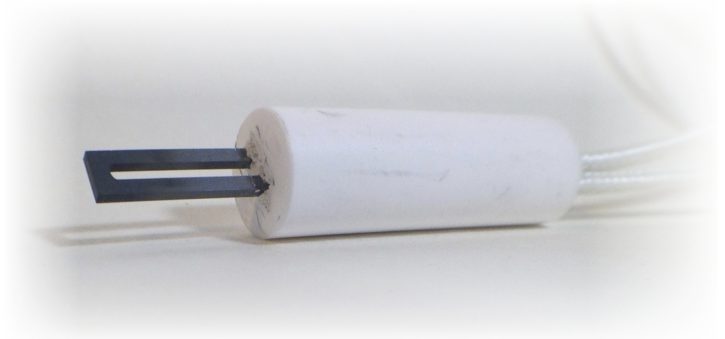
Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-Si217 Emitter Datasheet

The IR-Si series emitters are designed to supply higher temperatures and greater output compared to other IR sources. The patented silicon nitride or silicon carbide material ensures a robust design.



Recommended (Maximum) Operating Parameters

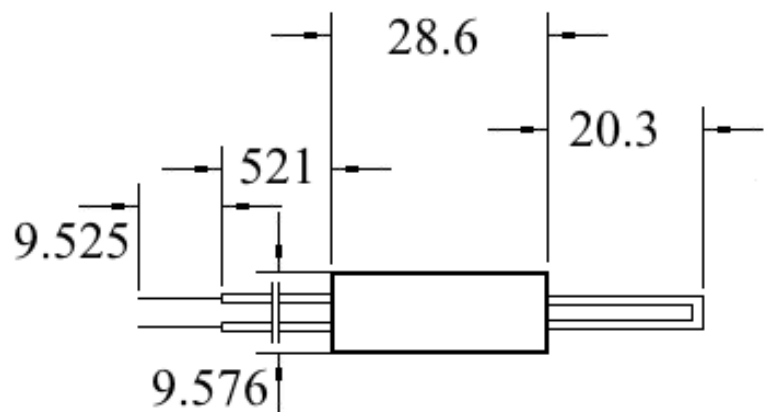
Voltage, V	24	(28)
Temperature °C	1385	(1500)
Current, A	1.5	(1.77)
Power, W	37	(49.56)

Properties at Recommended Parameters

Life	5,000+ Hours
Emissivity, %	80
Active Area (mm)	6 (W) X 4.4 (L)
Material	Silicon Carbide

IR-Si series emitters can be paired with elliptical or parabolic reflectors for a significantly more efficient collimation of energy. Windows are also available for specific transmitting ranges.

Note: All dimensions in mm



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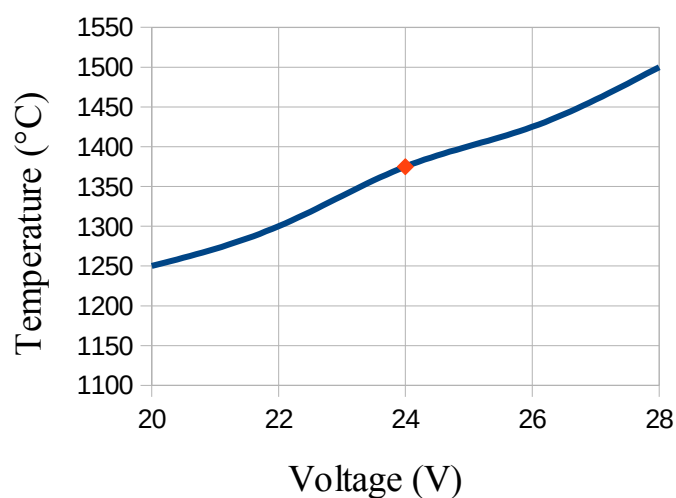
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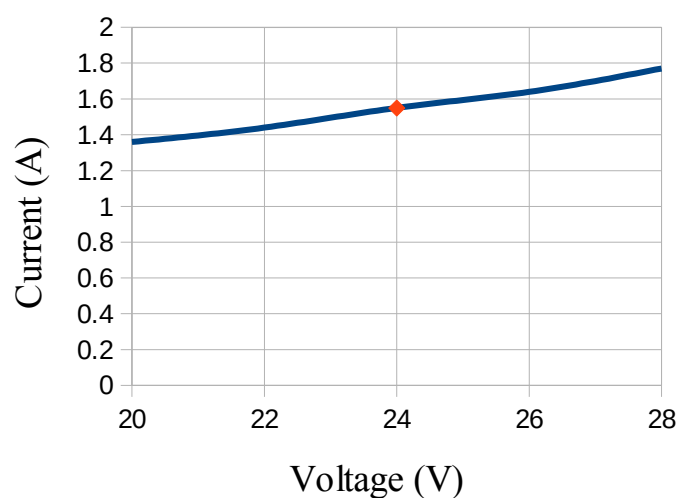
Sample Data Points

V	20.00	22.00	24.00	26.00	28.00
A	1.36	1.44	1.55	1.64	1.77
W	27.20	31.68	37.20	42.64	49.56
°C	1250	1300	1375	1425	1500

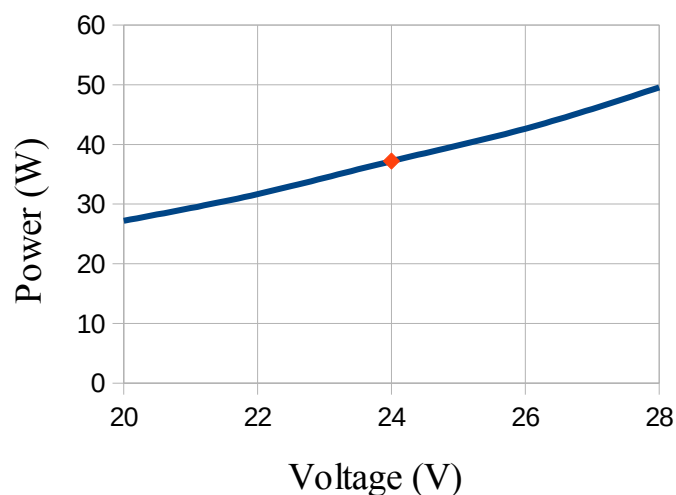
Temperature vs. Voltage



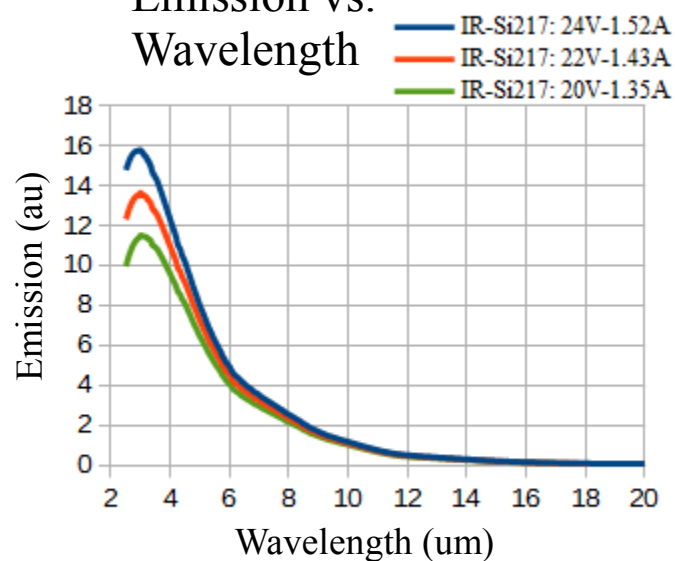
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-Si253 Emitter Datasheet

The IR-Si-253 is one of our most popular silicon based sources, allowing for higher temperatures and greater output while maintaining stability and thermal strength.

Recommended (Maximum) Operating Parameters

Voltage, V	12	(13)
Temperature °C	1120	(1175)
Current, A	1.46	(1.5)
Power, W	16.6	(19.5)

Properties at Recommended Parameters

Life	5,000+ Hours
Emissivity, %	80
Active Area (mm)	2 (D) X 5 (L)
Material	Silicon Nitride

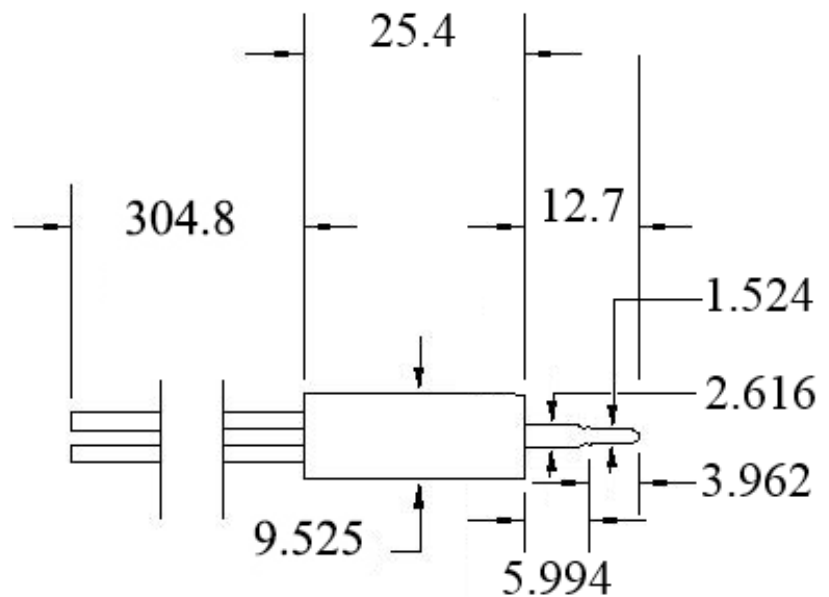
The IR-Si-253 can be paired with a variety of elliptical or parabolic reflectors. The IR-Si-253-P-1* and the IR-Si-253-E-1** are two of our most popular products.

*Formerly known as IR-18

**Formerly known as IR-19



Note: All dimensions in mm



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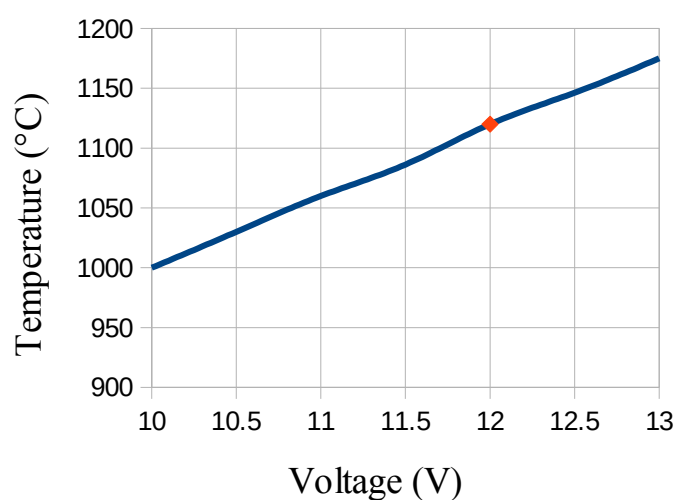
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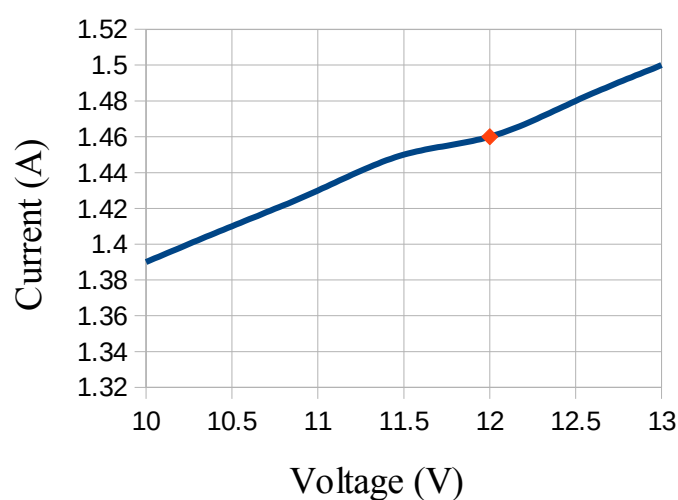
Sample Data Points

V	10	10.5	11	11.5	12	12.5	13
A	1.39	1.41	1.43	1.45	1.46	1.48	1.5
W	13.88	14.78	15.7	16.62	17.55	18.5	19.5
°C	1000	1030	1060	1086.25	1120	1146.25	1175

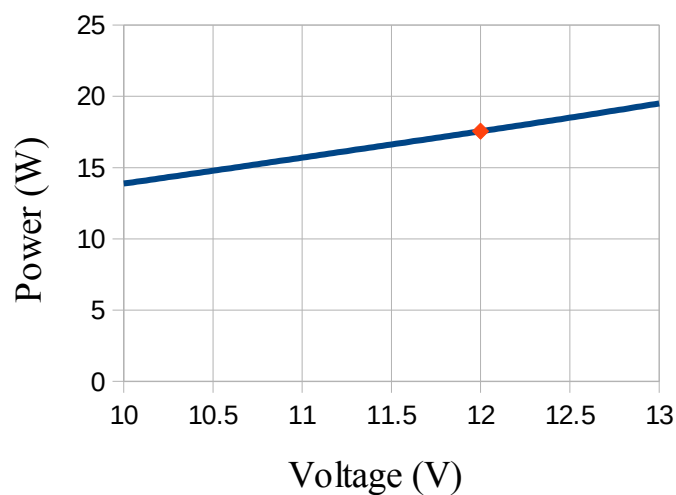
Temperature vs. Voltage



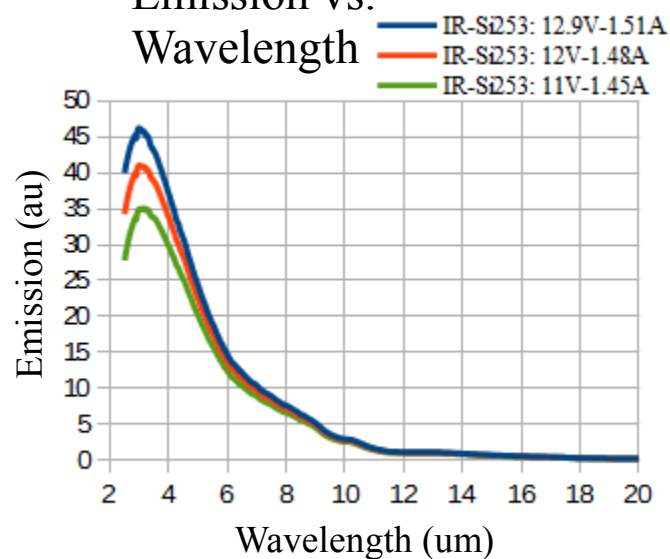
Current vs. Voltage



Power vs. Voltage



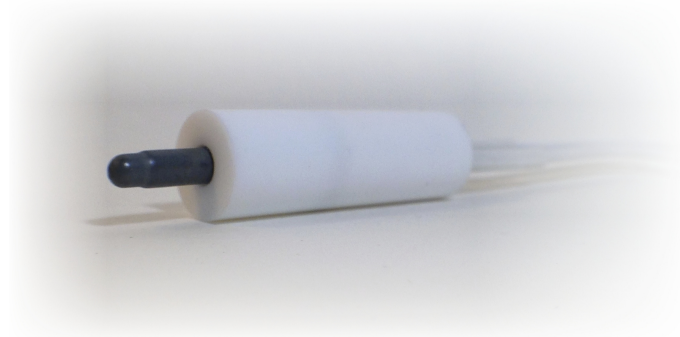
Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-Si272 Emitter Datasheet

The IR-Si series emitters are designed to supply higher temperatures and greater output compared to other IR sources. The patented silicon nitride or silicon carbide material ensures a robust design.



Recommended Operating Parameters

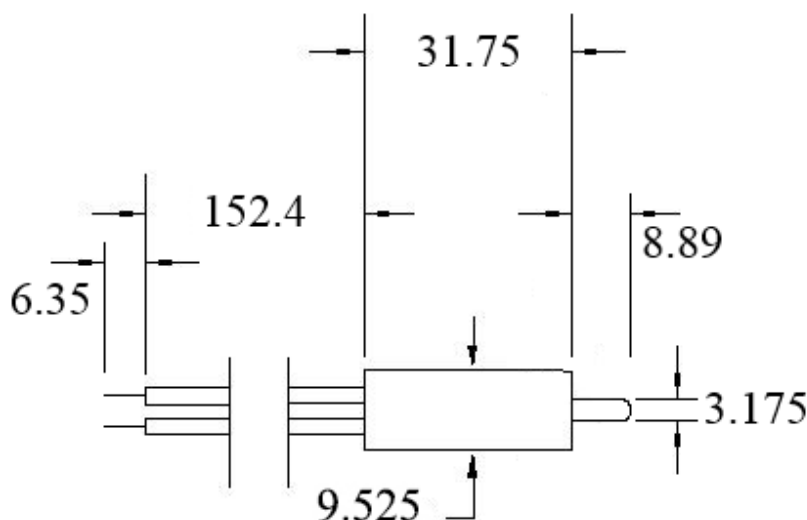
Voltage, V	6
Temperature °C	1160
Current, A	5.0
Power, W	30.0

Properties at Recommended Parameters

Life	5000+ Hours
Emissivity, %	80
Active Area (mm)	2.8(D) X 5(L)
Material	Silicon Nitride

IR-Si series emitters can be paired with elliptical or parabolic reflectors for a significantly more efficient collimation of energy. Windows are also available for specific transmitting ranges.

Note: all dimensions in mm



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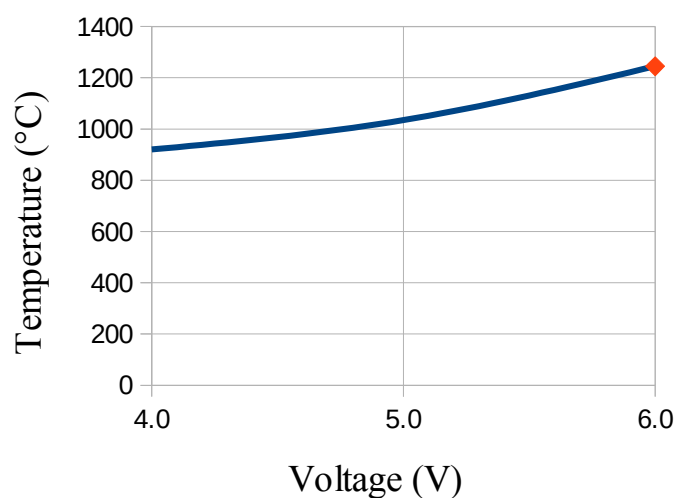
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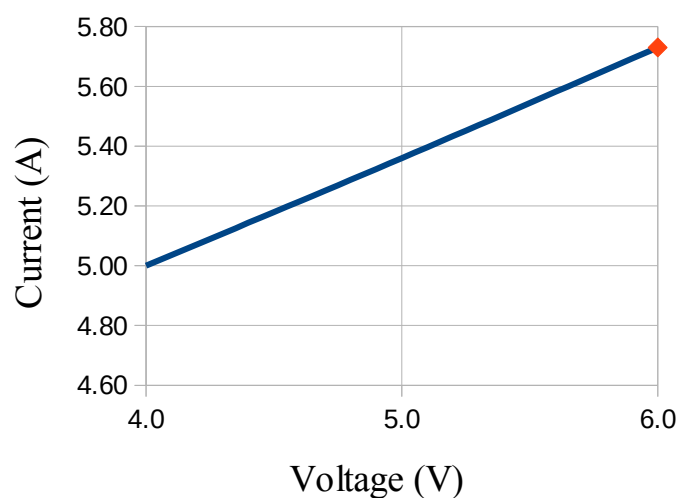
Sample Data Points

V	4.00	5.00	6.00
A	5.00	5.36	5.73
W	20.00	26.80	34.38
°C	920	1035	1245

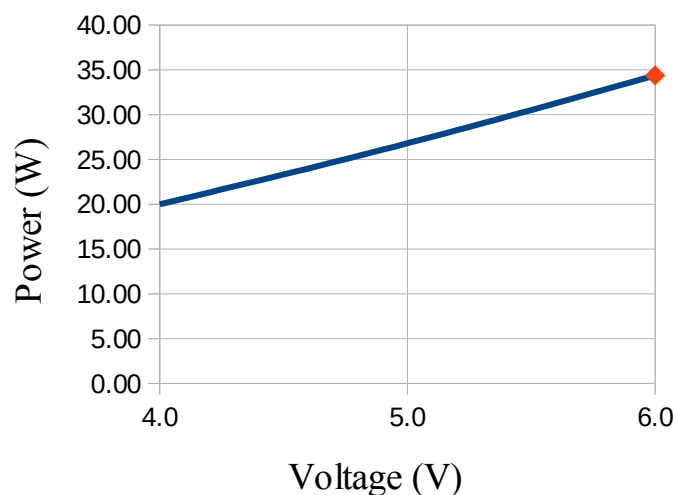
Temperature vs. Voltage



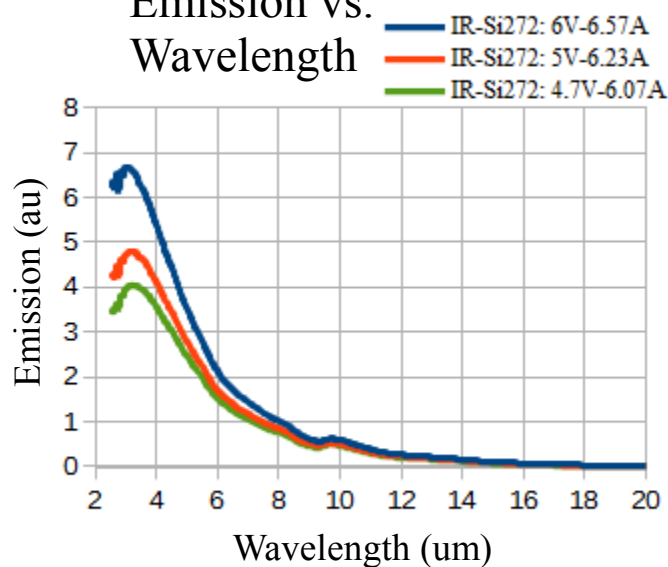
Current vs. Voltage



Power vs. Voltage



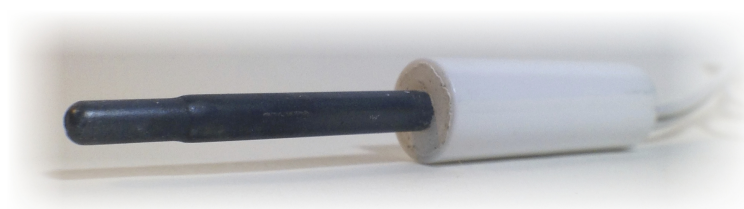
Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-Si295 Emitter Datasheet

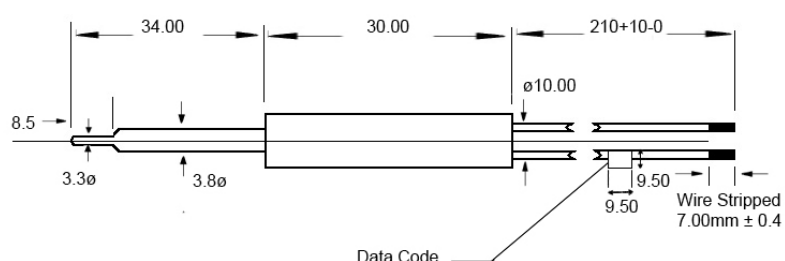
The IR-Si series emitters are designed to supply higher temperatures and greater output compared to other IR sources. The patented silicon nitride or silicon carbide material ensures a robust design.



Note: all dimensions in mm

Recommended (Maximum) Operating Parameters

Voltage, V	12	(14)
Temperature °C	1250	(1340)
Current, A	4.7	(5.1)
Power, W	56.4	(71.4)



Properties at Recommended Parameters

Life	5000+ Hours
Emissivity, %	80
Active Area (mm)	3.5(D) X 12(L)
Material	Silicon Nitride

Note: All tolerance $\pm 1.00\text{mm}$ unless otherwise stated

IR-Si series emitters can be paired with elliptical or parabolic reflectors for a significantly more efficient collimation of energy. Windows are also available for specific transmitting ranges.

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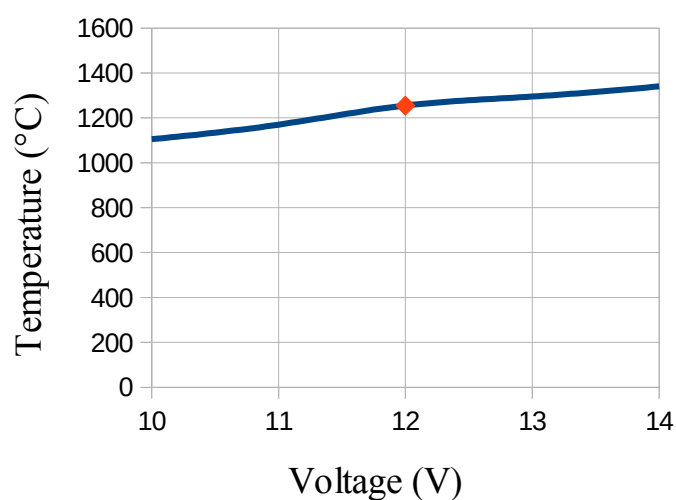
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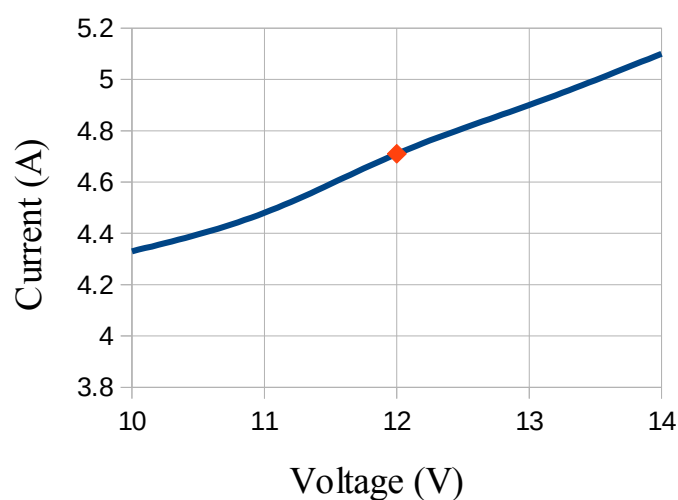
Sample Data Points

V	10	11	12	13	14
A	4.33	4.48	4.71	4.9	5.1
W	43.3	49.28	56.5	63.95	71.4
°C	1105	1170	1255	1295	1340

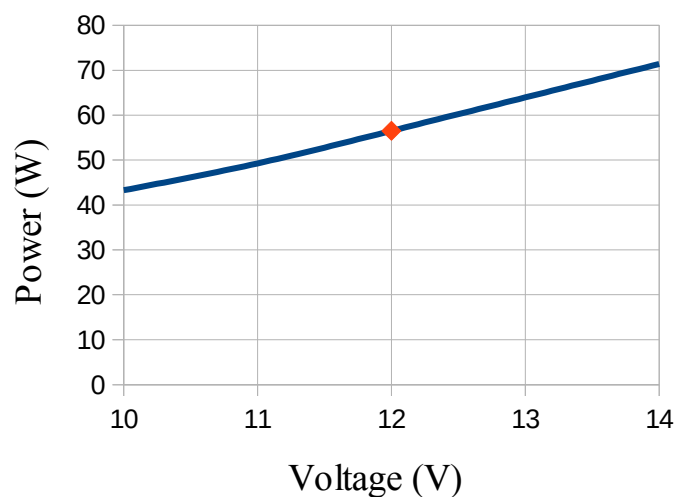
Temperature vs. Voltage



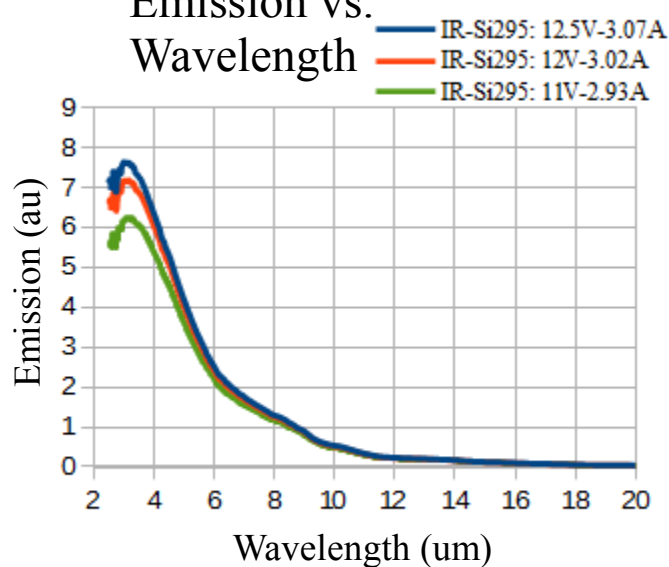
Current vs. Voltage



Power vs. Voltage



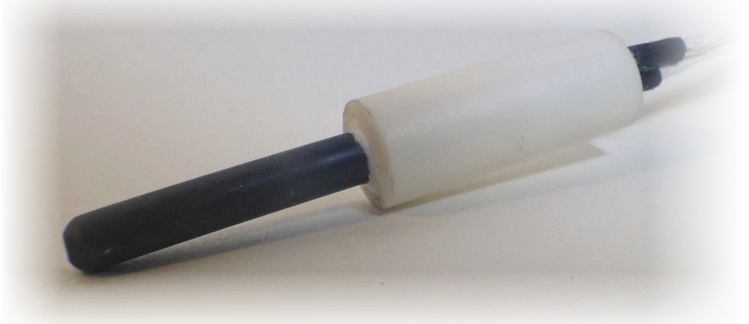
Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters

IR-Si311 Emitter Datasheet

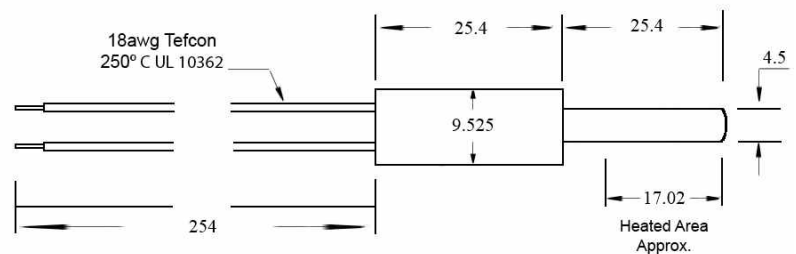
The IR-Si series emitters are designed to supply higher temperatures and greater output compared to other IR sources. The patented silicon nitride or silicon carbide material ensures a robust design.



Recommended (Maximum) Operating Parameters

Voltage, V	12	(14)
Temperature °C	1025	(1090)
Current, A	5.2	(5.5)
Power, W	62.4	(77)

Note: all dimensions in mm



Properties at Recommended Parameters

Life	5000+ Hours
Emissivity, %	80
Active Area (mm)	4.5(D) X 17(L)
Material	Silicon Nitride

IR-Si series emitters can be paired with elliptical or parabolic reflectors for a significantly more efficient collimation of energy. Windows are also available for specific transmitting ranges.

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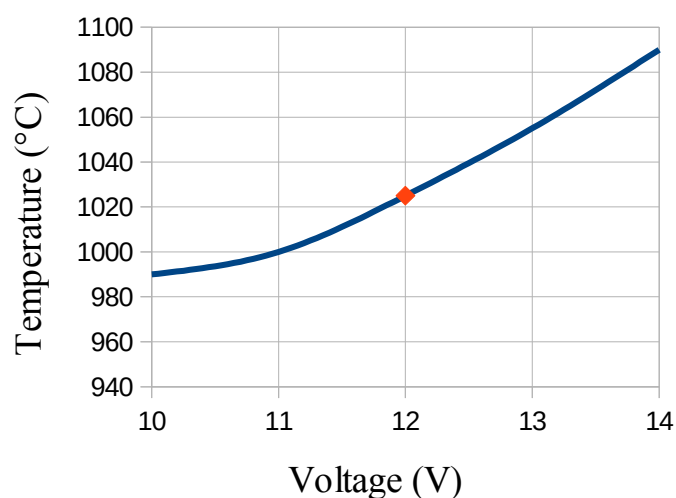
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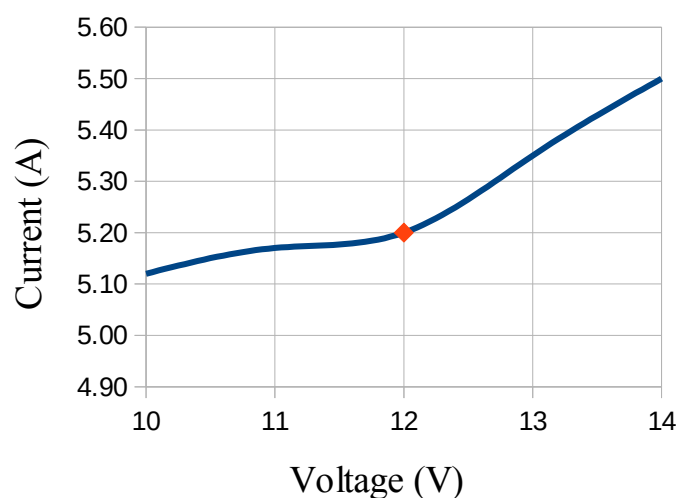
Sample Data Points

V	10	11	12	13	14
A	5.12	5.17	5.20	5.35	5.5
W	51.20	56.87	62.40	69.91	77
°C	990	1000	1025	1055	1090

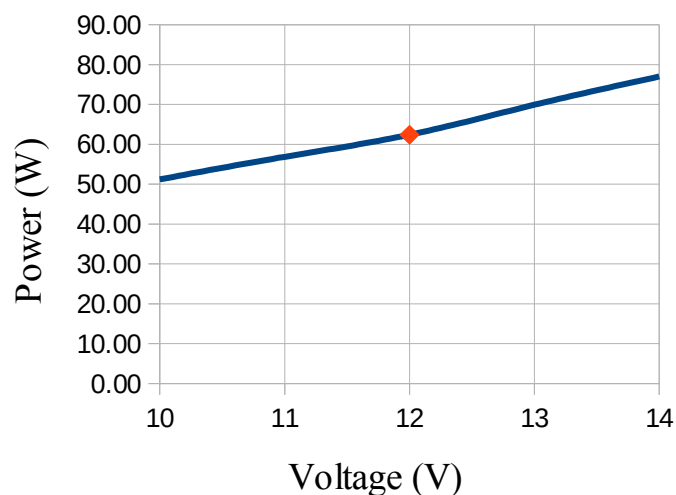
Temperature vs. Voltage



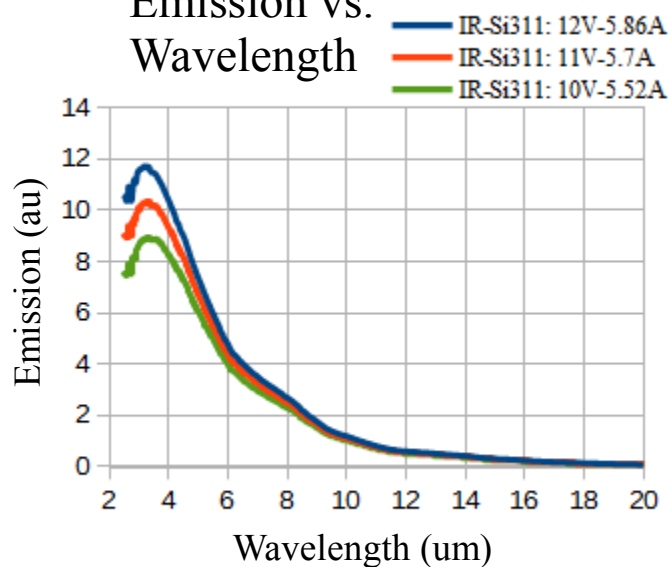
Current vs. Voltage



Power vs. Voltage



Emission vs. Wavelength



◆: Nearing Maximum Operating Parameters