IR-Pulsable Series MEMS electrically modulated thermal emitters

Operating Parameters, Features, Products

- Stable properties (minimal resistance drift)
- Optical Output Efficiency
- Wide spectral output
- Fast response
- High pulse rate and high modulation depth
- High efficiency - low power consumption
- Long life and cost effective
- Customized packaging / optic solutions (cap/reflector/window)

TYPICAL OPERATING PARAMETER AND CHARACTERISTICS:

	IR-50	IR-70	IR-80
Voltage, V	5.9 / 6.7 max.	5.1 / 6.0 max.	3.0 / 3.2 max.
Temperature, °C	650	700	700
Hot Resistance, Ohms	50 (45 - 55)	40 (35 - 45)	45 (40 - 50)
Current, mA	117	127	66
Power, mW	690	650	200
Modulation Frequency, Hz	1 - 100	1 - 100	1 - 100
Modulation Depth at 10 Hz	99%	75%	95%
Life at 1 Hz, 50% duty cycle	50,000 hours	100,000 hours	≥5,000 hours
Emissivity, %	80	80	80
Spectral Range, µm	1 -20	1 - 20	1 - 20
Active Area, mm	1.7 x 1.7	2.2 x 2.2	0.85 x 0.65
Package	TO-5	TO-39	TO-46

FEATURES:

The Hawkeye Electrically Modulated (Pulsable) Series are MEM technology infrared thermal emitters. The Pulsable Series are the perfect solution for applications that require fast electrical modulation, no chopper required. These sources are based on technology, utilizing a thin film resistor. Infrared radiation is the result of heating the film by passing an electric current through it. Due to its low thermal mass, they can be pulsed at frequencies up to 100+ hertz with good modulation depth (contrast between the on and off states). These emitters are powered through the two power leads. Bi-polar drive voltage may be used. The Case Ground Lead is not required under normal operation.

Operating in an enclosed space or a high ambient temperature will generally cause the part to overheat and the drive voltage will need to be reduced to compensate. Please contact us for assistance in determining the proper power factor for the duty cycle to be used in your application and for additional technical data.

STANDARD PACKAGING:

(other options / materials available upon request)

	Type	
Cap	Cap / No Cap	**Size**
Reflector	Parabolic* / Elliptical *Achieve optical gain up to 14x *Normalized Angular Output - FWHM 15°-20°	0.360" (9.1 mm)
		0.400" (10.2 mm)
		0.500" (12.7 mm)
		1" (25.4 mm)
		Transmitting Range (microns)
Window	Sapphire	0.17 - 5.0
	CaF_2	0.15 - 9.0
	ZnSe	0.55 - 20.0
	AR Silicon	1.2 - 10.0

To learn more on Accessories available please click here.

IR-PULSABLE SERIES PRODUCTS:

Product #	IR SOURCE	Cap	Header	REFLECTOR TYPE	REFLECTOR DIAMETER	REFLECTOR LENGTH	Reflector PART #	WINDOW*
IR-50NC	IR-50	No	TO-5					
IR-50	IR-50	Yes	TO-5					available
IR-55	IR-50	No	TO-5	Parabolic	0.5" (12.7 mm)	0.646" (16.4 mm)	IR-RMC300	available
IR-56	IR-50	No	TO-5	Parabolic	0.400" (10.2 mm)	0.360" (9.1 mm)	IR-RMC305	available
IR-57	IR-50	No	TO-5	Elliptical	1" (25.4 mm)	0.750" (19 mm)	IR-RMC353	available

IR-70NC	IR-70	No	TO-39					
IR-70	IR-70	Yes	TO-39					available
IR-74	IR-70	No	TO-39	Parabolic	0.360" (9.1 mm)	0.295" (7.5 mm)	IR-RMC482	
IR-75	IR-70	No	TO-39	Parabolic	0.5" (12.7 mm)	0.621" (15.8 mm)	IR-RMC474	available
IR-76	IR-70				0.400" (10.2 mm)	0.335" (8.5 mm)	IR-RMC477	
IR-77	IR-70	No	TO-39	Elliptical	0.500" (12.7 mm)	0.500" (12.7 mm)	IR-RMC487	available
IR-80NC	IR-80	No	TO-46					
IR-80	IR-80	Yes	TO-46					available
IR-85	IR-80	No	TO-46	Parabolic	0.212" (5.4 mm)	0.500" (12.7 mm)	IR-RMC488	available

* Please indicate Window type in your order.