IMATRONIC

A Global Laser Brand

Gated Cameo

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The Gated Cameo is a miniature laser diode module that has a threaded barrel for easy bulkhead mounting which ensures good thermal contact between module and heat sink. This new concept in laser module design allows a laser diode, an adjustable collimating lens and a drive circuit to be incorporated within a body which is just 23mm long and all without compromising the performance.

The Gated Cameo offers high output power stability with transient and polarity protection, as well as electrical isolation between diode and case. It has a latching connector that improves reliability. An A/R coated user adjustable collimating lens produces an elliptical output beam which can by focused to produce fine spots. It also features a third TTL modulation input which allows the user to turn the input on and off with a bandwidth of ≥100Khz. A fourth wire which controls the slow speed enable input allows the user to switch the laser on and off from interlocks and switch's

Further versatility is provided by the wide range of external optics available which simply screws into the end of the laser module, allowing the user to quickly and efficiently switch from one projection to another. The range includes Homogeneous lines and cross's and diffractive patterns.

Specifications

Product Specification					
Farnell Part Number		2065359	2065360	2065358	2065359
Imatronic Part Number		1266-03	1266-04	1266-01	1266-02
Model		Gated Cameo 650nm 1mW, A Lens	Gated Cameo 650nm 3mW, A Lens	Gated Cameo 635nm 1mW, A Lens	Gated Cameo 635nm 3mW, A Lens
Output Power (mW)		0.8	2.8	0.8	2.8
Wavelength (nm)		650	650	635	635
Laser Class		2	3R	2	3R
Operating Voltage (Vdc)		3.3 to 5.0			
Operating Current (mA)		20-35		30-50	
Operating Case Temperature (°C)		-10 to +45			
Storage Temperature (°C)		-10 to +80			
Beam Size At Aperture (mm)		3 by 1			
Beam Divergence (mrad)		<0.5			
Bore Sighting (mrad)		≤10			
User Adjustable Focus		Yes			
MTTF at 25°C (Hours)		>100,000		>29,000	
Power Stability Over Temperature Range (Typ)		±1.5%			
Mass (g)		12.6			
Dimensions (mm)		14x14 Diameter by 24			
Housings		Brass M12 Threaded Front and Black Plastic Back			
Isolated Body		Yes			
Connector Type		JST PHR4 4 Pin			
Lead Length (mm)		500			
Input Leads	**Red Lead**	+Ve			
	Black Lead	0V			
	Yellow Lead	TTL Modulation: Off = <50mV / On = >2V			
	Blue Lead	TTL Enable: Off = <0.4V / On = >2V			
TTL Modulation (Yellow Lead)	**Frequency Range** (Khz)	≥100			
	Typical Rise & Fall Time (µs)	≤5			
TTL Enable	**Input Delay** (ms)	2			

NOTES
All specifications are typical @ 25°C

Specifications

Product Specification					
Farnell Part Number					
Imatronic Part Number		1266-20	1266-21	1266-22	1266-23
Model		Gated Cameo 785nm 1mW, A Lens	Gated Cameo 785nm 3mW, A Lens	Gated Cameo 850nm 1mW, A Lens	Gated Cameo 850nm 3mW, A Lens
Output Power (mW)		0.8	2.8	0.8	2.8
Wavelength (nm)		785	785	850	850
Laser Class		3R	3R	3R	3R
Operating Voltage (Vdc)		3.3 to 5.0			
Operating Current (mA)		30-40	20-40	15-30	
Operating Case Temperature (°C)		-10 to +55			
Storage Temperature (°C)		-10 to +80			
Beam Size At Aperture (mm)		3 by 1			
Beam Divergence (mrad)		<0.5			
Bore Sighting (mrad)		≤10			
User Adjustable Focus		Yes			
MTTF at 25°C (Hours)		≥90,000		≥88,000	
Power Stability Over Temperature Range (Typ)		±1.5%			
Mass (g)		12.6			
Dimensions (mm)		14x14 Diameter by 24			
Housings		Brass M12 Threaded Front and Black Plastic Back			
Isolated Body		Yes			
Connector Type		JST PHR4 4 Pin			
Lead Length (mm)		500			
Input Leads	**Red Lead**	+Ve			
	Black Lead	0V			
	Yellow Lead	TTL Modulation: Off = <50mV / On = >2V			
	Blue Lead	TTL Enable: Off = <0.4V / On = >2V			
TTL Modulation (Yellow Lead)	**Frequency Range** (Khz)	≥100			
	Typical Rise & Fall Time (µs)	≤5			
TTL Enable	**Input Delay** (ms)	2			

NOTES
All specifications are typical @ 25°C

Modulation

A common requirement for applications which use photo detectors, cameras and other non-visual sensing is the ability to rapidly switch the laser output ON and OFF. Simply applying and removing the supply voltage is rarely satisfactory and in certain cases can result in the destruction of the module. This is because laser diodes are very sensitive to spikes and surges, which are often the result of uncontrolled supply switching. To overcome this limitation, the Gated Cameo is supplied with two additional inputs via a third input wire that controls the output of the laser module in a reliable and predictable way.

TTL Modulation Input (Yellow Wire)

A logic LOW level turns the output completely OFF However, applying a logic HIGH turns the laser ON after a control input delay. This sets the maximum rate at which the module can switch fully ON and OFF. Bandwidth is typically ≥100Khz.

TTL Enable Input

Some applications require a simple, slow speed ON/OFF switching. The Gated Cameo eliminates the requirement to provide an external switching device by providing a logic compatible enable input, capable of operating from low power logic and micro-processors. In this OFF condition, the module draws virtually no current and no light is emitted.

Optional Projection Lenses

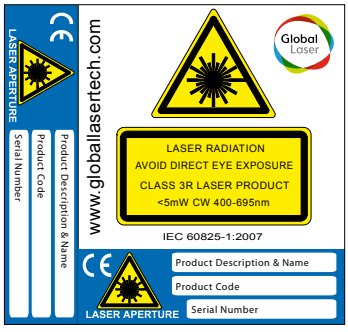
A range of projection lens which convert the beam into a pattern are also available for the Gated Cameo. The Interchangeable line and cross lens assembly's consists of a moulded acrylic multi-rod lens element . The lens produces a cross/line with an intensity distribution which is gaussian in the width and homogeneous in the line. The homogeneous line produces a line with high uniformity at shorter working distances, however due to the effects of divergence the uniformity levels will decrease over longer working distance. The grid lens assembly consists of a diffractive optical element (DOE) lens. The lens produces a 4 x 4 grid pattern with typical full fan angle of 4.57 degree and the intensity distribution is Gaussian in the width and homogeneous in the line. The distance between each line in the grid pattern in typical 1.18 degrees The DOE produces a pattern with high uniformity at shorter working distances, however due to the effects of divergence the uniformity levels will decrease over longer working distance. The lens assembly to simply screw into the Gated Cameo and converts the output beam into the listed pattern .

Farnell Part Number	2065361	2065362	2065363	2065364	2065365
Imatronic Part Number	1125-227	1125-225	1125-228	1125-226	1125-229
Model	Interchangeable Line Lens Optic 33°	Interchangeable Line Lens Optic 60°	Interchangeable Line Lens Optic 105°	Interchangeable Cross Lens Optic 60°	Interchangeable 4x4 Grid Optic 4.57°
Projection	Line			Cross	4 x 4 Grid
Typical Fan Angle (°)	33	60	100	60	4.57

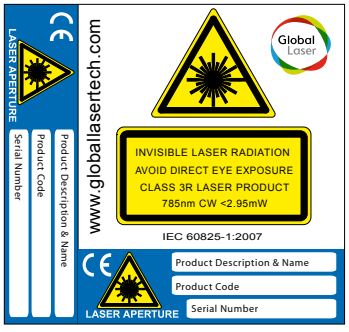
Laser Safety

Our Lasers are compliant to IEC60825-1 2007 standards. The lasers will fall within one of the following classifications depending on power, wavelength and fan angle. An example of the labels supplied with the units are shown below.

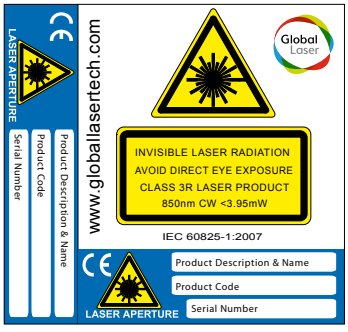
Class 2 Laser Label



Class 3R Laser Label



Class 3R 785 Laser Label



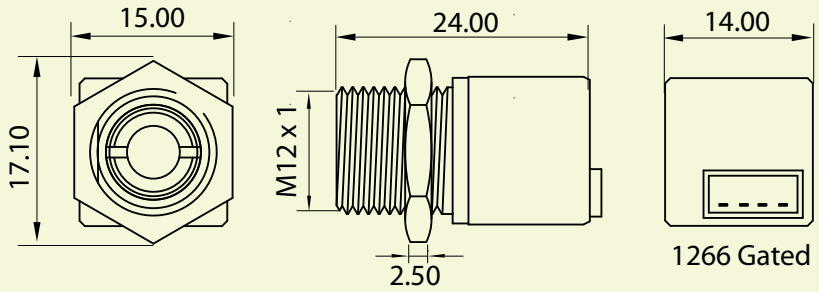
Class 3R 850 Laser Label

Quality & Warranty

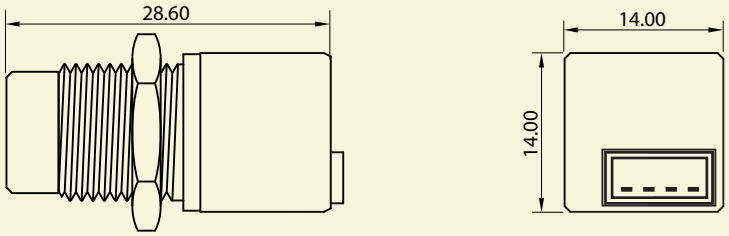
The Gated Cameo is supplied with a 12 month parts and labour warranty. Our manufacturing operations are certified to ISO9001.

Mechanical Drawings

Gated Cameo Diode Laser Module



Gated Cameo Laser Diode Module with Projection Lens Fitted



Please Note: Imatronic reserve the right to change descriptions and specifications without notice

ISO9001 Certified

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