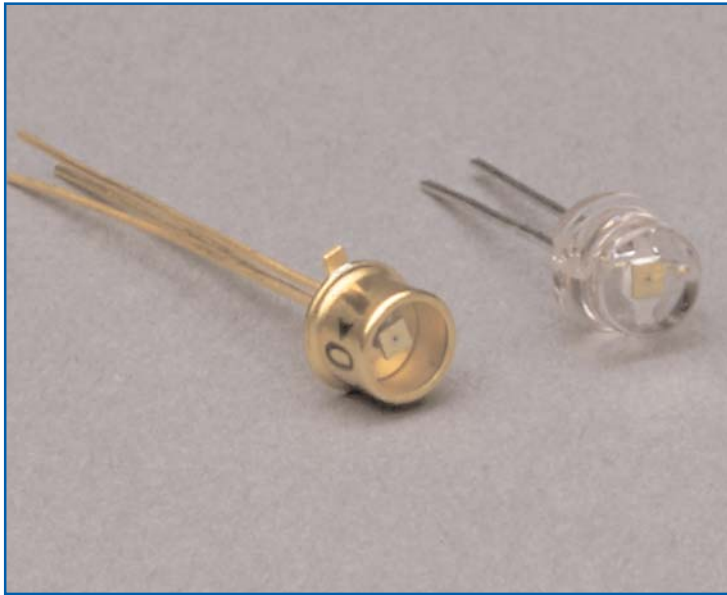


PRELIMINARY DATA SHEET

C30737

Epitaxial Silicon Avalanche Photodiode



Description

The C30737 type avalanche photodiode provides high responsivity between 500 nm and 1000 nm, as well as extremely fast rise times at all wavelengths with a frequency response up to 1.0 GHz. The active area diameters of the photosensitive surface are 0.23 mm and 0.5mm. Other photosensitive diameters are also available on a custom basis.

The detector chip is hermetically sealed behind a flat glass window mounted in a TO-18 package. TO-18 plastic sealed packages and plastic surface mount packages are additional options.

PerkinElmer Optoelectronics is committed to supplying the highest quality products to our customers. Certified to meet ISO 9001, the Epitaxial series is designed to satisfy MIL-STD-883 and/or MIL-STD-750.

Applications

- Range Finding
- Optical communication systems

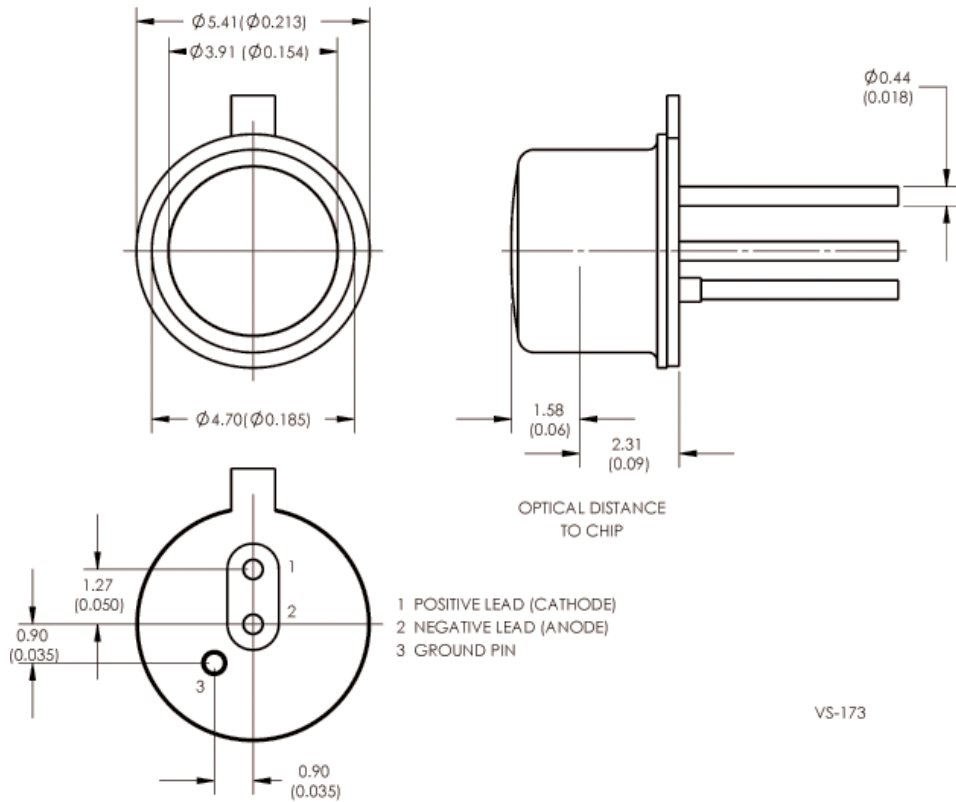
Features

- Low cost
- 0.23 mm and 0.5mm active diameter
- High gain at low bias voltage
- Low breakdown voltage
- Fast response
- Low noise

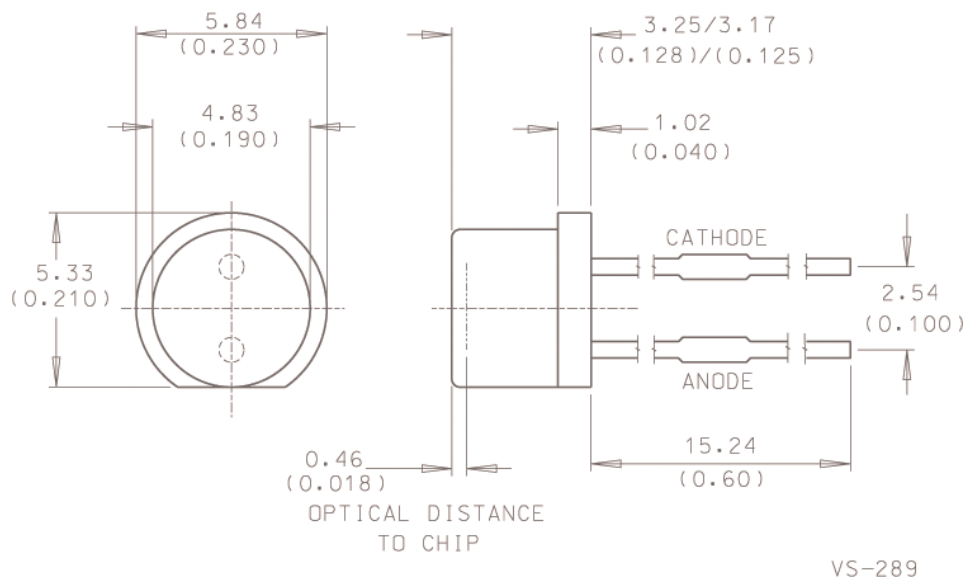


C30737 Series

Hermetic TO-18 Package Outline



Plastic TO-18 Package Outline



C30737 Series

Electrical Characteristics

	Hermetic Package						
	C30737E-230			C30737E-500			Unit
	Min	Typ	Max	Min	Typ	Max	
Diameter		0.23			0.5		mm
Breakdown Voltage		160	200		160	200	Volts
Gain @ 800nm		100			100		
Responsivity @ 800nm		50			50		A/W
Temperature Coefficient (constant gain)		0.6			0.6		V/°C
Dark Current		10			15		nA
Noise Current: f=10kHz, $\Delta F=1.0\text{kHz}$		0.2			0.3		pA/ $\sqrt{\text{Hz}}$
Capacitance		1.5			3		pF
Rise Time		<0.3			0.3		nsec

	Plastic Package						
	C30737P-230			C30737P-500			Unit
	Min	Typ	Max	Min	Typ	Max	
Diameter		0.23			0.5		mm
Breakdown Voltage		160	200		160	200	Volts
Gain @ 800nm		100			100		
Responsivity @ 800nm		45			45		A/W
Temperature Coefficient (constant gain)		0.6			0.6		V/°C
Dark Current		10			15		nA
Noise Current: f=10kHz, $\Delta F=1.0\text{kHz}$		0.2			0.4		pA/ $\sqrt{\text{Hz}}$
Capacitance		1.5			3.4		pF
Rise Time		<0.3			0.3		nsec

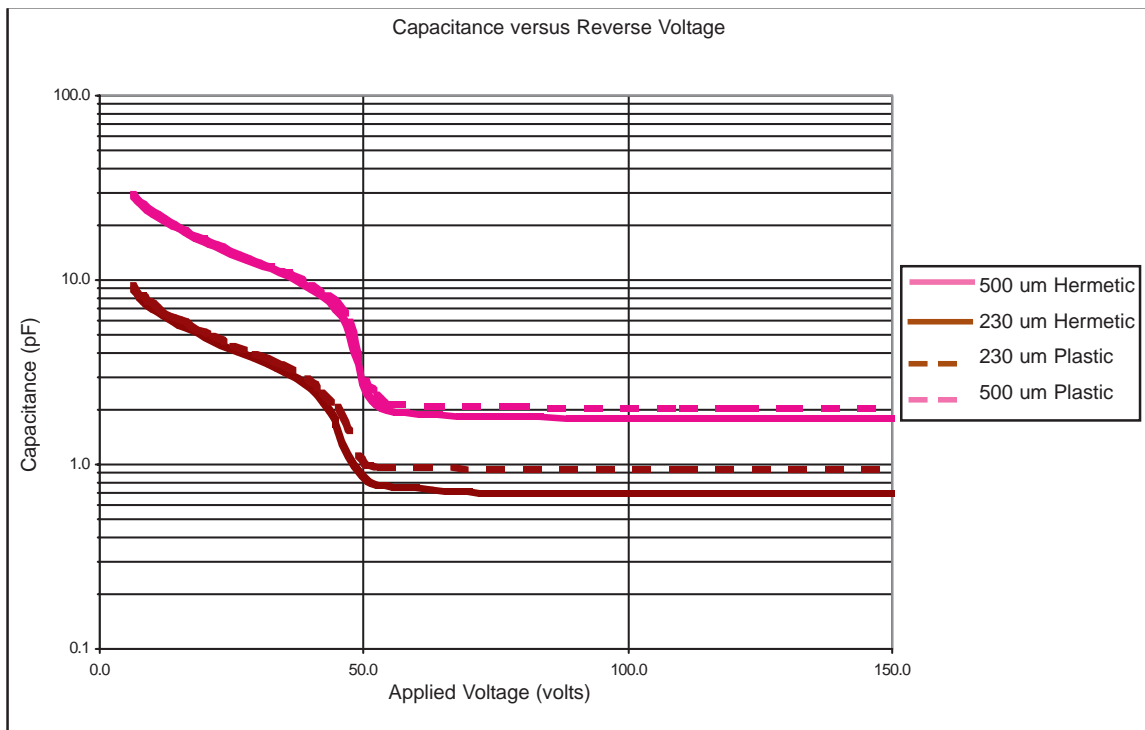
Absolute Maximum Ratings

	Hermetic Package						
	C30737E-230			C30737E-500			Unit
	Min	Typ	Max	Min	Typ	Max	
Storage Temperature	-55		100	-55		100	°C
Operating Temperature	-30		85	-30		85	°C

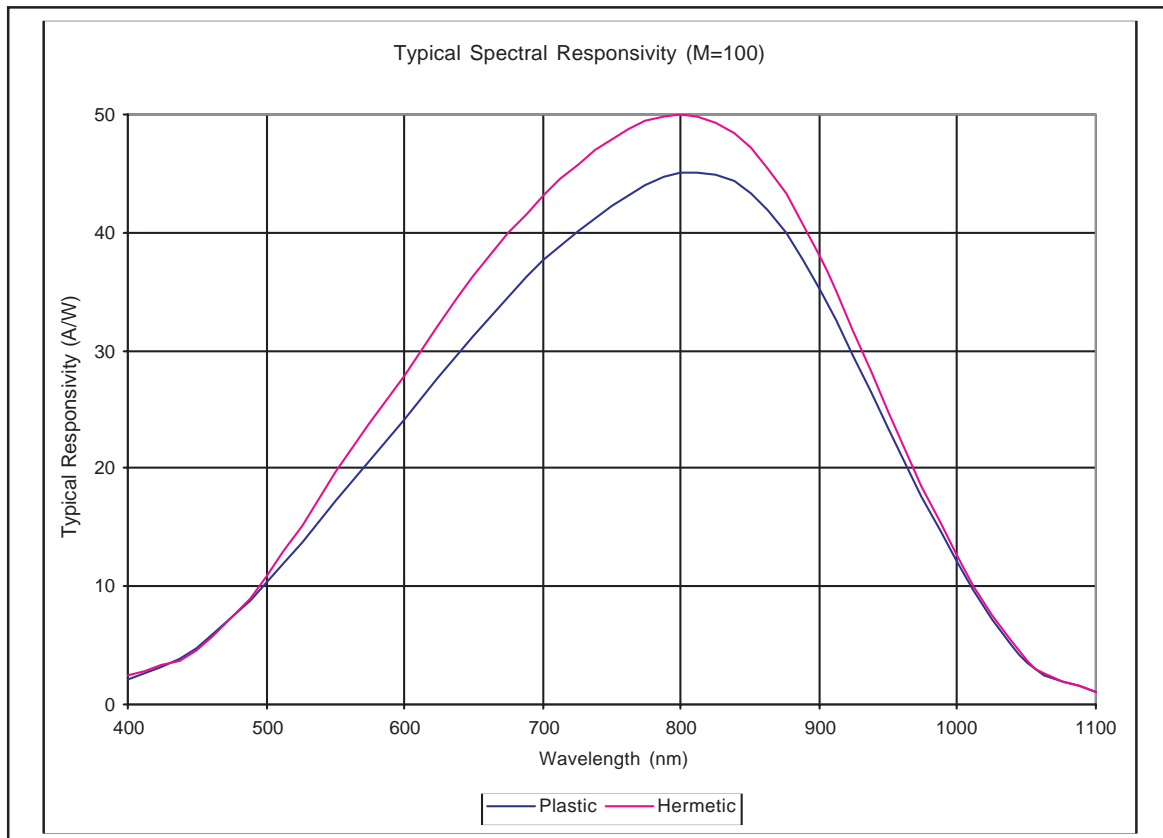
	Plastic Package						
	C30737P-230			C30737P-500			Unit
	Min	Typ	Max	Min	Typ	Max	
Storage Temperature	-40		85	-40		85	°C
Operating Temperature	-20		70	-20		70	°C

C30737 Series

Capacitance versus Reverse Voltage

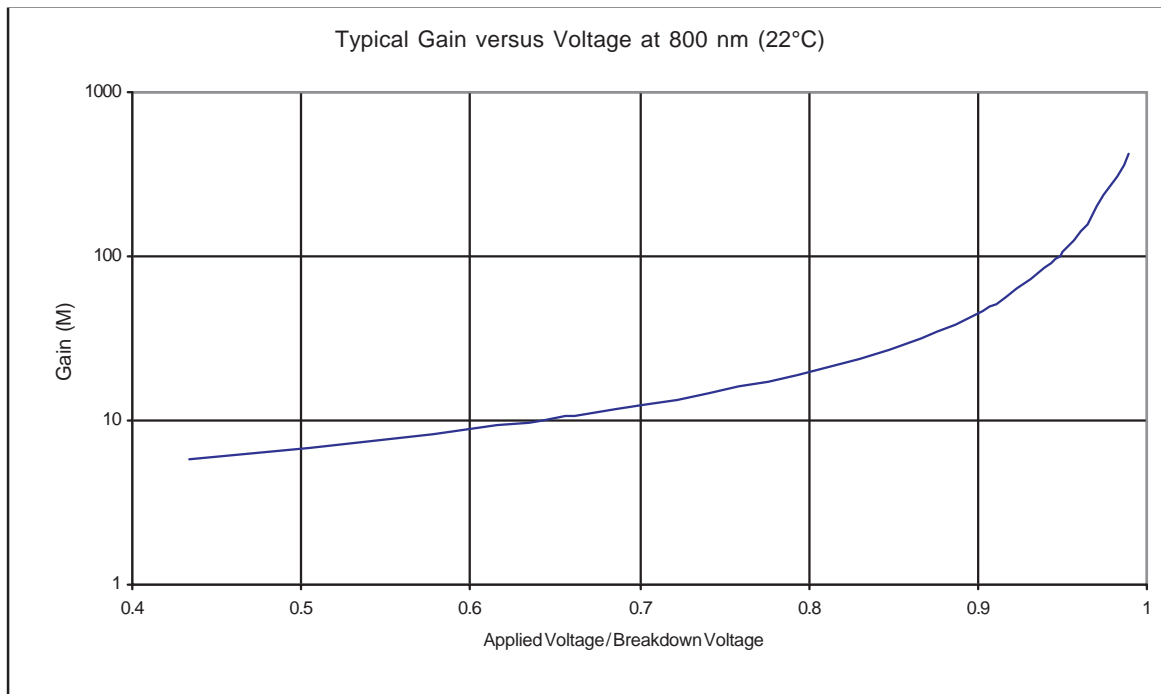


Typical Spectral Responsivity



C30737 Series

Gain versus Voltage



Ordering Guide

Part Number	Active Area Diameter	Package Type
C30737E-230	230 μm	Hermetic TO-18, 3 pin
C30737E-500	500 μm	Hermetic TO-18, 3 pin
C30737P-230	230 μm	Plastic TO-18, 2 pin
C30737P-500	500 μm	Plastic TO-18, 2 pin

Ordering Information

While the information in this data sheet is intended to describe the form, fit and function for this product, PerkinElmer reserves the right to make changes without notice.

For more information e-mail us at opto@perkinelmer.com or visit our web site at www.optoelectronics.perkinelmer.com. All values are nominal; specifications subject to change without notice.

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