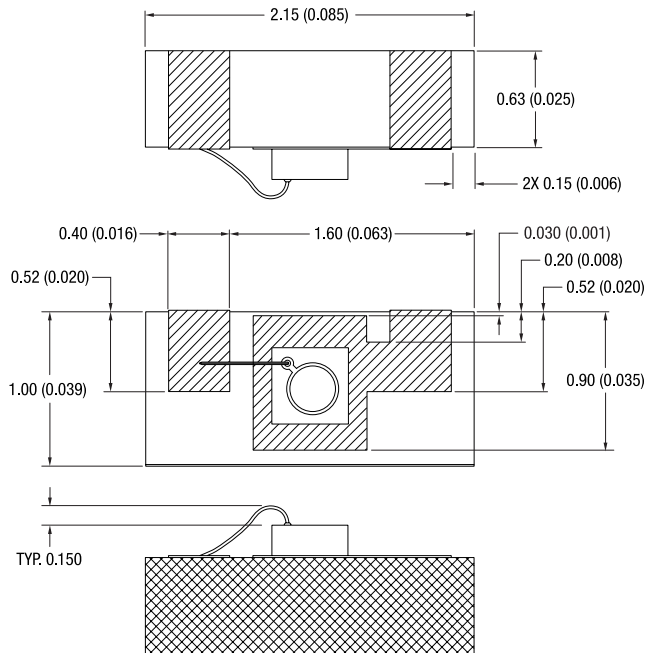


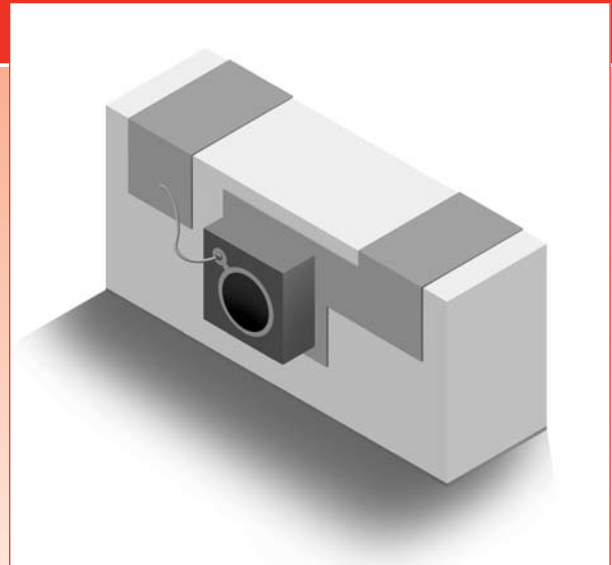
FCI-InGaAs-XXX-WCER

High Speed InGaAs Photodiodes Mounted on Wraparound Ceramic Packages

FCI-InGaAs-XXX-WCER with active area sizes of 70µm, 120µm, 300µm, 400µm and 500µm are part of a line of monitor photodiodes mounted on metallized ceramic substrates. These compact assemblies are designed for ease of integration. The chips can be epoxy or eutectic mounted onto the ceramic substrate.



- Notes:
- All units in millimeters (inches).
 - All devices are eutectic mounted with tolerance of ±50µm.



APPLICATIONS

- High Speed Optical Communications
- Gigabit Ethernet/Fibre Channel
- SONET / SDH, ATM
- Diode Laser Monitor
- Instrumentation

FEATURES

- Low Noise
- High Responsivity
- High Speed
- Spectral Range 900nm to 1700nm

Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN	MAX	UNITS
Storage Temperature	T_{stg}	-40	+85	°C
Operating Temperature	T_{op}	0	+70	°C
Soldering Temperature	T_{sld}	---	+260	°C

Electro-Optical Characteristics

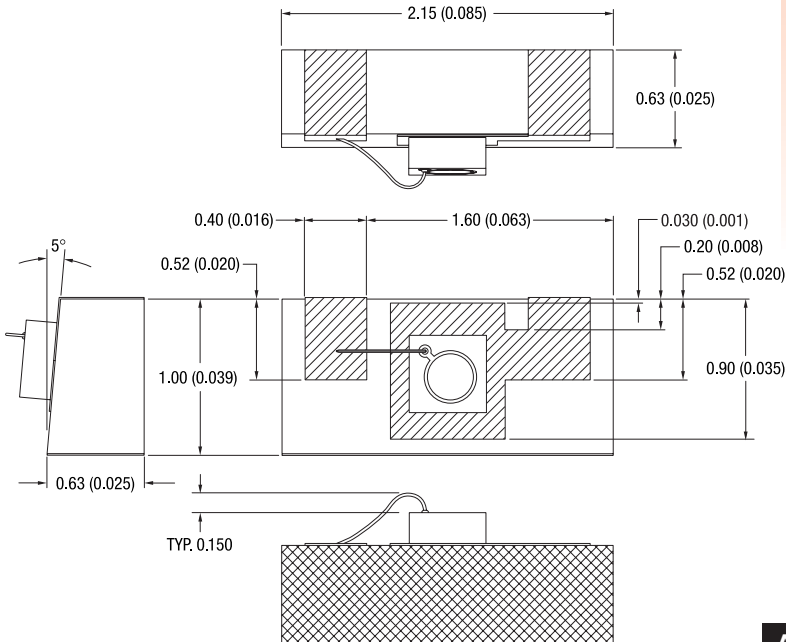
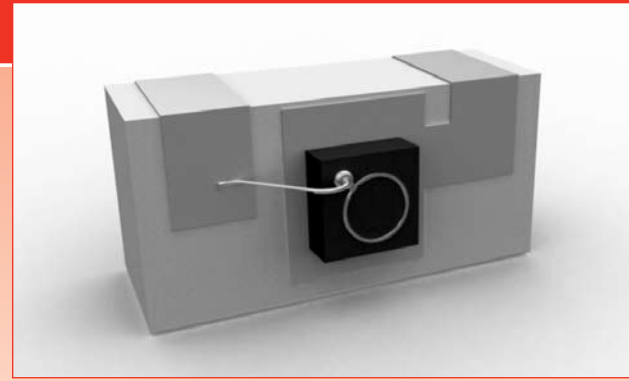
$T_A = 23^\circ\text{C}$

PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-70WCER			FCI-InGaAs-120WCER			FCI-InGaAs-300WCER			FCI-InGaAs-400WCER			FCI-InGaAs-500WCER			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA_ϕ	---	---	70	---	---	120	---	---	300	---	---	400	---	---	500	---	µm
Responsivity	R_λ	$\lambda = 1310\text{nm}$	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	A/W
		$\lambda = 1550\text{nm}$	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	
Capacitance	C_j	$V_R = 5.0\text{V}$	---	0.65	---	---	1.0	---	---	10.0	---	---	14.0	---	---	20.0	---	pF
Dark Current	I_d	$V_R = 5.0\text{V}$	---	0.03	2	---	0.05	2	---	0.30	5	---	0.40	5	---	0.50	20	nA
Rise Time/ Fall Time	t_r/t_f	$V_R = 5.0\text{V}$, $R_L = 50\Omega$ 10% to 90%	---	---	0.20	---	---	0.30	---	---	1.5	---	---	3.0	---	---	10.0	ns
Max. Reverse Voltage	---	---	---	---	20	---	---	20	---	---	15	---	---	15	---	---	15	V
Max. Reverse Current	---	---	---	---	1	---	---	2	---	---	2	---	---	2	---	---	2	mA
Max. Forward Current	---	---	---	---	5	---	---	5	---	---	8	---	---	8	---	---	8	mA
NEP	---	---	---	3.44E-15	---	---	4.50E-15	---	---	6.28E-15	---	---	7.69E-15	---	---	8.42E-15	---	W/√Hz

FCI-InGaAs-XXX-ACER

High Speed InGaAs Photodiodes Mounted on Wedge Ceramic Packages

FCI-InGaAs-XXX-ACER with active area sizes of 70µm, 120µm, 300µm, 400µm and 500µm is part of OSI Optoelectronics's high speed IR sensitive photodiodes mounted on angled ceramic substrates. The ceramic substrate with an angled surface by 5° greatly reduces the back reflection. The chips can be epoxy/eutectic mounted onto the angled ceramic substrate.



Notes:

- All units in millimeters (inches).
- All devices are eutectic mounted with tolerance of ±50µm.

• APPLICATIONS

- High Speed Optical Communications
- Gigabit Ethernet/Fibre Channel
- SONET / SDH, ATM
- Diode Laser Monitor
- Instrumentation

• FEATURES

- 5° Angle Ceramic
- Low Noise
- High Responsivity
- High Speed
- Spectral Range 900nm to 1700nm

Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN	MAX	UNITS
Storage Temperature	T _{stg}	-40	+85	°C
Operating Temperature	T _{op}	0	+70	°C
Soldering Temperature	T _{slid}	---	+260	°C

Electro-Optical Characteristics

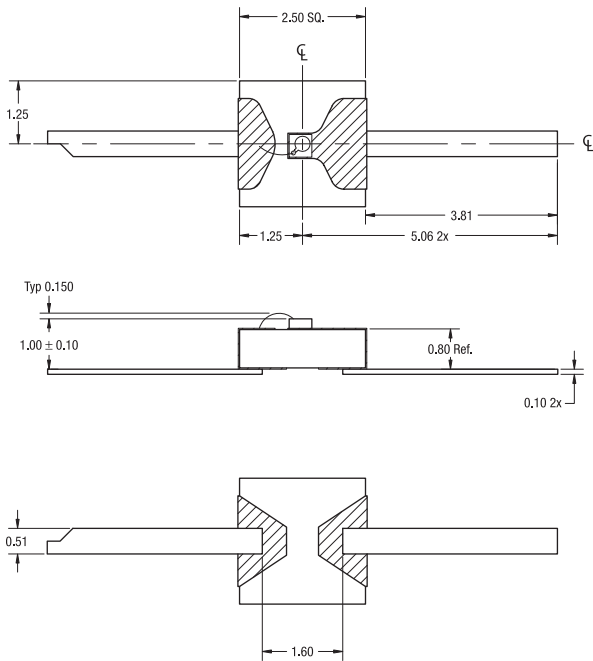
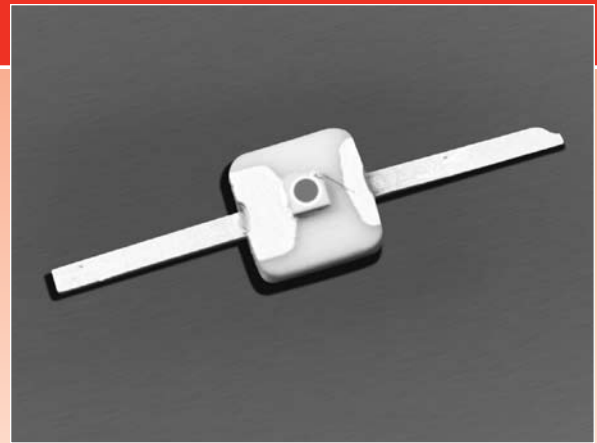
T_A = 23°C

PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-70ACER			FCI-InGaAs-120ACER			FCI-InGaAs-300ACER			FCI-InGaAs-400ACER			FCI-InGaAs-500ACER			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA _φ	---	---	70	---	---	120	---	---	300	---	---	400	---	---	500	---	µm
Responsivity	R _λ	λ = 1310nm	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	A/W
		λ = 1550nm	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	A/W
Capacitance	C _j	V _R = 5.0V	---	0.65	---	---	1.0	---	---	10.0	---	---	14.0	---	---	20.0	---	pF
Dark Current	I _d	V _R = 5.0V	---	0.03	2	---	0.05	2	---	0.30	5	---	0.40	5	---	0.50	20	nA
Rise Time/ Fall Time	t _r /t _f	V _R = 5.0V, R _L = 50Ω 10% to 90%	---	---	0.20	---	---	0.30	---	---	1.5	---	---	3.0	---	---	10.0	ns
Max. Reverse Voltage	---	---	---	---	20	---	---	20	---	---	15	---	---	15	---	---	15	V
Max. Reverse Current	---	---	---	---	1	---	---	2	---	---	2	---	---	2	---	---	2	mA
Max. Forward Current	---	---	---	---	5	---	---	5	---	---	8	---	---	8	---	---	8	mA
NEP	---	---	---	3.44E-15	---	---	4.50E-15	---	---	6.28E-15	---	---	7.69E-15	---	---	8.42E-15	---	W/√Hz

FCI-InGaAs-XXX-LCER

High Speed InGaAs Photodiodes Mounted on Ceramic Packages w/Leads

FCI-InGaAs-XXX-LCER with active area sizes of 70µm, 120µm, 300µm, 400µm and 500µm are part of OSI Optoelectronics's high speed IR sensitive photodiodes mounted on gull wing ceramic substrates. The chips can be epoxy/eutectic mounted onto the ceramic substrate.



- Notes:
- All units in millimeters.
 - All devices are mounted with low out gassing conductive epoxy with tolerance of ±25µm. Eutectic mounting is also available upon request.

APPLICATIONS

- High Speed Optical Communications
- Gigabit Ethernet/Fibre Channel
- SONET / SDH, ATM
- Diode Laser Monitoring
- Instrumentation

FEATURES

- Low Noise
- High Responsivity
- High Speed
- Spectral Range 900nm to 1700nm

Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN	MAX	UNITS
Storage Temperature	T _{stg}	-40	+85	°C
Operating Temperature	T _{op}	0	+70	°C
Soldering Temperature	T _{slid}	---	+260	°C

Electro-Optical Characteristics

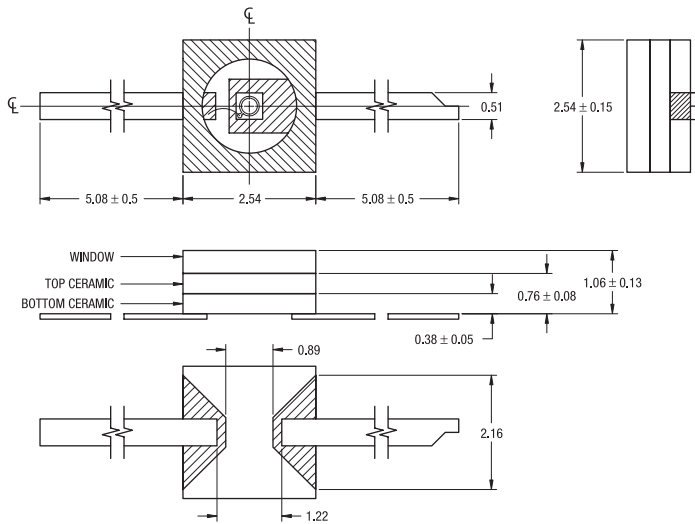
T_A=23°C

PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-70LCER			FCI-InGaAs-120LCER			FCI-InGaAs-300LCER			FCI-InGaAs-400LCER			FCI-InGaAs-500LCER			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA _φ	---	---	70	---	---	120	---	---	300	---	---	400	---	---	500	---	µm
Responsivity	R _λ	λ=1310nm	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	A/W
		λ=1550nm	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	
Capacitance	C _j	V _R = 5.0V	---	0.65	---	---	1.0	---	---	10.0	---	---	14.0	---	---	20.0	---	pF
Dark Current	I _d	V _R = 5.0V	---	0.03	2	---	0.05	2	---	0.30	5	---	0.40	5	---	0.50	20	nA
Rise Time/ Fall Time	t _r /t _f	V _R = 5.0V, R _L = 50Ω 10% to 90%	---	---	0.20	---	---	0.30	---	---	1.5	---	---	3.0	---	---	10.0	ns
Max. Reverse Voltage	---	---	---	---	20	---	---	20	---	---	15	---	---	15	---	---	15	V
Max. Reverse Current	---	---	---	---	1	---	---	2	---	---	2	---	---	2	---	---	2	mA
Max. Forward Current	---	---	---	---	5	---	---	5	---	---	8	---	---	8	---	---	8	mA
NEP	---	---	---	3.44E-15	---	---	4.50E-15	---	---	6.28E-15	---	---	7.69E-15	---	---	8.42E-15	---	W/√Hz

FCI-InGaAs-XXX-CCER

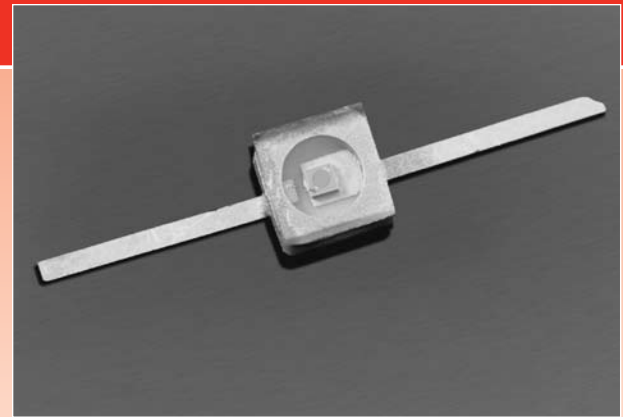
High Speed InGaAs Photodiodes Mounted on Cavity Ceramic Packages

FCI-InGaAs-XXX-CCER with active area sizes of 70 μm , 120 μm , 300 μm , 400 μm and 500 μm are part of OSI Optoelectronics's high speed IR sensitive photodiodes mounted on gull wing ceramic substrates with glass windows. These devices have a glass window attached to the ceramic where fibers can be directly epoxy mounted onto. The chips can be epoxy or eutectic mounted onto the ceramic substrate. These devices can be provided with custom AR coated windows.



Notes:

- All units in millimeters.
- All devices are mounted with low out gassing conductive epoxy with tolerance of $\pm 25\mu\text{m}$. Eutectic mounting is also available upon request.



APPLICATIONS

- High Speed Optical Communications
- Gigabit Ethernet/Fibre Channel
- SONET / SDH, ATM
- Diode Laser Monitoring
- Instrumentation

FEATURES

- Low Noise
- High Responsivity
- High Speed
- Spectral Range 900nm to 1700nm

Absolute Maximum Ratings

PARAMETERS	SYMBOL	MIN	MAX	UNITS
Storage Temperature	T_{stg}	-40	+85	$^{\circ}\text{C}$
Operating Temperature	T_{op}	0	+70	$^{\circ}\text{C}$
Soldering Temperature	T_{slid}	---	+260	$^{\circ}\text{C}$

Electro-Optical Characteristics

$T_A = 23^{\circ}\text{C}$

PARAMETERS	SYMBOL	CONDITIONS	FCI-InGaAs-70CCER			FCI-InGaAs-120CCER			FCI-InGaAs-300CCER			FCI-InGaAs-400CCER			FCI-InGaAs-500CCER			UNITS
			MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	MIN	TYP	MAX	
Active Area Diameter	AA_{ϕ}	---	---	70	---	---	120	---	---	300	---	---	400	---	---	500	---	μm
Responsivity	R_{λ}	$\lambda = 1310\text{nm}$	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	0.80	0.90	---	A/W
		$\lambda = 1550\text{nm}$	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	0.90	0.95	---	
Capacitance	C_j	$V_R = 5.0\text{V}$	---	0.65	---	---	1.0	---	---	10.0	---	---	14.0	---	---	20.0	---	pF
Dark Current	I_d	$V_R = 5.0\text{V}$	---	0.03	2	---	0.05	2	---	0.30	5	---	0.40	5	---	0.50	20	nA
Rise Time/ Fall Time	t_r/t_f	$V_R = 5.0\text{V}$, $R_L = 50\Omega$ 10% to 90%	---	---	0.20	---	---	0.30	---	---	1.5	---	---	3.0	---	---	10.0	ns
Max. Reverse Voltage	---	---	---	---	20	---	---	20	---	---	15	---	---	15	---	---	15	V
Max. Reverse Current	---	---	---	---	1	---	---	2	---	---	2	---	---	2	---	---	2	mA
Max. Forward Current	---	---	---	---	5	---	---	5	---	---	8	---	---	8	---	---	8	mA
NEP	---	---	---	3.44E-15	---	---	4.50E-15	---	---	6.28E-15	---	---	7.69E-15	---	---	8.42E-15	---	W/ $\sqrt{\text{Hz}}$