

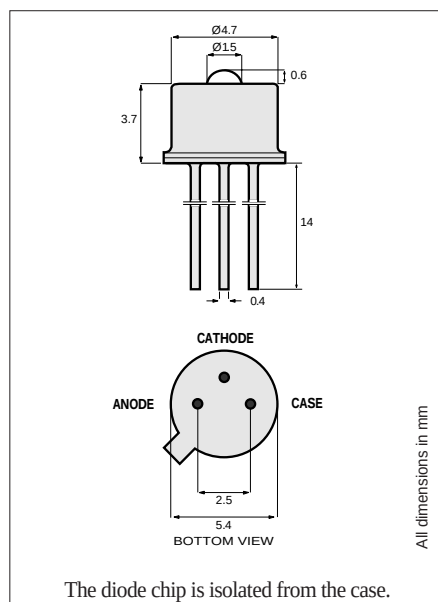
PRODUCT INFORMATION

1300nm
1550nm

1A358
High-Performance PIN

Datacom, Telecom, General Purpose

The very high speed and low capacitance of this InGaAs PIN Photodiode makes it ideal for datacom, telecom and general purpose applications. Its double-lens optical system is designed for single-mode fiber as well as for multimode fiber with core diameter up to 62.5µm. And when used in the Pigtail-3A package, the optical return loss is very high.



TO-46 Package With Lens

Optical and Electrical Characteristics (Case Temperature -40 to +85°C)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Responsivity (Fig.1&2) (Table 1)	R	0.75 0.85	0.83 1.0		A/W	$\lambda=1300\text{ nm}$ $\lambda=1550\text{ nm}$
Bandwidth	f_c	2.5			GHz	$R_L=50\Omega$
Capacitance (Fig. 4)	C		0.8	1.2	pF	$f=1\text{MHz}$
Dark Current	I_d			3 80	nA	$T_{\text{Case}}=25^\circ\text{C}$ $T_{\text{Case}}=85^\circ\text{C}$

Operating Conditions: $V_R=5\text{V}$. Fiber: Single-mode to multimode 62.5/125µm.

Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Storage Temperature	T_{stg}	-55 to +125°C
Operating Temperature	T_{op}	-55 to +125°C
Reverse Voltage	V_R	20V
Soldering Temperature (2mm from the case for 10 sec)	T_{sld}	260°C

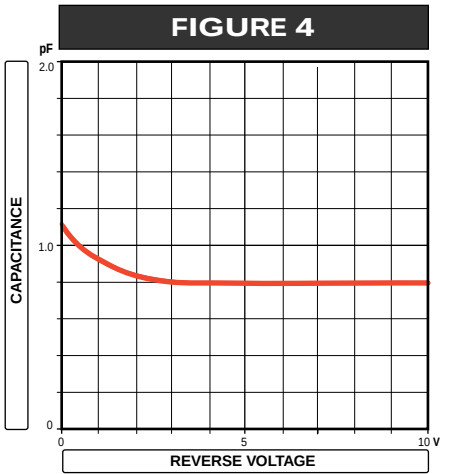
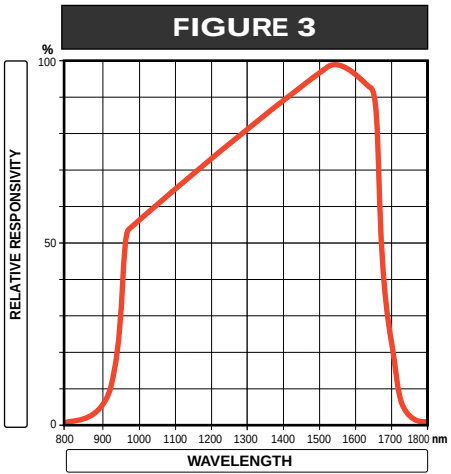
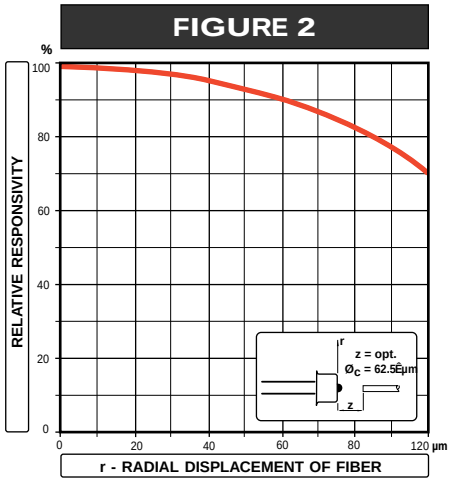
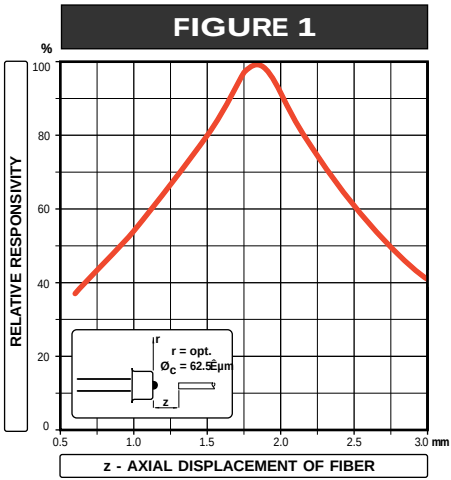
Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Temperature Coefficient - Dark Current	dI_d/dT_j		5		%/°C

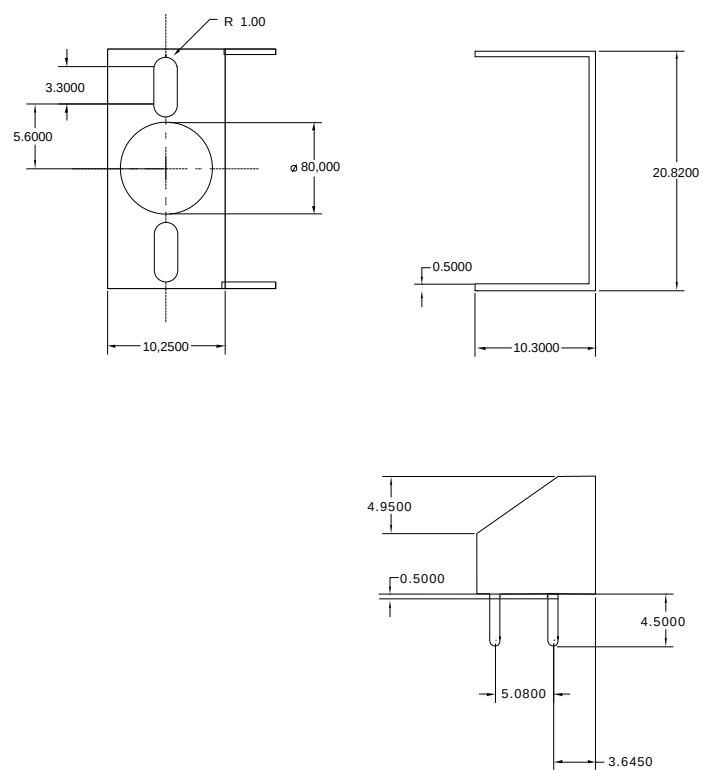
12634.11 1998-02-04

Typical Responsivity			
Core Diameter/Cladding Diameter Numerical Aperture			
	10/125 μm 0.11	50/125 μm 0.20	62.5/125 μm 0.275
1300	0.83 A/W	0.83 A/W	0.83 A/W
1550	1.0 A/W	1.0 A/W	1.0 A/W

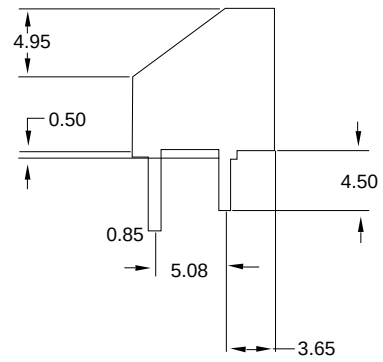
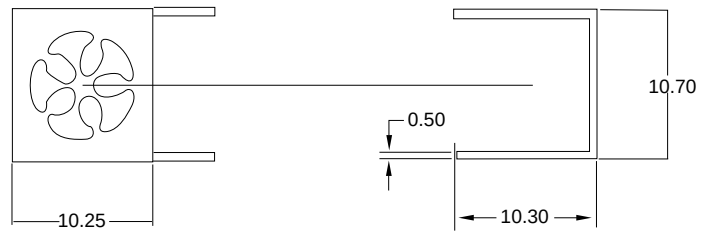
Table 1



Clip for SC-2A



Clip for Pigtail-3A

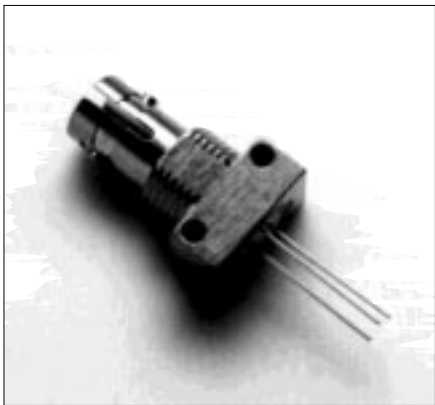


PRODUCT INFORMATION

ST-2A Package

Emitter or Detector in ST® Package

Mitel emitters and detectors can be provided in this low-profile ST® package. The device is electrically isolated from the ST® receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber.



Absolute Maximum Ratings

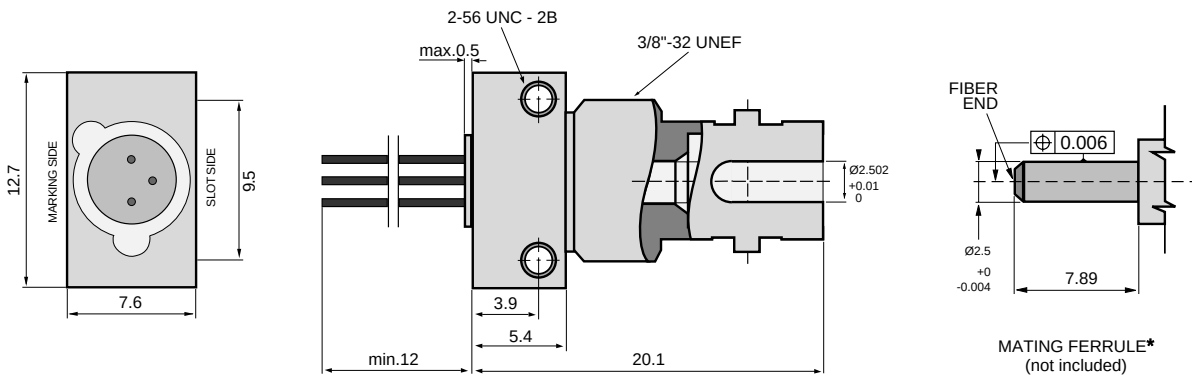
PARAMETER	SYMBOL	LIMIT
Operating & Storage Temperature ST-2A (Note 1)	T_{stg}, T_{op}	-40 to +85°C

Note 1: Temperature range can be extended to -55° to +125°C on request.

Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance - Infinite Heat Sink (Note 2)	R_{thcc}			40	°C/W
Thermal Resistance - No Heat Sink (Note 2)	R_{thca}			200	°C/W
Thermal Resistance - On PC Board (Note 2)	R_{thca}		80		°C/W

Note 2: Add R_{thjc} for emitter or detector to estimate the total thermal resistance.



All Dimensions in mm

*The fiber-coupled power/responsivity is guaranteed to meet the LED/PIN data sheet - provided a ferrule meeting this specification is used.

Mechanical Outline of Diode in ST-2A Housing

(ST is a registered trademark of AT&T)

103326 1994-09-20



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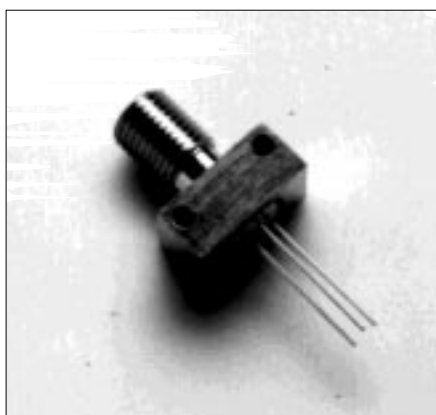
America: Tel 1-800-96MITEL Fax (613) 592-6909
Asia: Tel (65) 293 5312 Fax (65) 293 8527

PRODUCT INFORMATION

SMA-2A Package

Emitter or Detector in SMA Package

Mitel emitters and detectors can be provided in this low-profile SMA package. The device is electrically isolated from the SMA receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber.



Absolute Maximum Ratings

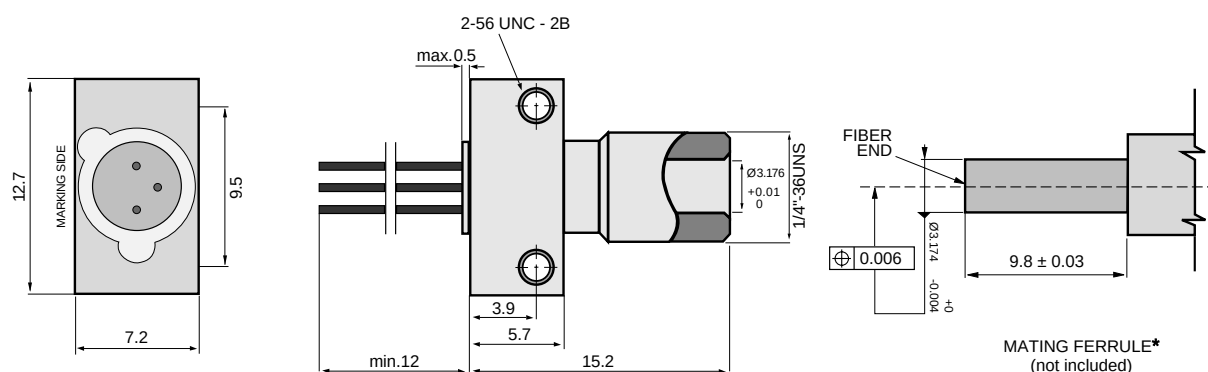
PARAMETER	SYMBOL	LIMIT
Operating & Storage Temperature SMA-2A (Note 1)	T_{stg}, T_{op}	-40 to +85°C

Note 1: Temperature range can be extended to -55° to +125°C on request.

Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance - Infinite Heat Sink (Note 2)	R_{thcc}			40	°C/W
Thermal Resistance - No Heat Sink (Note 2)	R_{thca}			200	°C/W
Thermal Resistance - On PC Board (Note 2)	R_{thca}		80		°C/W

Note 2: Add R_{thjc} for emitter or detector to estimate the total thermal resistance.



All Dimensions in mm

*The fiber-coupled power/responsivity is guaranteed to meet the LED/PIN data sheet - provided a ferrule meeting this specification is used.

Mechanical Outline of Diode in SMA-2A Housing

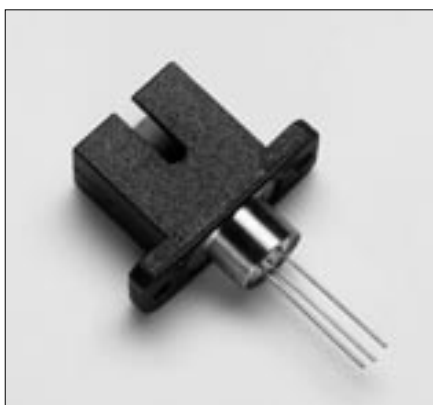
103325 1994-09-20

PRODUCT INFORMATION

SC-2A Package

Emitter or Detector in SC Package

Mitel emitters and detectors can be provided in this low-profile SC package. The device is electrically isolated from the SC receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber..



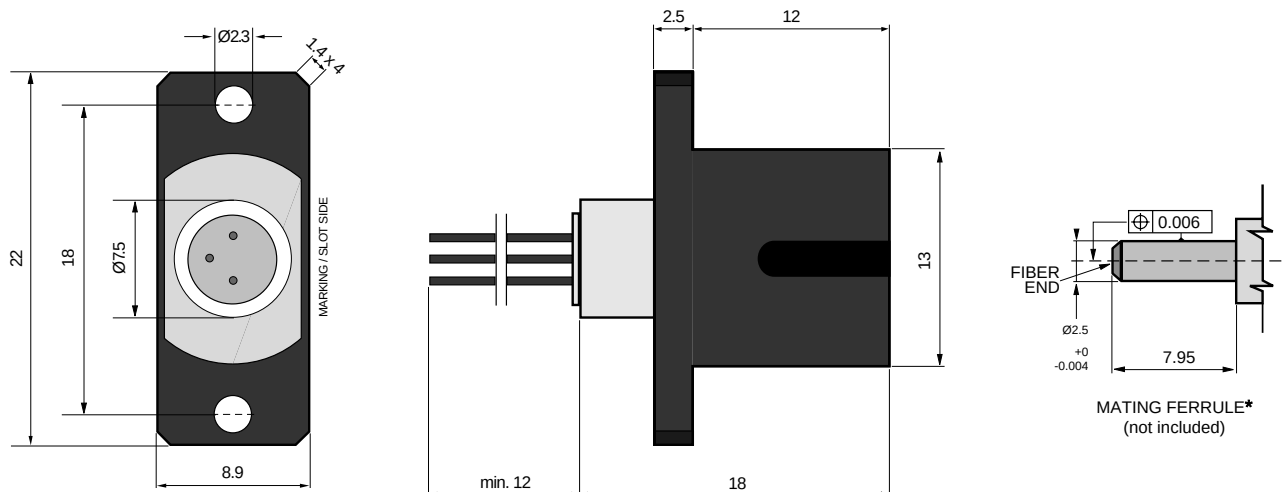
Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Operating & Storage Temperature	T_{stg}, T_{op}	-40 to +85°C

Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance - Infinite Heat Sink (Note 1)	R_{thcc}			40	°C/W
Thermal Resistance - No Heat Sink (Note 1)	R_{thca}			200	°C/W
Thermal Resistance - On PC Board (Note 1)	R_{thca}		125		°C/W

Note 1: Add R_{thjc} for emitter or detector to estimate the total thermal resistance.



All Dimensions in mm

* The fiber-coupled power/responsivity is guaranteed to meet the LED/PIN data sheet - provided a ferrule meeting this specification is used.

Mechanical Outline of Diode in SC-2A Housing

105967 1994-09-20

PRODUCT INFORMATION

Pigtail-3A Package

Emitter or Detector in Pigtail Package

Mitel emitters and detectors can be provided in this pigtail package with a wide selection of fiber types. The device is electrically isolated from the pigtail receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber. A special design maximizes the return loss for detectors in this package.



Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Operating & Storage Temperature (Note 1 & 2)	T_{stg}, T_{op}	-40 to +85°C

Note 1: Temperature range can be extended to -55/+125°C on request.

Note 2: Temperature range may be limited by the specification of the fiber.

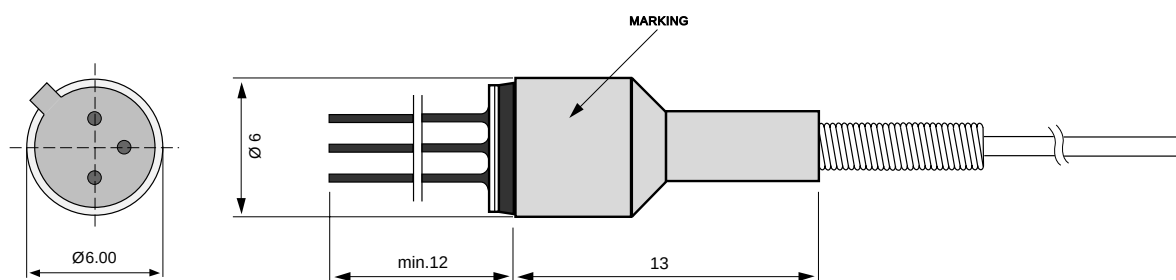
Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance - Infinite Heat Sink (Note 3)	R_{thcc}			25	°C/W
Thermal Resistance - No Heat Sink (Note 3)	R_{thca}			250	°C/W
Thermal Resistance - On PC-Board (Note 3)	R_{thca}		120		°C/W

Note 3: Add R_{thjc} for LED to estimate the total thermal resistance.

Optical Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Return Loss 10/125μm fiber (PIN only)	RL	40	55		dB



All Dimensions in mm

Mechanical Outline of Diode in PIGTAIL-3A Housing

105429 1997-07-03

PRODUCT INFORMATION

FC-2A Package

Emitter or Detector in FC Package

Mitel emitters and detectors can be provided in this low-profile FC package. The device is electrically isolated from the FC receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber.



Absolute Maximum Ratings

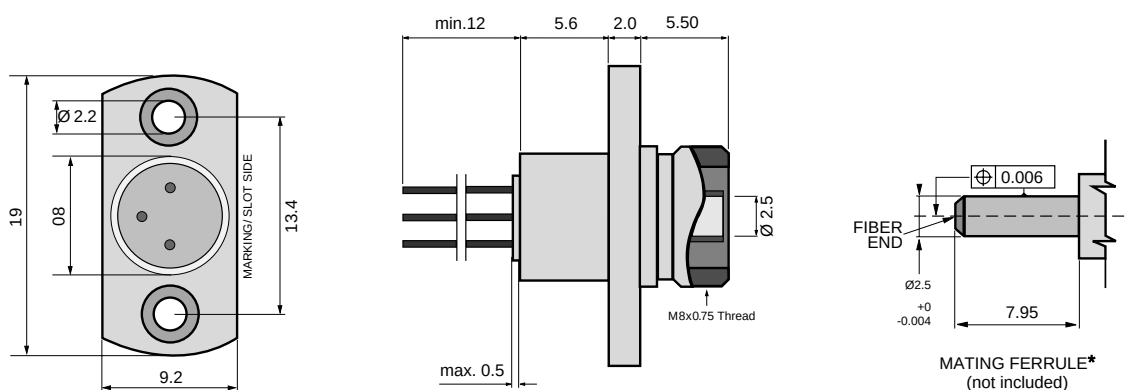
PARAMETER	SYMBOL	LIMIT
Operating & Storage Temperature FC-2A (Note 1)	T_{stg}, T_{op}	-40 to +85°C

Note 1: Temperature range can be extended to -55° to +125°C on request.

Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Thermal Resistance - Infinite Heat Sink (Note 2)	R_{thcc}			40	°C/W
Thermal Resistance - No Heat Sink (Note 2)	R_{thca}			200	°C/W
Thermal Resistance - On PC Board (Note 2)	R_{thca}		80		°C/W

Note 2: Add R_{thjc} for emitter or detector to estimate the total thermal resistance.



All Dimensions in mm

* The fiber-coupled power/responsivity is guaranteed to meet the LED/PIN data sheet - provided a ferrule meeting this specification is used.

Mechanical Outline of Diode in FC-2A Housing

105515 1994-09-20



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