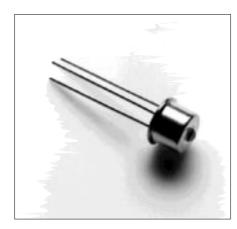
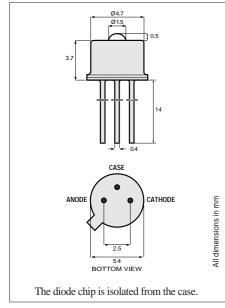
	780 nm	1A359 High-Performance LED
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The low thermal droop of this device allows baseband video transmission with minimum distortion. The double-lens optical system provides for optimum coupling of power into the fiber. It matches with the 1A354 PIN Photodiode.





TO-46 Package With Lens

Baseband Video

Optical and Electrical Characteristics (25° C Case Temperature)								
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	DN	
Fiber-Coupled Power (Fig. 1, 2, & 3) (Table 1)	P _{fiber}	80	120		μW	I _F =80 mA (Note 1)	Fiber:	
Rise and Fall Time (10-90%)	$t_{\rm r}, t_{\rm f}$		6	8	ns	<i>I</i> _F =80 mA (no bias)	62.5/125 μm Graded	
Bandwidth (3dB _{el})	f _c		55		MHz	$I_{\rm F}$ =80 mA	Index	
Thermal Droop (nonlinearity) (Note 2)	ΙΔΡΙ		2		%	$I_{\rm F}$ =80 mA	NA=0.275	
Peak Wavelength	λ _p	760	780	800	nm	$I_{\rm F}$ =80 mA		
Spectral Width (FWHM)	Δλ		50		nm	$I_{\rm F}$ =80 mA		
Forward Voltage (Fig.5)	V _F		2.2	2.4	V	$I_{\rm F}$ =80 mA		
Reverse Current	I _R			20	μA	$V_{\rm R}=1{ m V}$		
Capacitance	C		250		pF	$V_{\rm R}$ =0V, f=1 M	/IHz	

Note 1: Measured at the exit of 100 meters of fiber.

Note 2: Transient decline in optical power due to self-heating.

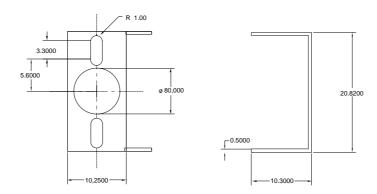
Absolute Maximum Ratings						
PARAMETER	SYMBOL	LIMIT				
Storage Temperature	T _{stg}	-55 to +125°C				
Operating Temperature (derating: Fig.4)	T _{op}	-55 to +125°C				
Electrical Power Dissipation (derating: Fig.4)	P _{tot}	300 mW				
Continuous Forward Current (f≤10 kHz)	$I_{\rm F}$	110 mA				
Peak Forward Current (duty cycle≤50%, f≥1 MHz)	I _{FRM}	180 mA				
Reverse Voltage	V _R	1.5 V				
Soldering Temperature (2mm from the case for 10 sec)	T _{sld}	260°C				

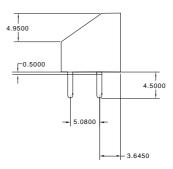
Thermal Characteristics							
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT		
Thermal Resistance - Infinite Heat Sink	R _{thjc}			100	°C/W		
Thermal Resistance - No Heat Sink	R _{thja}			400	°C/W		
Temperature Coefficient - Optical Power	dP/dTj		-0.5		%/°C		
Temperature Coefficient - Wavelength	$d\lambda/dT_{j}$		0.3		nm/°C		

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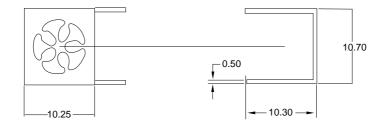


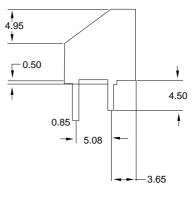
Clip for SC-2A





Clip for Pigtail-3A





ST-2A	
Package	

Emitter or Detector in ST® Package

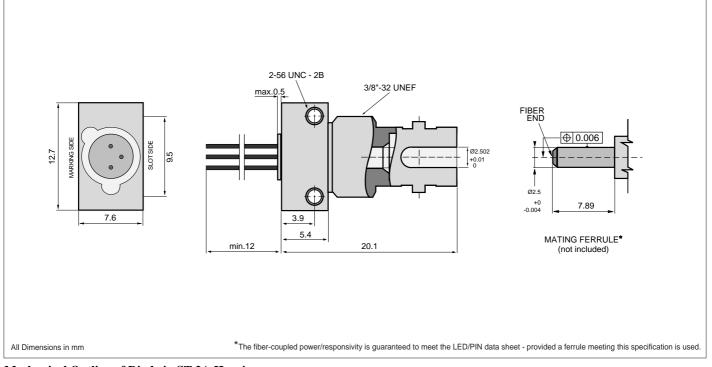
Mitel emitters and detectors can be provided in this low-profile ST® package. The device is electrically isolated from the ST[®] receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber.



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)	Rthca		80		°C/W		

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



Mechanical Outline of Diode in ST-2A Housing (ST is a registered trademark of AT&T)

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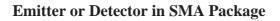


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SMA-2A
Package

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.

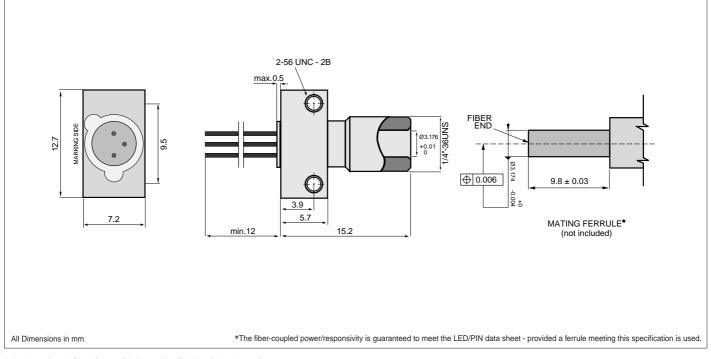


Absolute Maximum Ratings							
PARAMETER	SYMBOL	LIMIT					
Operating & Storage Temperature SMA-2A (Note 1)	$T_{\rm stg}, T_{\rm op}$	-40 to +85°C					

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)	Rthca		80		°C/W		

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



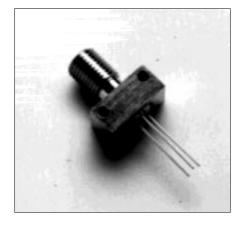
Mechanical Outline of Diode in SMA-2A Housing

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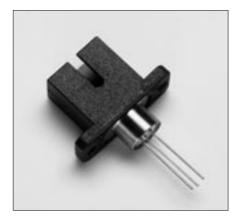
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SC-2A	١
Package	

Emitter or Detector in SC Package

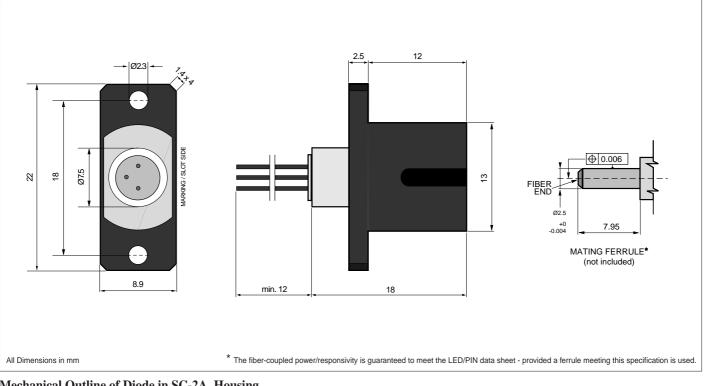
Mitel emitters and detectors can be provided in this low-profile SC package. The device is electrically isolated from the SC receptacle to facilitate electrical connection. And optimum fiber-coupled power or responsivity is ensured by active alignment against the fiber ..



Absolute Maximum Ratings						
PARAMETER	SYMBOL	LIMIT				
Operating & Storage Temperature	$T_{\rm stg}, T_{\rm op}$	$-40 \text{ to } +85^{\circ}\text{C}$				

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

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



Mechanical Outline of Diode in SC-2A Housing

105967 1994-09-20



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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.



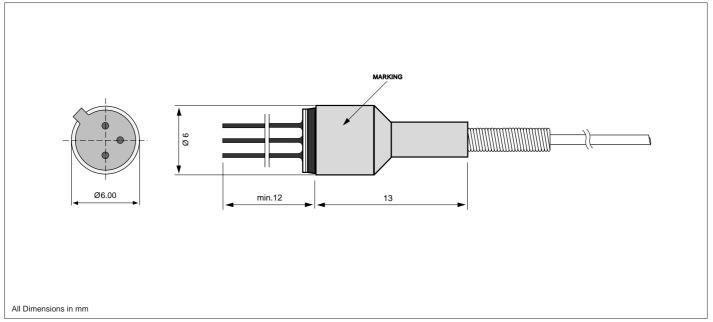
Absolute Maximum Ratings PARAMETER SYMBOL LIMIT $-40 \text{ to } +85^{\circ}\text{C}$ Operating & Storage Temperature (Note 1 & 2) $T_{\rm stg}, T_{\rm op}$

Note 1: Temperature range can be extended to $-55/+125^{\circ}C$ 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)	<i>R</i> _{thca}			250	°C/W
Thermal Resistance - On PC-Board (Note 3)	<i>R</i> _{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



Mechanical Outline of Diode in PIGTAIL-3A Housing

105429 1997-07-03



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FC-	-2A
Packa	age

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.



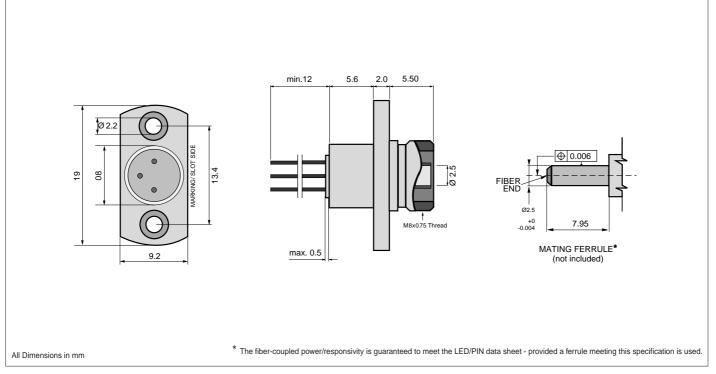
Emitter or Detector in FC Package

Absolute Maximum Ratings						
PARAMETER	SYMBOL	LIMIT				
Operating & Storage Temperature FC-2A (Note 1)	$T_{\rm stg}, T_{\rm op}$	$-40 \text{ to } +85^{\circ}\text{C}$				

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)	Rthca		80		°C/W

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



Mechanical Outline of Diode in FC-2A Housing

105515 1994-09-20



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