



Features

- High power LED sends 115μW into 100/140 micron fibre.
- High speed - 85MHz
- Optimized for 50mA operation

Recommended Maximum Ratings

Reverse voltage	1-0V @ 10μA
Continuous forward current	50mA
Continuous forward current (Heat sink)	100mA
Storage temperature range	-40°C to +100°C
Case operating temperature	-40°C to +100°C
Lead soldering temperature	+260°C for 10 secs.

(Ta=25°C)

Electrical & Optical Characteristics

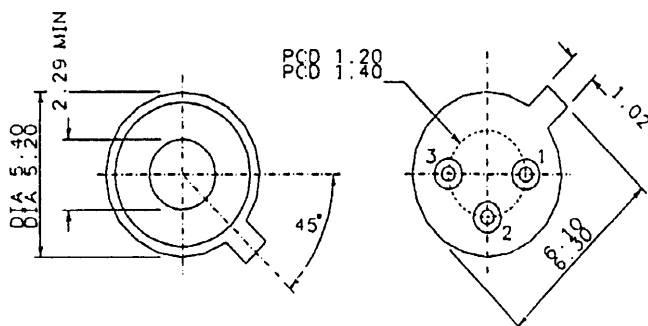
Parameter	Symbol	Min	Typ	Max	Units	Test Conditions
Fibre Coupled Power						
FDE 853 LBF	P _{oc}	10 -20.0	20 -17.0		μW dBm	IF = 50mA 50/125 micron (1), 0.20 NA fibre (2)
Forward voltage	V _F		1.6	1.9	V	IF = 50mA
Reverse voltage	BVR	1.0	5.0		V	IR = 10μA
Peak wavelength	λ _p		850		nm	IF = 50mA DC
Spectral Bandwidth (2)	Δλ		50		nm	IF = 50mA DC
Response Time						
T=25°C, 10-90%	t _r		4	8	ns	1V Prebias, 100mA peak.
T=25°C, 90-10%	t _f		6	10		
Analog Bandwidth	BWE		85		MHz	IF = 100mA DC, Sinusoidal modulation. (2)
Po Temperature Coefficient	ΔP _o /ΔT		-0.005		dB/°C	IF = 50mA, +25°C <T _a <+80°C
Series Resistance	r _s		4.0		Ω	DC
Capacitance	C		70.0		pF	VR = 0V, f = 1MHz

(Ta=25°C)

Notes

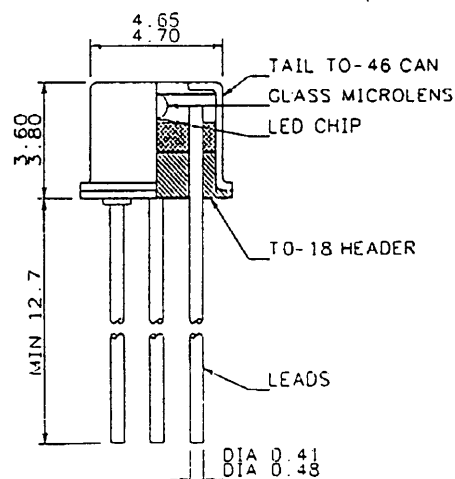
- FDE853LBF is tested using a 10 meter length of 50/125μm dia fibre cable terminated in a precision ST ferrule. Actual coupled power values may vary due to alignment procedures and/or receptacle and fibre tolerances.
- FDE853LBF must be heat sunk for continuous I_F > 50mA operation for maximum reliability. (i.e. mounted in a metal connector with thermally conductive epoxy.

Package Dimensions



Pinout

- Anode
- Cathode
- Not Connected



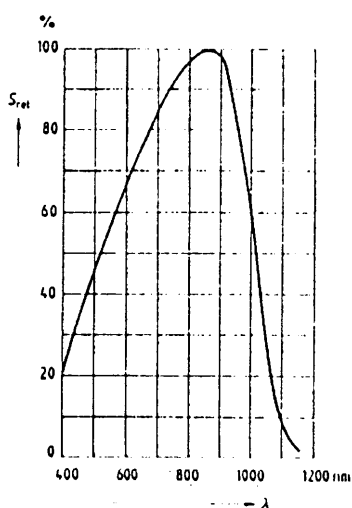
All dimensions are in mm.

FIBRE OPTIC. Si PIN PHOTODIODE

TYPE: FDR 850 IR

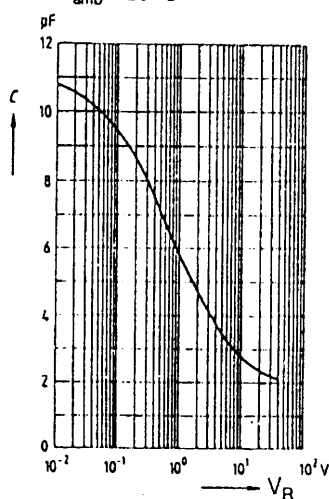
Relative Spectral Sensitivity

$$S_{rel} = f(\lambda)$$

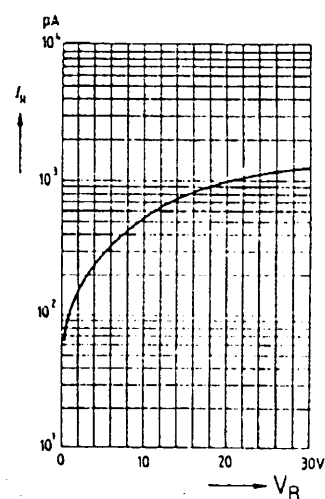


Capacity $C = f(V_R)$

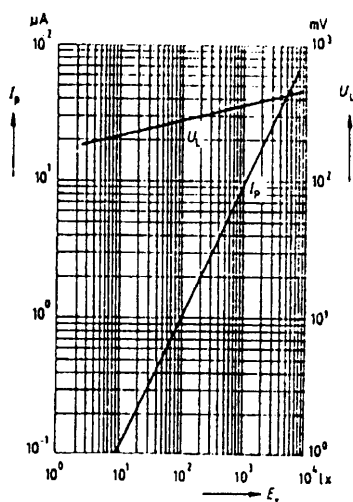
$$T_{amb} = 25^\circ C$$



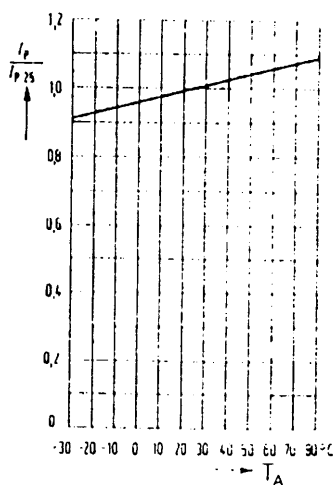
Dark Current $I_R = f(V_R)$



Photocurrent $I_P = f(E_v)$

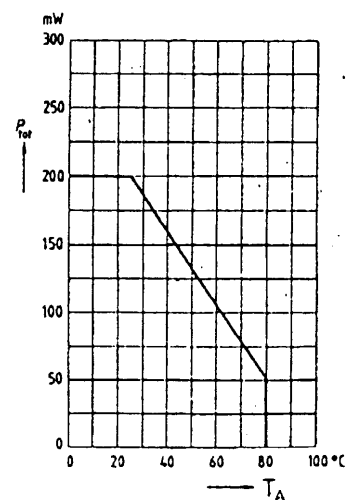


Photocurrent $\frac{I_P}{I_{P25}} = f(T_A)$



Power Dissipation

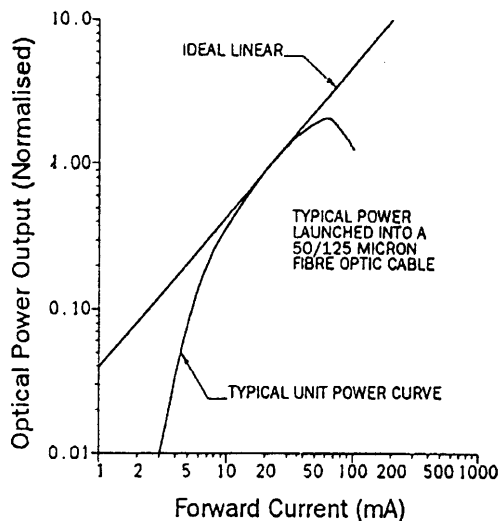
$$P_{tot} = f(T_A)$$



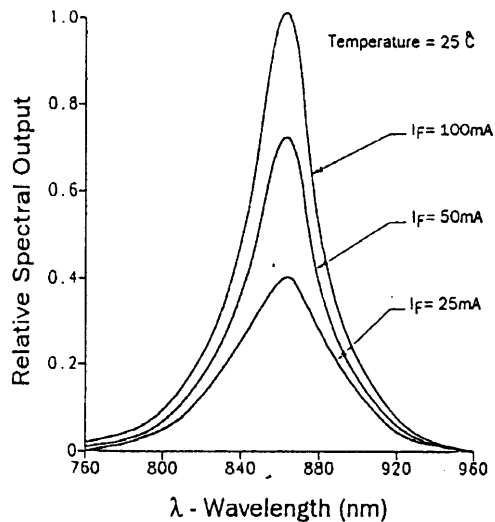


Electrical & Optical Characteristics

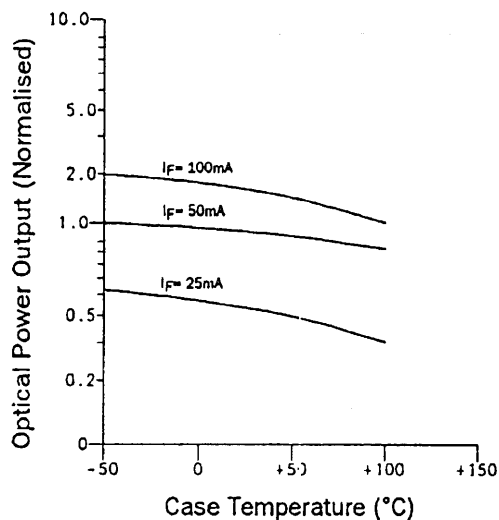
Typical Optical Power Output vs Forward Current



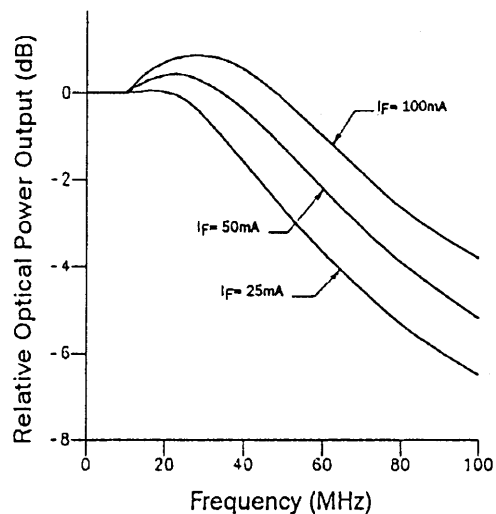
Typical Spectral Output vs Wavelength



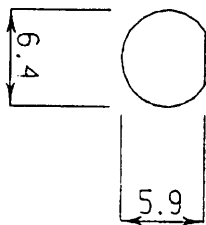
Typical Optical Power Output vs Case Temperature



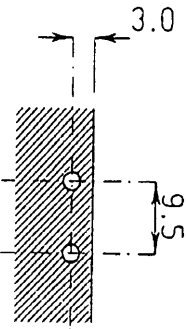
Typical Relative Power Output vs Frequency



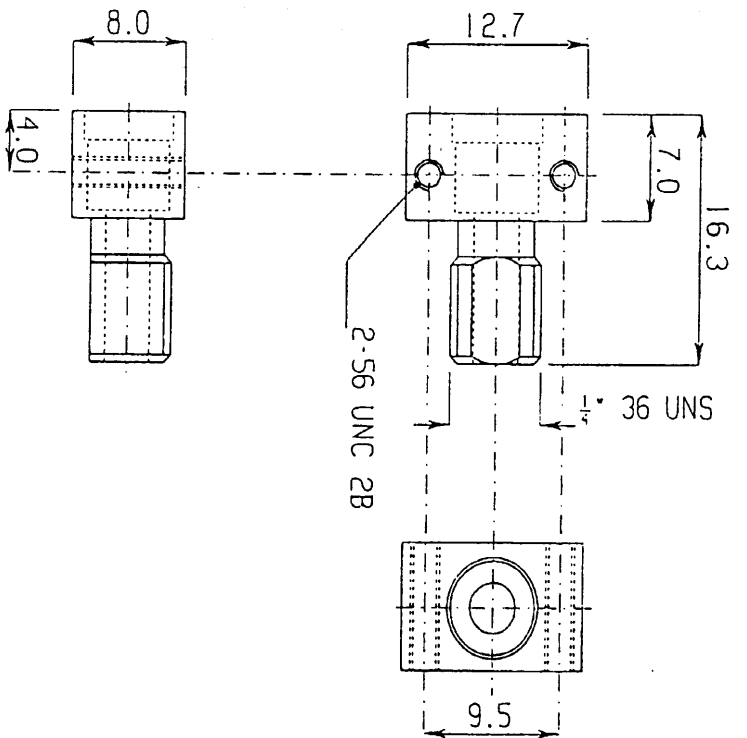
PANEL CUTOUT



P.C.B. HOLE MOUNTING PATTERN



RECOMMENDED P.C.B. HOLE SIZE 2.4mm



NOTE 1: SUPPLIED WITH NUT FDH22N
NOTE 2: SUPPLIED WITH WASHER FDH22W

		THE FIBRE-DATA GROUP LTD. TEL. 0209 215424	
DRAWN	P.B. HATTON	DATE	19-7-93
CHECKED	<i>[Signature]</i>	DATE	17/8/93
APPROVED	<i>[Signature]</i>	DATE	17/8/93

TITLE		P.C.B. SMA HOUSING OUTLINE DRAWING, FDH22	
MATERIAL		BRASS, NICKEL PLATED 5 MIRCON	
DIMENSIONS		MM	
TOLERANCES		±0.3	
UNLESS OTHERWISE STATED.		UNLESS OTHERWISE STATED.	
APPROVAL NOT VALID UNLESS SIGNED IN COLOURED INK. CHECK FOR LATEST ISSUE IF THIS COPY IS NOT APPROVED.		UNLESS OTHERWISE STATED, APPROVED COPIES WILL BE AUTOMATICALLY UPDATED.	

ISSUE	PRODUCTION RELEASE	DATE
1	NEW DRAWING	14/10/94

THE FIBRE-DATA GROUP LTD

NON MAINTAINED PRINT

ISSUED TO *Sales*

DATE *14/10/94*

DO NOT SCALE	
1st ANGLE PROJECT	
SHEET 1 OF 1	
DRAWING NUMBER	C 1013

**FIBRE OPTIC. VISIBLE GaAlAs LED
ULTRA HIGH POWER 660 nm**

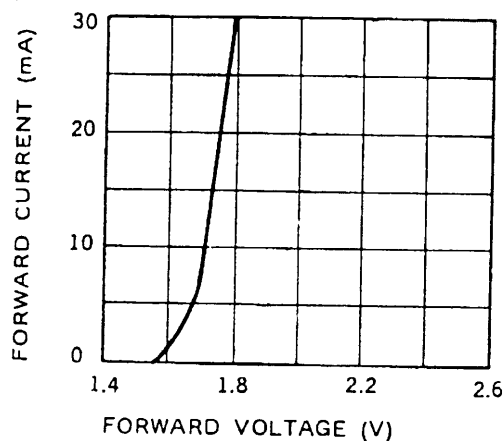
TYPE: FFT 2000 BHR

TYPICAL POWER COUPLED INTO OPTICAL FIBRE

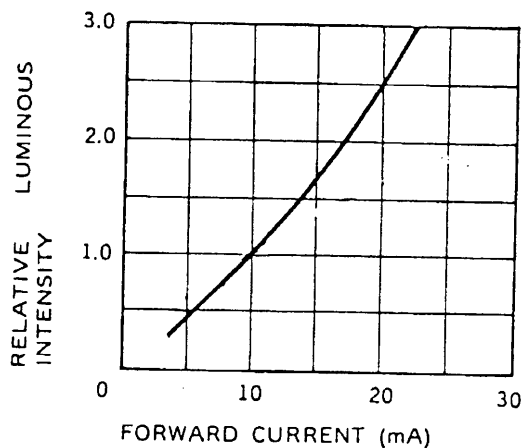
FIBRE TYPE	INDEX	NUMERICAL APERTURE	COUPLED POWER AT $I_F = 50\text{mA}$ 25 °C, FIBRE CORE ALIGNED
50/125 μ	GRADED	0.21	0.5 μW (-33 dBm)
62.5/125 μ	GRADED	0.28	1.0 μW (-30 dBm)
100/140 μ	GRADED	0.29	3.0 μW (-25 dBm)
200/380 μ P.C.S.	STEP	0.45	50 μW (-13 dBm)
1000 μ Polymer	STEP	0.54	1000 μW (0 dBm)

CHARACTERISTIC CURVES

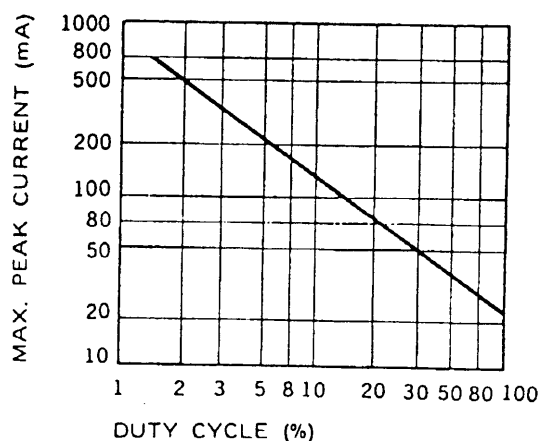
FORWARD CURRENT VS. FORWARD VOLTAGE



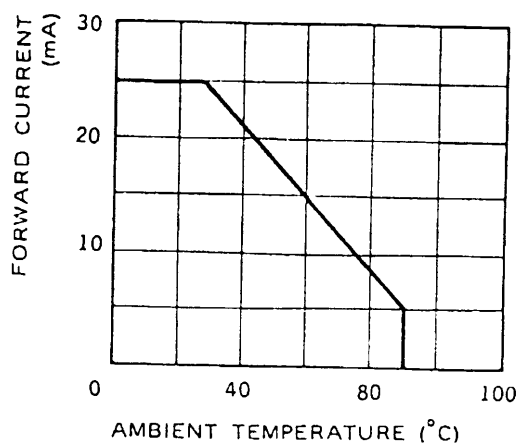
RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

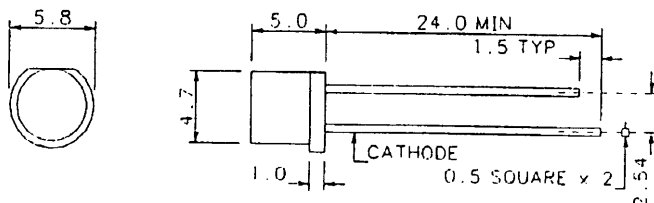


MAX. PEAK CURRENT VS. DUTY CYCLE

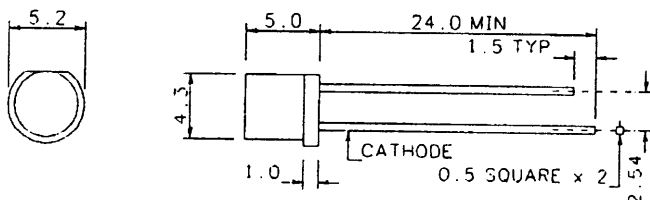


FORWARD CURRENT VS. TEMPERATURE




Package Dimensions - FFT 2000 AHR


1. All dimension are in mm, tolerance is ± 0.25 mm unless otherwise stated.
2. An epoxy meniscus may extend about 1.0mm down the leads.
3. Burr around bottom of epoxy body may be 0.5mm maximum.

Package Dimensions - FFT 2000 BHR


1. All dimension are in mm, tolerance is ± 0.25 mm unless otherwise stated.
2. An epoxy meniscus may extend about 1.0mm down the leads.
3. Burr around bottom of epoxy body may be 0.5mm maximum.

REFERENCE DOCUMENT ONLY
ISSUE: 01
AUTHORISED BY:
DATE: 18/10/94
POSITION IN COMPANY: QUALITY / MANAGER
UNCONTROLLED / ~~CONTROLLED~~ COPY