KF887BO

FEATURES

- Excellent linearity
- Extremely low noise
- Excellent flatness
- Standard CATV outline
- Rugged construction

PINNING - SOT115U

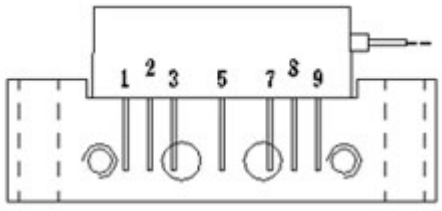
PIN	DESCRIPTION
1	Monitor current
2	Common
3	Common
5	+VB
7	Common
8	Common
9	Output

APPLICATIONS

CATV systems operating in the 40 to 860 MHz frequency range.

DESCRIPTION

Hybrid high dynamic range optical receiver module in a SOT115U package operating at a voltage supply of +24V(DC).The module contains a monomode optical input suitable for wavelengths from 1290 to 1600 nm, a terminal to monitor the pin diode current and an electrical output with an impedance of 75Ω.



Side view

Fig.1 Simplified outline

QUICK REFERENCE DATA

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
f	Frequency range	-	40	860	MHz
S_{22}	Output return losses	f=40 to 860 MHz	10	-	dB
	Optical input return losses	-	45	-	dB
d_2	Second order distortion	f=324.25MHz	-	70	dBc
F	Equivalent noise input	f=40MHz	-	7	Pa/√Hz
I_{tot}	Total current consumption (DC)	V_B=24V	125	145	mA

HANDLING

Fibreglass optical coupling: maximum tensile strength = 5N; minimum bending radius = 35mm.

LIMITING VALUES

In accordance with the Absolute Maximum Rating System(1EC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
f	Frequency range	-	40	860	MHz
T_{stg}	Storage temperature	-	-40	+85	□
T_{mb}	Operating mounting base temperature	-	-20	+85	□
P_{in}	Optical input power	Continuous	-	3	Mw

CHARACTERISTICS

Table 1 Bandwidth 40 to 860 MHz; V_B=24V; T_{mb}=30°C ; Z_s=Z_L=75Ω

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
S	Responsivity	λ=1300nm	0.85	-	A/W
V_{pin1}	Pin 1 monitor voltage	λ=1300nm	0.75	1	V/Mw
FL	Flatness of frequency response		-	±0.65	Db
S_{22}	Output return losses	f=40 to 860 MHz	10	-	Db
-	Optical input return losses		45	-	Db
d_2	Second order distortion	Note 1	-	-70	Db
d_3	Third order distortion	Note 2	-	-80	Db
F	Equivalent noise input	f=40 MHz	-	7	Pa/√Hz
S_λ	Spectral sensitivity	λ=1310 ±20nm	0.85	-	-
		λ=1550 ±20nm	0.9	-	-
λ	Optical wavelength		1290	1600	nm
I_{tot}	Total current consumption(DC)	Note 3	125	145	Ma

Notes:

1.Two laser test; each laser with 40% modulation index;
fp=135MHz; Pp=0.5Mw;
fq=189.25MHz; Pq=0.5Mw;
measured at fp+fq=324.25MHz.

2.Three laser test; each laser with 40% modulation index;
fp=326.25MHz; Pp=0.33 Mw;
fq=333.25MHz; Pq=0.33Mw;
fr=335.25MHz; Pr=0.33 Mw;
measured at fp+fq-fr=324.25MHz.

3.The module normally operates at VB=24V,but is able to withstand supply transients up to 28 V.

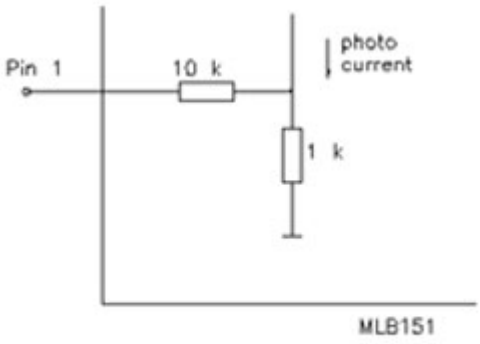
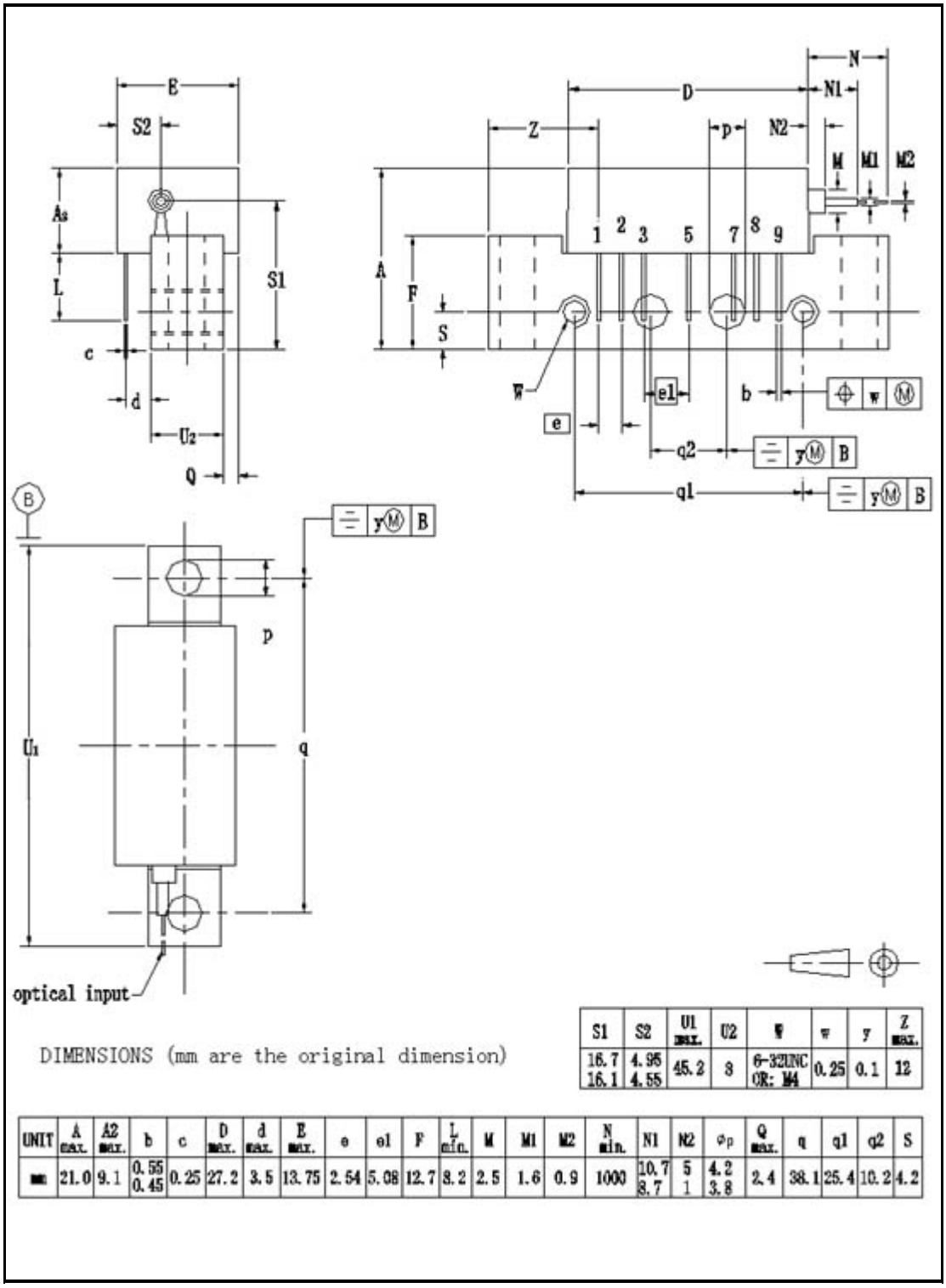


Fig.2 Monitor current pin

PACKAGE OUTLINE

Rectangular single-ended package; aluminium flange; 2 vertical mounting holes; 2×6-32 UNC AND 2 extra horizontal mounting holes; 7 gold-plated in-line leads



DIMENSIONS (mm are the original dimension)

S1	S2	U1 max.	U2	W	w	y	Z max.
16.7 16.1	4.95 4.55	45.2	8	6-32UNC OR: M4	0.25	0.1	12

UNIT	A max.	A2 max.	b	c	D max.	d max.	E max.	e	e1	F	L min.	M	M1	M2	N min.	N1	N2	φp	Q max.	q	q1	q2	S
mm	21.0	9.1	0.55 0.45	0.25	27.2	3.5	13.75	2.54	5.08	12.7	8.2	2.5	1.6	0.9	1000	10.7 8.7	5 1	4.2 3.8	2.4	38.1	25.4	10.2	4.2