

**860 MHz Optical Receiver Integrated Circuit**

**FEATURES**

- ◆Excellent linearity
- ◆Excellent distortion performance
- ◆Low input noise
- ◆High output level

PIN	DESCRIPTION
1	monitor current
2	common
3	common
4	+V <sub>B</sub> of the pin diode
5	+V <sub>B</sub> of the amplifier
7	common
8	common
9	output

**DESCRIPTION**

The supply voltage of KC847B0 is 24VDC .The module is in a package interchangeable for SOT115U(see Fig.1), has a FC/APC or SC/APC Connector, with a single mode optical input suitable for 1100 to 1650nm wavelengths , a terminal to monitor the photo diode current and an electrical output having a characteristic impedance of 75Ω . Optical power receiving at -8 ~ +2dBm , RF output is 88dBuV/Ch(@0dBm input) .

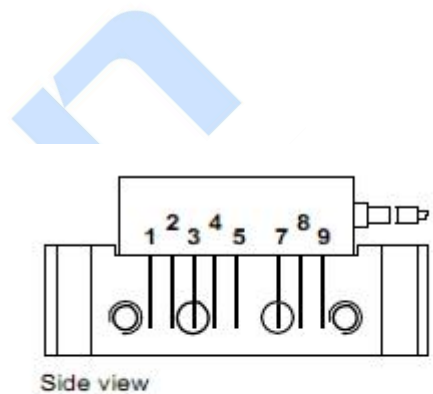
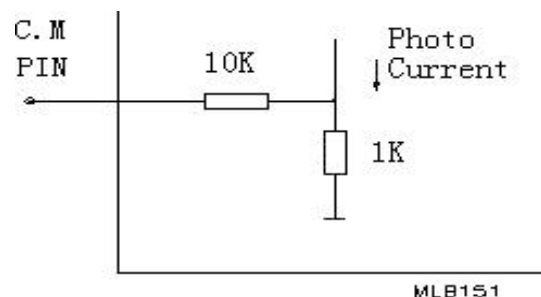


Fig.1 Simplified outline.

**HANDLING**

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

**PHOTODIODE CURRENT MONITOR PIN**



CURRENT MONITOR PIN

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**LIMITING VALUES**

In accordance With the Absolute Maximum Rating System

SYMBOL	PARAMETER	CONDITION	MIN	MAX	UNITS
<b>P<sub>in</sub></b>	Input Optical Power			3	mw
<b>T<sub>stg</sub></b>	Storage temperature		-40	+85	°C
<b>T<sub>c</sub></b>	Operating temperature		-20	+85	°C
<b>ESD</b>	ESD sensitivity	Human body model; R=1.5KΩ;C=100pF	500		V

**CHARACTERISTICS**

T<sub>mb</sub>=25°C, V<sub>B</sub>=24VDC, Z<sub>s</sub>=Z<sub>L</sub>=75 Ω

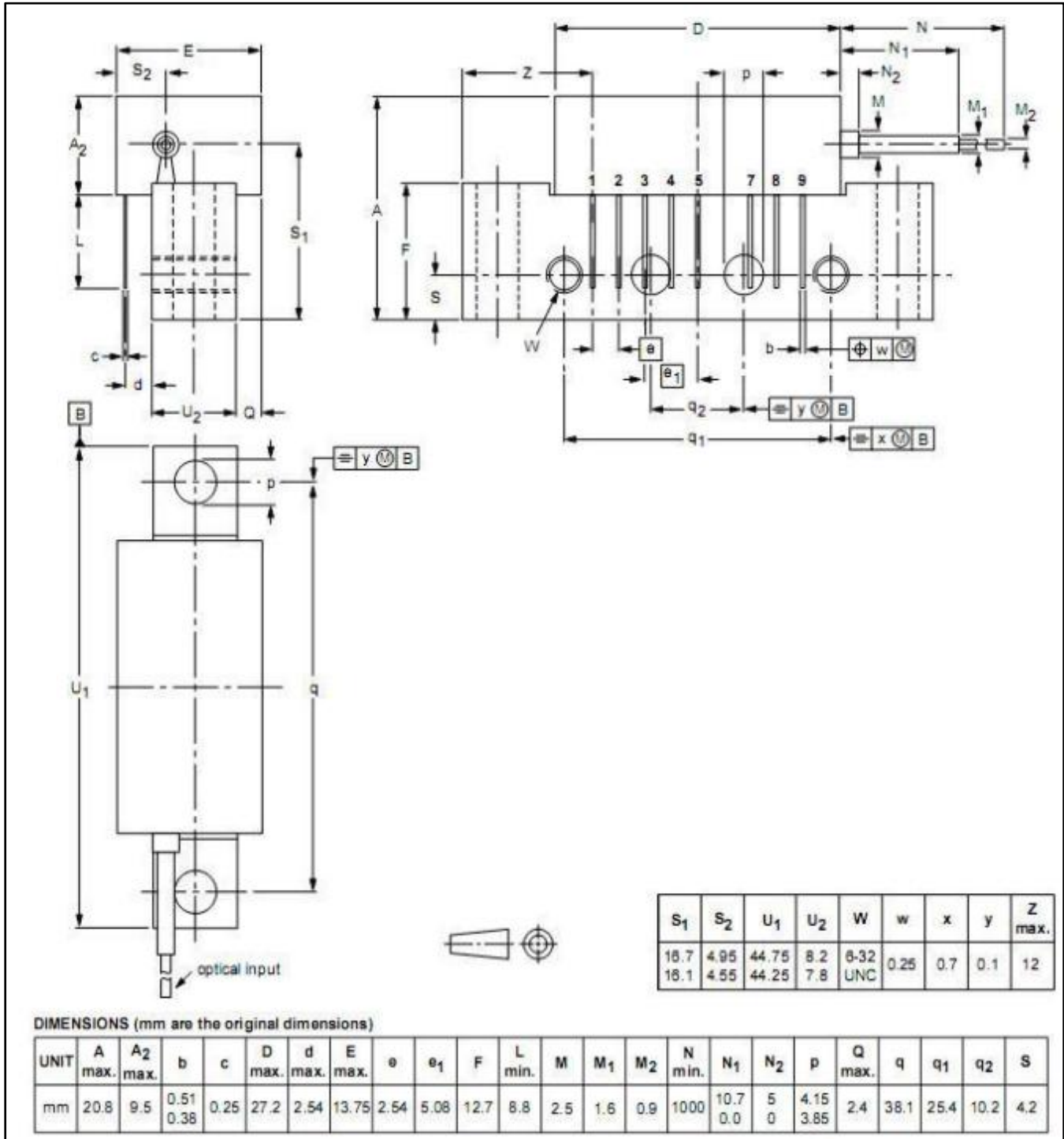
SYMBOL	PARAMETER	UNIT	MIN.	TYP.	MAX.	CONDITIONS
<b>f</b>	Frequency range	MHz	40		860	
<b>S<sub>λ</sub></b>	Spectral sensitivity	A/W	0.85			λ=1310±20nm
		A/W	0.9			λ=1550±20nm
<b>λ</b>	Optical wavelength	nm	1100		1650	
<b>V<sub>cm</sub></b>	Voltage of C.M Pin	mV	850			λ=1310nm , 0dBm input
<b>V<sub>o</sub></b>	Output Level	dBμV		88		Optical power receiving at 0dBm, m=3.7%, Reference value @543.25MHz
<b>FL</b>	Flatness of frequency response	dB	-	-	±0.75	f=40 to 860 MHz
<b>CTB</b>	Composite Triple Beat	dB	-	-70	-	60 channels flat, m=3.7%;
<b>CSO</b>	Composite Second Order distortion	dB	-	-64	-	measured at 543.25MHz; Optical power receiving at 0dBm
<b>C/N</b>	Carrier to Noise Ratio	dB	-	51	-	Optical power receiving at 0dBm
<b>S<sub>22</sub></b>	Output Return losses	dB	-	-	-12	f=40 to 860 MHz
	Optical input return losses	dB	-	-	-45	
<b>I<sub>tot</sub></b>	Total Current Consumption	mA	160	180	200	V <sub>B</sub> =24V
<b>I<sub>bias</sub></b>	diode bias current at pin 4 (DC)	mA	-	-	25	

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**PACKAGE OUTLINE**

Rectangular single-ended package; aluminium flange; 2 vertical mounting holes; 2 x 6-32 UNC and 2 extra horizontal mounting holes; 7 gold-plated in-line leads; optical input;

SOT115U



UNIT:mm