

1000 MHz Optical Receiver Integrated Circuit

FEATURES

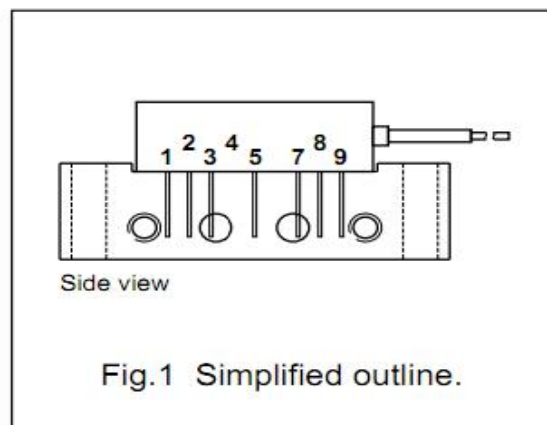
- ◆Excellent linearity
- ◆Excellent distortion performance
- ◆Low input noise
- ◆Optical-AGC
- ◆Interchangeable package with SOT115U

PINNING - SOT115U

| PIN | DESCRIPTION |
|-----|----------------------------------|
| 1 | current monitor |
| 2 | common |
| 3 | common |
| 5 | +V _B of the amplifier |
| 7 | common |
| 8 | common |
| 9 | output |

DESCRIPTION

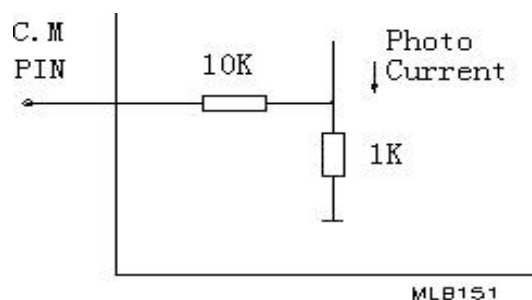
The supply voltage of KB1080B0/AGC-24 is 24VDC .The module is in a package interchangeable for SOT115U(see Fig.1), has a FC/APC or SC/APC Connector, with a single mode optical input suitable for 1100 to 1650nm wavelengths , a terminal to monitor the photo diode current and an electrical output having a characteristic impedance of 75Ω . Optical power receiving at -15 ~ +2dBm , RF output is 80dBuV/Ch with optical-AGC.



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 |
|------------------------|-----------------------|---------------------------------------|-----|-----|-------|
| P_{in} | Input Optical Power | | | 3 | mw |
| T_{stg} | Storage temperature | | -40 | +85 | °C |
| T_c | Operating temperature | | -20 | +85 | °C |
| ESD | ESD sensitivity | Human body model; R=1.5KΩ ;C=100pF | 500 | | V |

CHARACTERISTICS

T_{mb}=25°C, V_B=24VDC, Z_s=Z_L=75 Ω

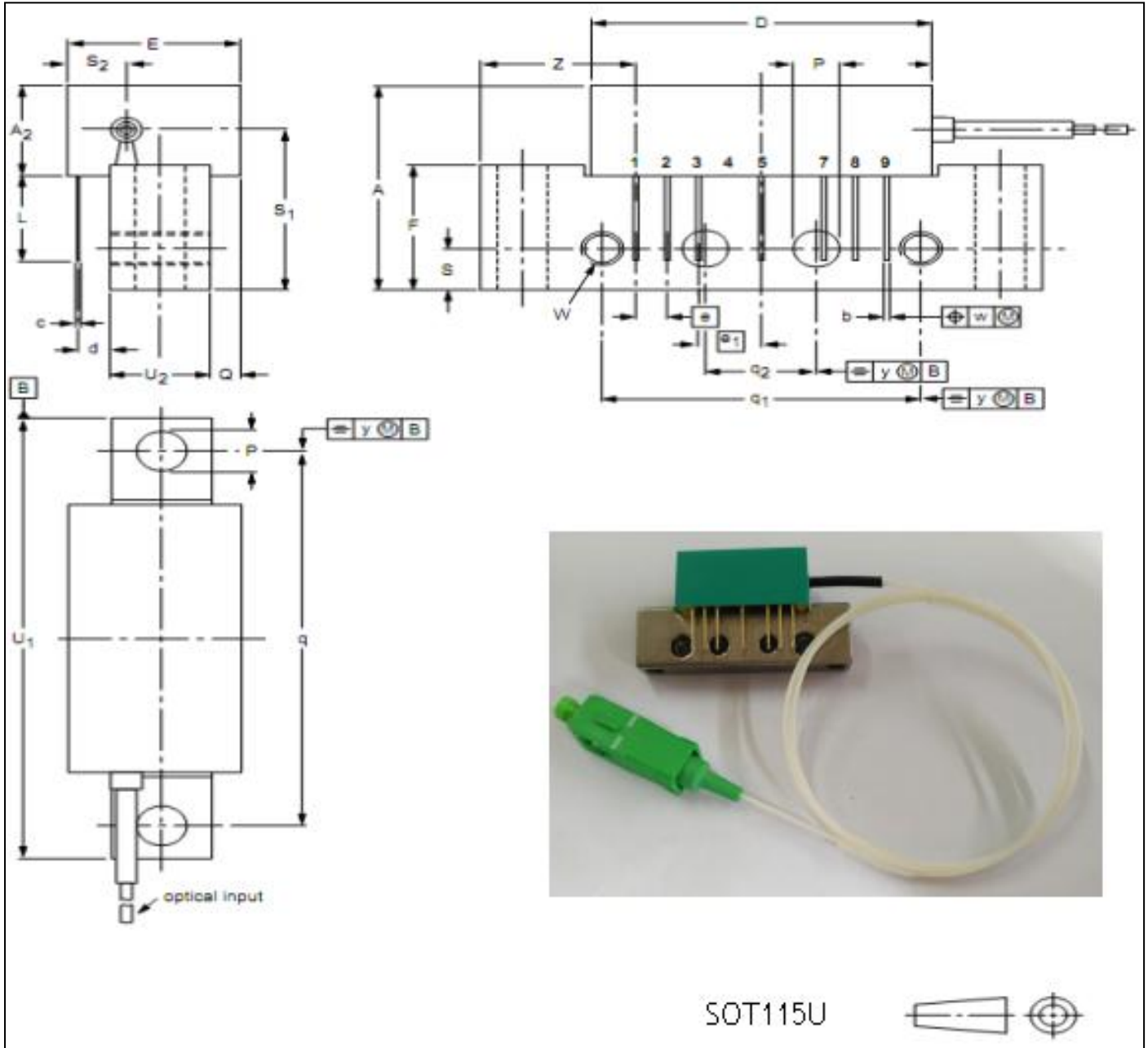
| SYMBOL | PARAMETER | UNIT | MIN. | TYP. | MAX. | CONDITIONS |
|------------------|-----------------------------------|------|------|------|-------|---|
| f | Frequency range | MHz | 40 | | 1000 | |
| S _λ | Spectral sensitivity | A/W | 0.85 | | | λ=1310±20nm |
| | | A/W | 0.9 | | | λ=1550±20nm |
| λ | Optical wavelength | nm | 1100 | | 1650 | - |
| V _{c.m} | Voltage of C.M Pin | mV | 850 | | | λ=1310nm , 0dBm input |
| V _o | Output voltage | dBμV | | 80 | | Optical power receiving at -8~+2dBm, M=3.7%, Reference value @543.25MHz |
| FL | Flatness of frequency response | dB | - | - | ±0.75 | f=40 to 1000MHz |
| CTB | Composite Triple Beat | dB | - | -70 | - | 60 channels flat, m=3.7%, measured at 543.25MHz; |
| CSO | Composite Second Order distortion | dB | - | -64 | - | Optical power receiving at -8~+2dBm |
| C/N | Carrier to Noise Ratio | dB | - | 51 | - | Optical power receiving at 0dBm |
| S ₂₂ | Output Return losses | dB | - | - | -14 | f=40 to 700 MHz |
| | | | - | - | -12 | f=700 to 1000 MHz |
| | Optical input return losses | dB | - | - | -45 | |
| I _{tot} | Total Current Consumption | mA | 150 | 160 | 190 | V _B =24V |

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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



SOT115U

DIMENSIONS (mm are the original dimensions)

| UNIT | A max. | A ₂ max. | b | c | D max. | d max. | E max. | e | e ₁ | F | L min. | ∅P | Q max. | q | q ₁ | q ₂ | S | S ₁ | S ₂ | U ₁ max. | U ₂ | W | w | y | Z max. |
|------|--------|---------------------|--------------|------|--------|--------|--------|------|----------------|------|--------|--------------|--------|------|----------------|----------------|-----|----------------|----------------|---------------------|----------------|-------------|------|-----|--------|
| mm | 23.5 | 12 | 0.51 0.38 | 0.25 | 29.0 | 2.54 | 16 | 2.54 | 5.08 | 12.7 | 8.0 | 4.15 3.85 | 2.4 | 38.1 | 25.4 | 10.2 | 4.2 | 20 | 5.0 | 44.75 | 8 | 6-32 UNC | 0.25 | 0.1 | 12 |

UNIT: mm