

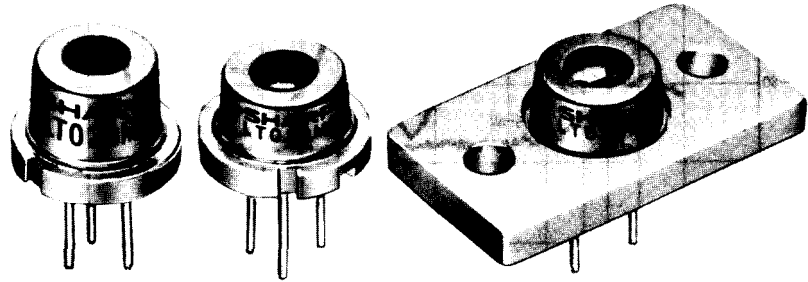
LT023MC/MD/MF

Features

- Low noise
S/N: -80 dB (according to measurement method Fig. 27-2)
- Wavelength: 780nm
- Single transverse mode
- Multi longitudinal mode

Applications

- Video disc players
- Fiber optic communications
- Light source for analog processing
- Measurement Instruments
- Analysis Instruments



Absolute Maximum Ratings

(T_c = 25°C)

| Parameter | Symbol | Ratings | | | Units/Units |
|--------------------------|------------------|---------|------------|-----|-------------|
| | | MIN | TYP | MAX | |
| Optical power output | P _o | | 5 | | mW |
| Reverse voltage | Laser | | | 2 | V |
| | PIN | | | 30 | |
| Operating temperature *1 | T _{opr} | | -10 to +60 | | °C |
| Storage temperature *1 | T _{stg} | | -40 to +85 | | °C |

* 1 Case temperature

Electro-optical Characteristics *4

T_c = 25°C

| Parameter | Symbol | Condition | Ratings | | | Units | |
|---------------------------|-----------------|--|-----------------|------|------|-------|-----|
| | | | MIN | TYP | MAX | | |
| Threshold current | I _{th} | | | 50 | 90 | mA | |
| Operating current | I _{op} | P _o = 3mW | | 65 | 110 | mA | |
| Operating voltage | V _{op} | P _o = 3mW | | 175 | 22 | V | |
| Wavelength *2 | λ _p | P _o = 3mW | 770 | 780 | 795 | nm | |
| Monitor current | I _m | P _o = 3mW | 0.3 | 0.9 | 1.6 | | |
| | | V _R = 15V | | | | | |
| Radiation characteristics | Angle *3 | Parallel to junction | θ _∥ | 9 | 11 | 16 | deg |
| | | Perpendicular to junction | θ _⊥ | 20 | 37 | 48 | deg |
| Ripple | | P _o = 3mW | | | | ±20 | % |
| Emission point accuracy | Angle | Parallel to junction | Δφ _∥ | | | ±2 | deg |
| | | Perpendicular to junction | Δφ _⊥ | | | ±3 | deg |
| Position *4 | | | Δx, Δy, Δz | | | ±80 | μm |
| Differential efficiency | η | 2mW I _F (3mW) - I _F (1mW) | 0.1 | 0.25 | 0.6 | mW/mA | |
| Coherence | γ | P _o = 3mW | | | 0.47 | | |

* 1 Initial value

* 2 Single transverse mode

* 3 Angle at 500% peak intensity (full width at half-maximum)

* 4 Not specified for LT023MF

Electrical Characteristics of Photodiode

(T_c = 25°C)

| Parameter | Symbol | Condition | Ratings | | | Units |
|----------------------|----------------|----------------------|---------|-----|-----|-------|
| | | | MIN | TYP | MAX | |
| Sensitivity | S | V _R = 15V | | 0.3 | | mA/mW |
| Dark current | I _D | V _R = 15V | | | 250 | nA |
| Terminal capacitance | C _t | V _R = 15V | | 8 | 20 | pF |