

OKI electronic components

OLD123

GaAs Infrared Light Emitting Diode

GENERAL DESCRIPTION

The OLD123 is a high-output GaAs infrared light emitting diode sealed with a flat glass in a TO-18 metal case. Its light emission wavelength peaks at 940 nm. Because of its high reliability, the OLD123 can be a most suitable combination with Si photodetectors.

FEATURES

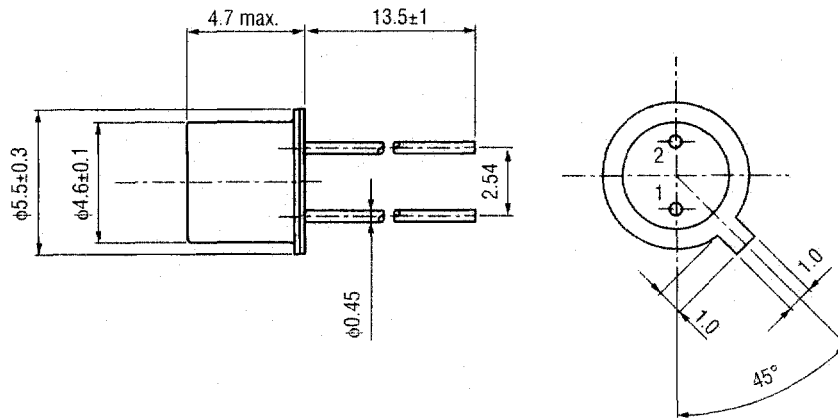
- Metal can package (TO-18)
- Peak-emission wavelength : 940 nm
- High power: 7.0 mW Typ. ($I_F=100$ mA)
- Highly directional output
- Compact and light-weighted
- Long life

APPLICATIONS

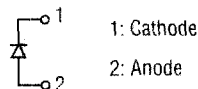
- Light source for optical readers and control equipment

PIN CONFIGURATION

(Unit: mm)



• Pin Connection Diagram



ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Test Condition	Rating	Unit
Forward Current	I_F	Ta=25°C	100	mA
Forward Current Derating Factor *1	—		1	mA/°C
Pulse Forward Current *2	I_{FRM}		1	A
Reverse Voltage	V_R		6	V
Power Dissipation	P_{tot}		170	mW
Operating Temperature	T_{opr}	—	-40 to +125	°C
Storage Temperature	T_{stg}	—	-55 to +125	°C
Lead Soldering Temperature *3	T_{slid}	—	260	°C

*1 Ta ≥ 25°C

*2 Pulse width $t_w=100 \mu s$, cycle T=10,000 μs

*3 Within 5 seconds, at least 2 mm from base of lead

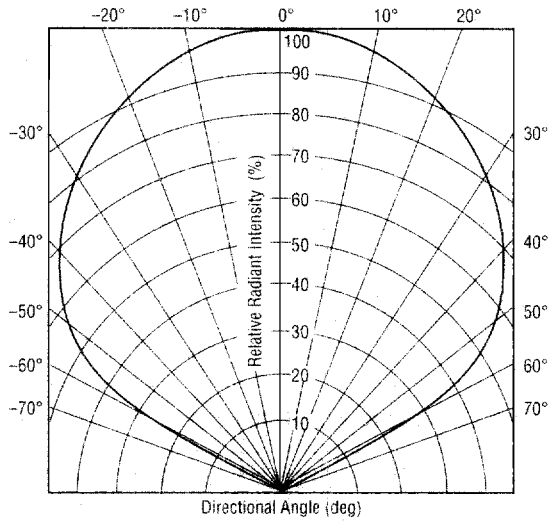
ELECTRICAL AND OPTICAL CHARACTERISTICS

(Ambient Temperature Ta=25°C)

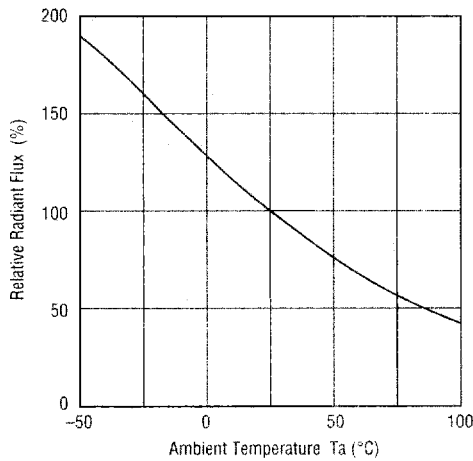
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F=100 \text{ mA}$	—	1.3	1.7	V
Reverse Current	I_R	$V_R=6 \text{ V}$	—	—	10	μA
Radiant Flux	Φ_e	$I_F=100 \text{ mA}$	2.4	7.0	—	mW
Peak-emission Wavelength	λ_p	$I_F=100 \text{ mA}$	—	940	—	nm
Spectral Bandwidth	$\Delta\lambda$	$I_F=100 \text{ mA}$	—	50	—	nm

TYPICAL CHARACTERISTICS

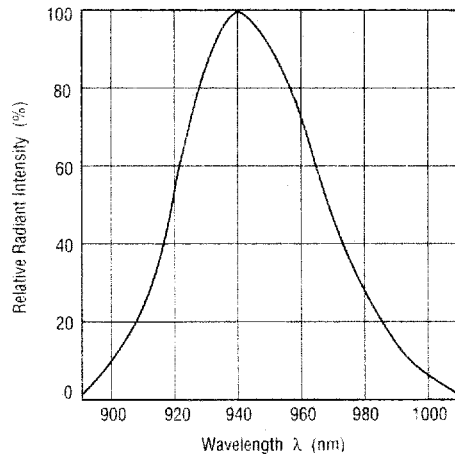
- **Directional Characteristic**



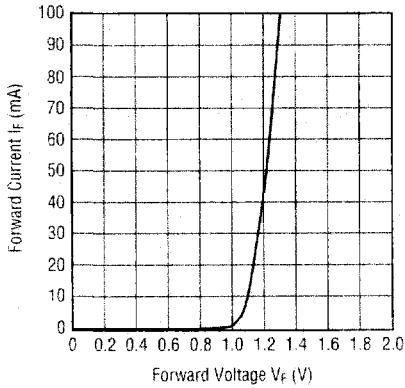
- **Radiant Flux vs. Ambient Temperature**



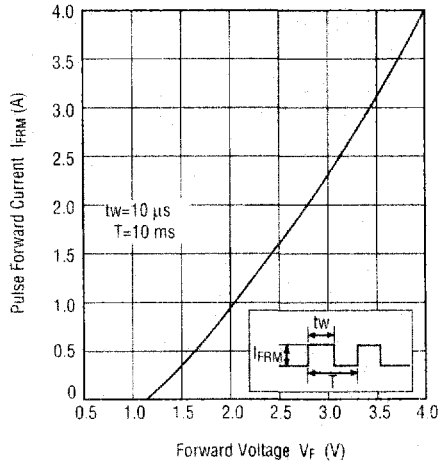
- **Spectral Distribution (Ta=25°C)**



- DC Forward Current vs. Forward Voltage (Ta=25°C)



- Pulse Forward Current vs. Forward Voltage (Ta=25°C)



- Maximum Pulse Forward Current Tolerance

