

LED700-02AU

- Red LED
- 700 nm, 5.5 mW
- Chip: AlGaAs, 350 x 350 μm
- 5 mm Clear Molding, Epoxy Resin
- Viewing Angle: 16°

Description



Rev 2.0, 30.04.2019



LED700-02AU contains one AlGaAs LED chip die mounted on a lead frame hermetically sealed with a clear epoxy lens.

On forward bias, it emits a power radiation of typical 5.5 mW at a peak wavelength at 700 nm.

Maximum Ratings (T_{CASE}=25°C)

Parameter	O mark a l	Va		
	Symbol	Min.	Max.	Unit
Power Dissipation	PD		180	mW
Forward Current	IF		75	mA
Pulse Forward Current *1	IFP		200	mA
Reverse Voltage	VF		5	V
Thermal Resistance	Rтнја		300	K/W
Junction Temperature	TJ		120	°C
Operating Temperature	TCASE	- 40	+ 100	°C
Storage Temperature	Тstg	- 40	+ 100	°C
Lead Solder Temperature *2	T _{SLD}		+ 265	°C

*1 duty=1%, pulse width = 10 μ s

*2 must be completed within 3 seconds

Electro-Optical Characteristics (TCASE=25°C)

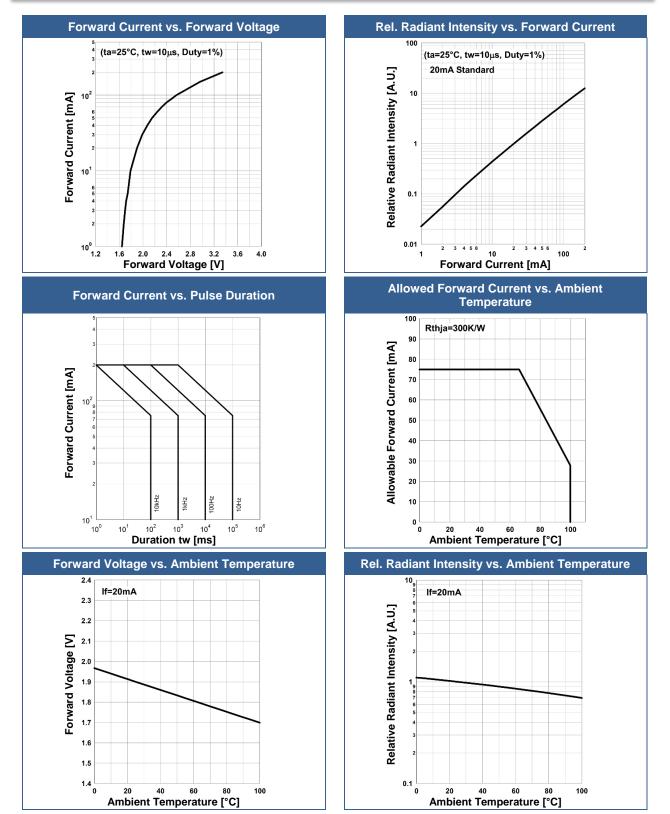
Parameter	Symbol	Conditions		Values		Unit
			Min.	Тур.	Max.	
Peak Wavelength	λ_P	I⊧=20mA	690		710	nm
Half Width	$\Delta \lambda$	I⊧=20mA		21		nm
Forward Voltage	VF	I⊧=20mA		1.9	2.3	V
	VFP	IFP=200mA		3.3		
Radiated Power *1	Po	I⊧=20mA		5.5		mW
		IFP=200mA		69		
Radiant Intensity *2	IE	I⊧=20mA		54		mW/sr
		IFP=200mA		680		
Viewing Angle	φ	I⊧=20mA		16		deg.
Rise Time	t _R	I⊧=20mA		10		ns
Fall Time	t _F	I⊧=20mA		15		ns

*1 measured by S3584-08

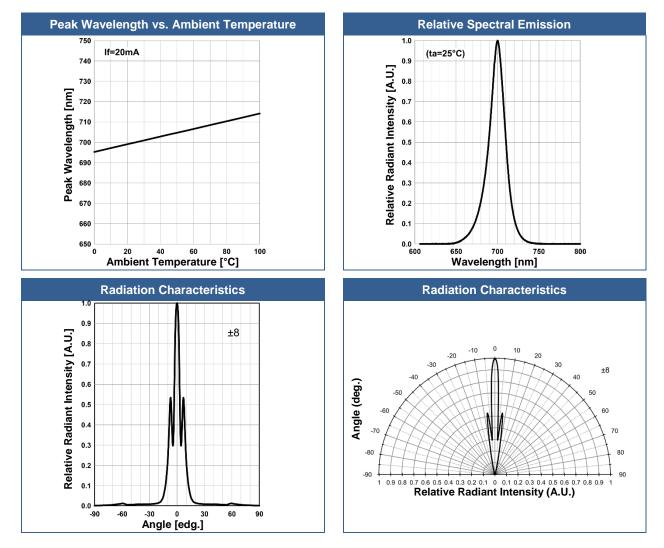
*2 measured by CIE127-2007 Condition B



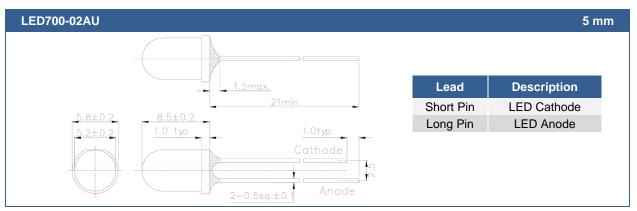
Typical Performance Curves







Outline Dimensions



All Dimensions in mm

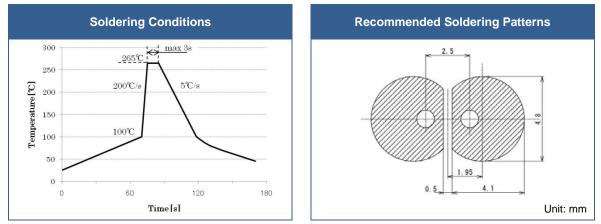


Precautions

Soldering:

- Do avoid overheating of the LED
- Do avoid electrostatic discharge (ESD)
- Do avoid mechanical stress, shock, and vibration
- Do only use non-corrosive flux
- Do not apply current to the LED until it has cooled down to room temperature after soldering
- Do not solder the LED closer than 3 mm from the base of the lead.

Recommended soldering conditions:



Above table specifies the maximum allowed duration and temperature during soldering. It is strongly advised to perform soldering at the shortest time and lowest temperature possible.

Cleaning:

Cleaning with isopropyl alcohol, propanol, or ethyl alcohol is recommended

DO NOT USE acetone, chloroseen, trichloroethylene, or MKS DO NOT USE ultrasonic cleaners

Static Electricity:

LEDs are sensitive to electrostatic discharge (ESD). Precautions against ESD must be taken when handling or operating these LEDs. Surge voltage or electrostatic discharge can result in complete failure of the device.

Radiation:

During operation these LEDs do emit light, which could be hazardous to skin and eyes, and may cause cancer. Do avoid exposure to the emitted light. Protective glasses if needed. It is further advised to attach a warning label on products/systems.

Operation:

Do only operate LEDs with a current source.

Running these LEDs from a voltage source will result in complete failure of the device. Current of a LED is an exponential function of the voltage across it. Usage of current regulated drive circuits is mandatory.

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