

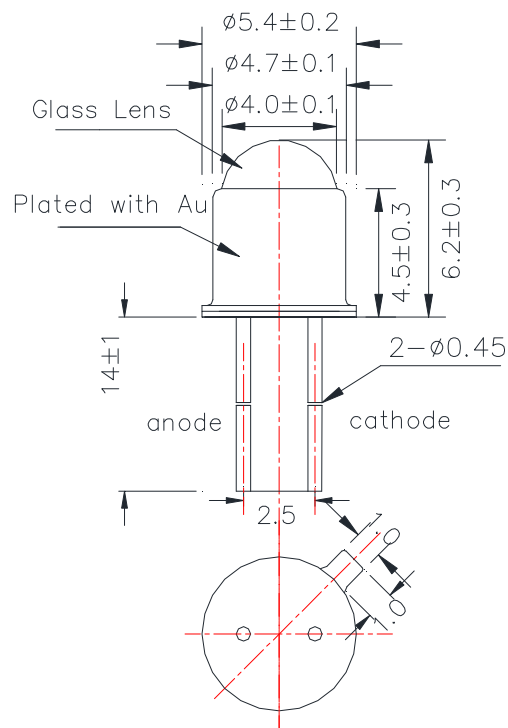
# Data Sheet

## L680-40M32

Stem type LED Lamp

USHIO

### Outline and Internal Circuit



(Unit : mm)

### Features

- Non-hermetic package
- Chip Material : AlGaAs
- Chip Dimension : 350um \* 350um
- Number of Chips : 1pce
- Peak Wavelength : 680nm typ.
- Stem: TO-18 type
- Lens : Glass Ball Lens
- Cap : Gold Plated

### Application

## Absolute Maximum Ratings (Tc=25°C)

Item	Symbol	Ratings	Unit
Power Dissipation	PD	120	mW
Forward Current	IF	50	mA
Pulse Forward Current	IFP	200	mA
Reverse Voltage	VR	5	V
Thermal Resistance	Rthja	300	K/W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-40 ~ +100	°C
Storage Temperature	Tstg	-40 ~ +100	°C
Soldering Temperature	TSOL	250	°C

‡Pulse Forward Current condition : Duty 1% and Pulse Width=10us.

‡Soldering condition: Soldering condition must be completed within 5 seconds at 250°C and is allowed in the area apart 3mm from the bottom of the lamp.

## Optical and Electrical Characteristics (Tc=25°C)

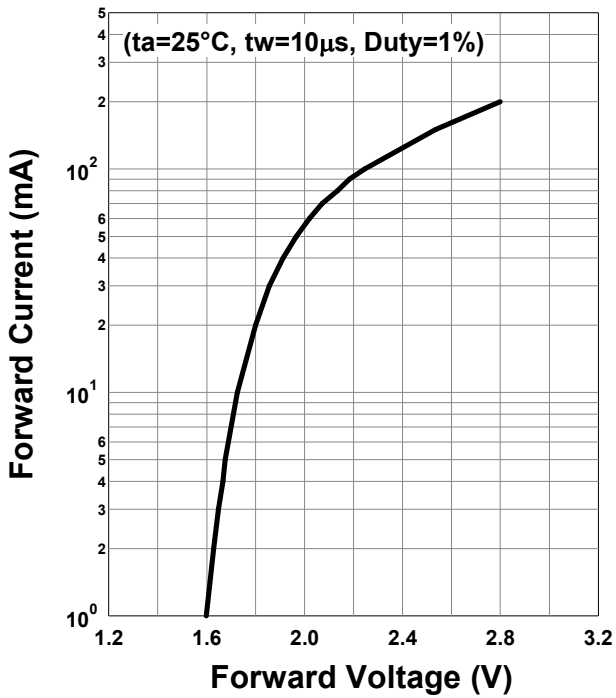
Parameter	Symbol	Min	Typ	Max	Unit	Test Condition
Forward Voltage	VF		1.8	2.3	V	IF=20mA
			2.0			IF=50mA T=20ms
	VFP		2.8			IFP=200mA
Total Radiated Power	PO		5.8		mW	IF=20mA
			16			IF=50mA T=20ms
			67			IFP=200mA
Radiant Intensity	IE		25		mW/sr	IF=20mA
			70			IF=50mA T=20ms
			290			IFP=200mA
Peak Wavelength	$\lambda_p$	670		690	nm	IF=20mA
Half Width	$\Delta\lambda$		24		nm	IF=20mA
Viewing Half Angle	$\theta_{1/2}$		$\pm 12$		deg.	IF=20mA
Rise Time	tr		10		ns	IF=20mA
Fall Time	tf		10		ns	IF=20mA

‡ Radiated Power is measured by S3584-08.

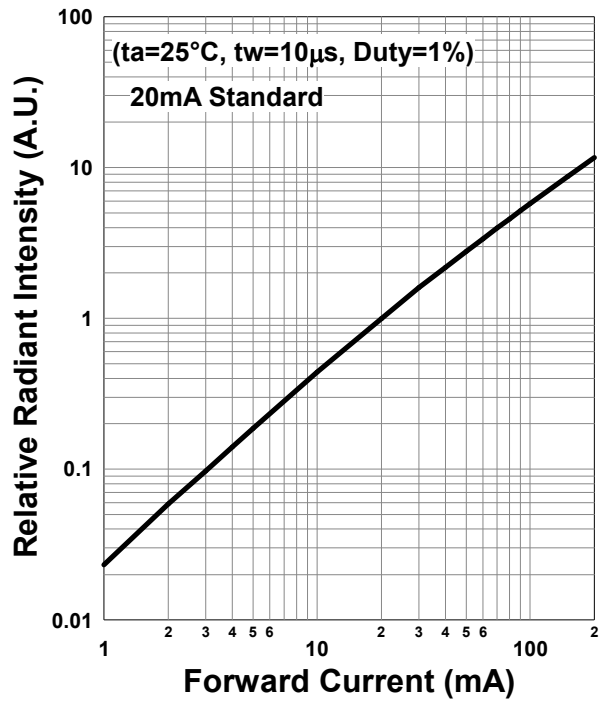
‡ Radiant Intensity is measured by CIE127-2007 Condition B.

## Typical Characteristic Curves

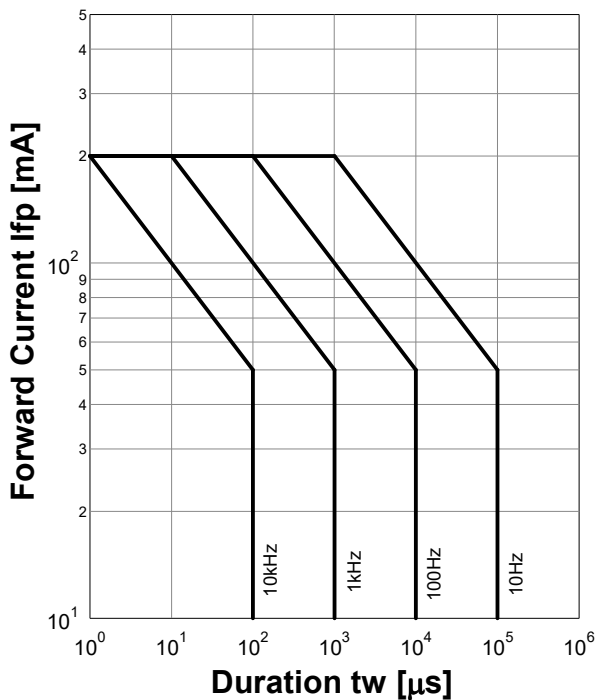
### Forward Current - Forward Voltage



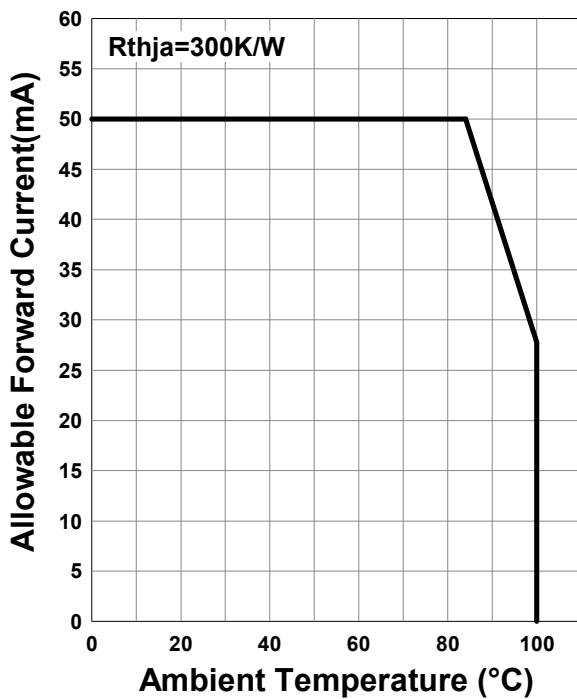
### Relative Radiant Intensity - Forward Current



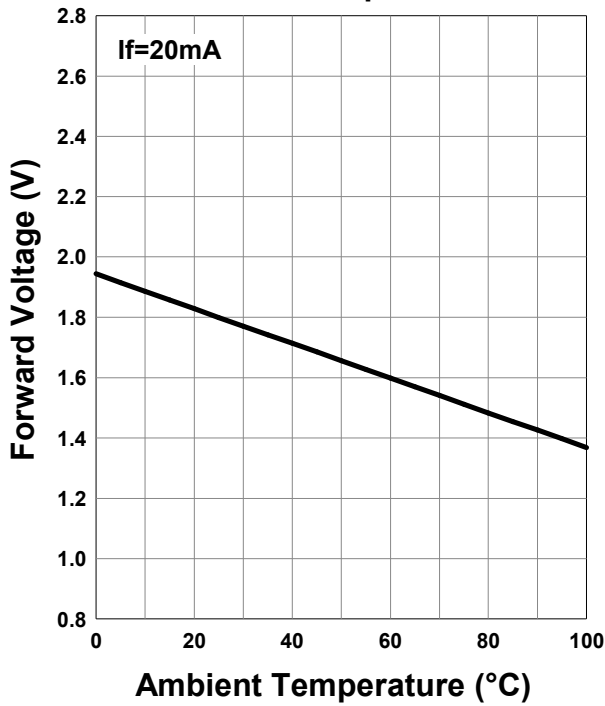
### Forward Current - Pulse Duration



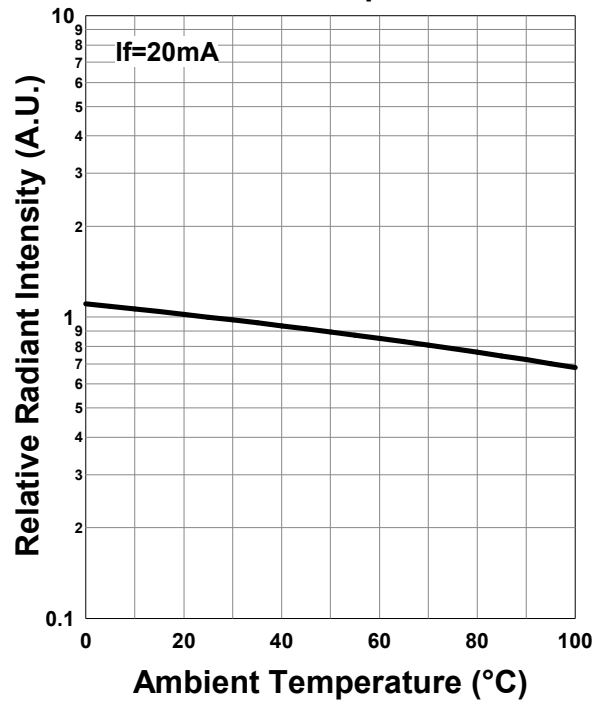
### Allowable Forward Current - Ambient Temperature



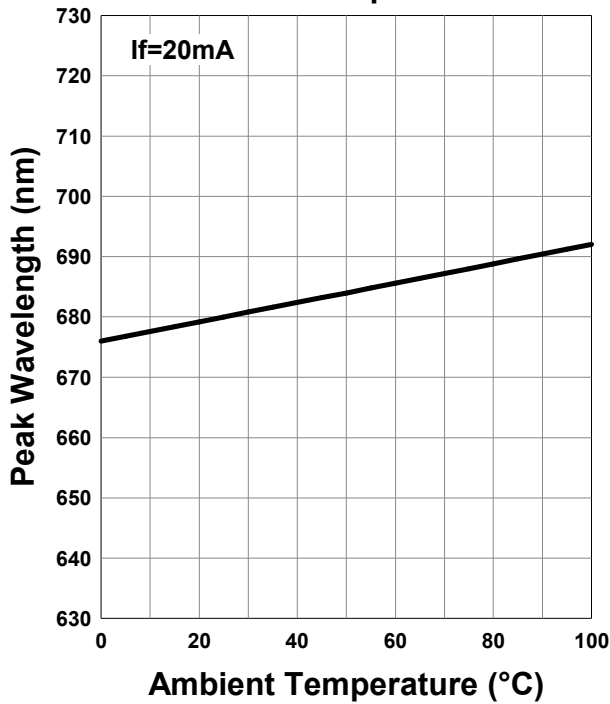
**Forward Voltage - Ambient Temperature**



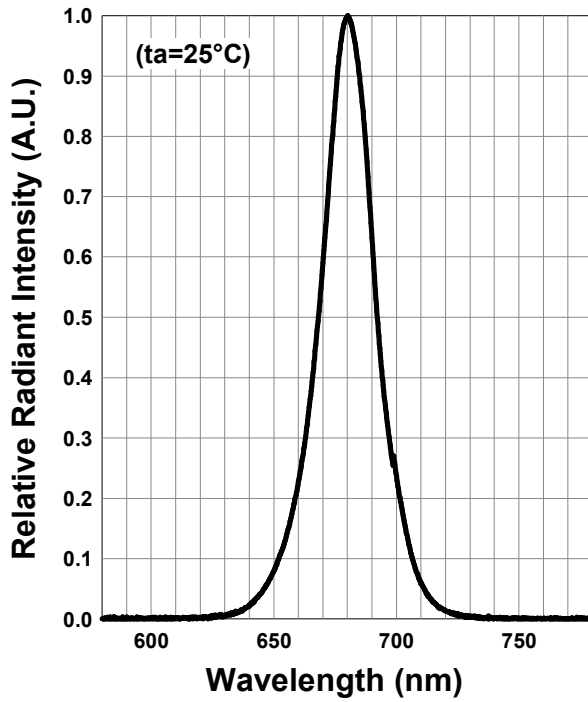
**Relative Radiant Intensity - Ambient Temperature**



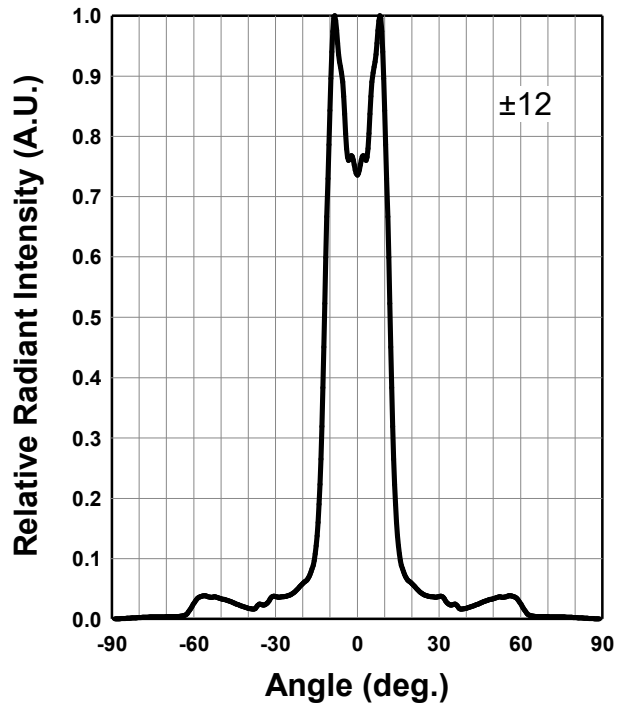
**Peak Wavelength - Ambient Temperature**



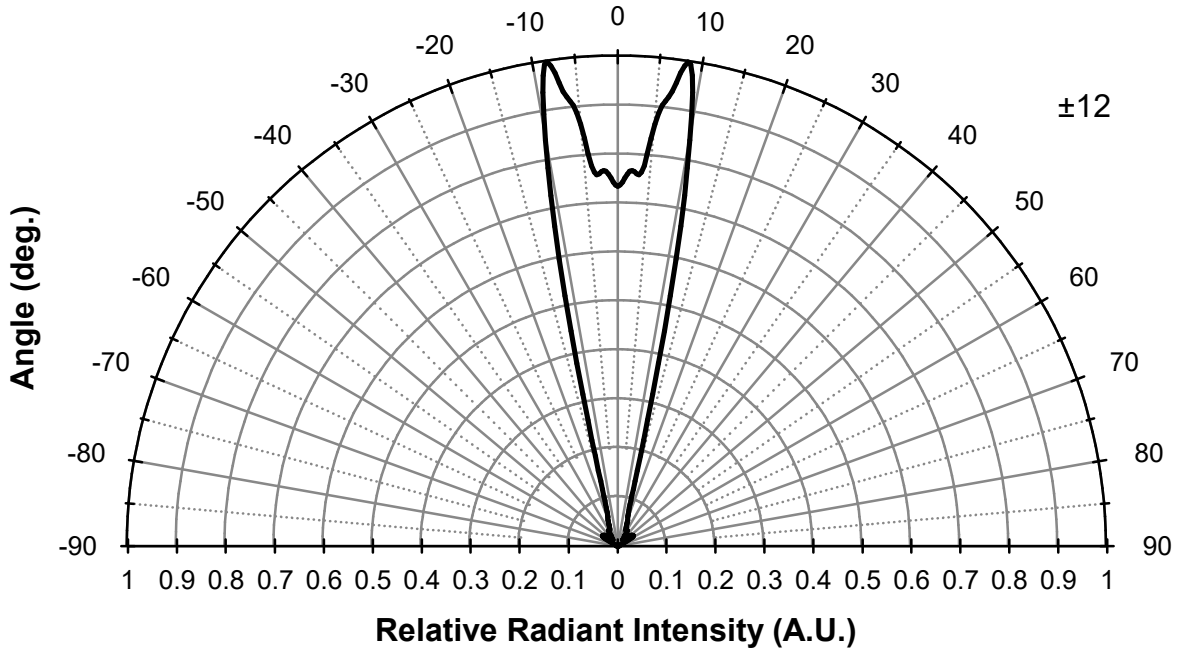
**Relative Spectral Emission**



**Radiation Characteristics**



**Radiation Characteristics**



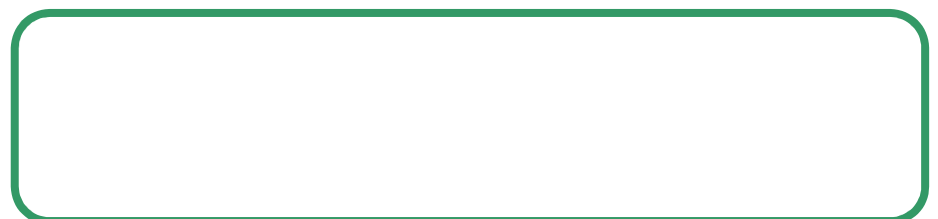
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Product data and parameters in this catalog are typical values based on reasonably up-to-date measurements.

Product data and parameters may vary by user application and over time.

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