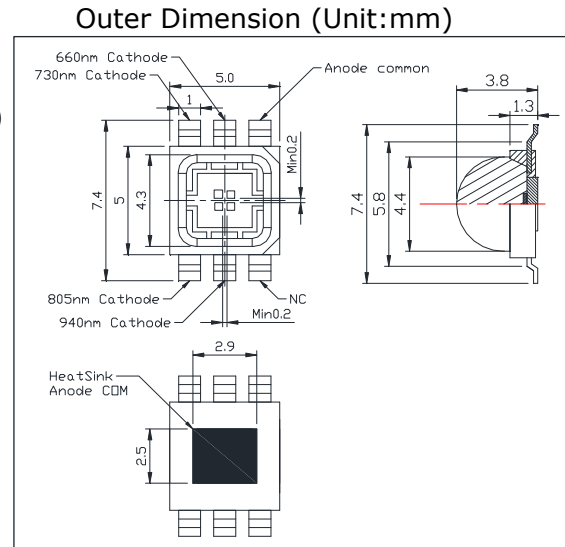


SMB660D/730/805D/940-4040-05
Multi Wavelength LED

<Specifications>

- Chip Material: AlGaInP (660nm)
AlGaAs (730nm,805nm&940nm)
- Chip Dimension: 400um x 400um
- Number of Chips: 4pcs
- Peak Wavelength: 660/760/805/940nm typ.
- Lead Frame Die: Silver Plated on Copper
- Package Resin: PA9T Resin
- Lens: Epoxy Resin



Absolute Maximum Ratings[Tc=25°C]						
Item	Symbol	Maximum Rated Value				Unit
		660nm	730nm	805nm	940nm	
Power Dissipation	PD	120	150	200	140	mW
Forward Current	IF	50	75	100	100	mA
Pulse Forward Current	IFP	200	500	500	1000	mA
Reverse Voltage	VR	5				V
Thermal Resistance	Rthja	10				K/W
Junction Temperature	Tj	120				°C
Operating Temperature	TOPR	-40 ~ +100				°C
Storage Temperature	TSTG	-40 ~ +100				°C
Soldering Temperature*	TSOL	250				°C

* Duty=1% and Pulse Width=10us

** Soldering condition must be completed within 5 seconds at 250 °C

660nm

Electro-Optical Characteristics[Tc=25°C]						
Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	VF	IF=20mA		2.0	2.3	V
	VFP	IFP=200mA		3.2		
Total Radiated Power*	PO	IF=20mA		12		mW
		IFP=200mA		110		
Peak wavelength	λP	IF=20mA	650		670	nm
Half Width	Δλ	IF=20mA		16		nm
Rise Time	tr	IF=20mA		35		ns
Fall Time	tf	IF=20mA		30		ns

* Measured by S3584-08



730nm

Electro-Optical Characteristics[Tc=25°C]						
Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	VF	IF=20mA		1.7	2.0	V
	VFP	IFP=500mA		4.0		
Total Radiated Power*	PO	IF=20mA		8.7		mW
		IFP=500mA		190		
Peak wavelength	λ P	IF=20mA	720		740	nm
Half Width	$\Delta\lambda$	IF=20mA		24		nm
Rise Time	tr	IF=20mA		35		ns
Fall Time	tf	IF=20mA		60		ns

* Measured by S3584-08

805nm

Electro-Optical Characteristics[Tc=25°C]						
Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	VF	IF=20mA		1.7	1.9	V
	VFP	IFP=500mA		3.5		
Total Radiated Power*	PO	IF=20mA		11		mW
		IFP=500mA		180		
Peak wavelength	λ P	IF=20mA	795		815	nm
Half Width	$\Delta\lambda$	IF=20mA		22		nm
Rise Time	tr	IF=20mA		35		ns
Fall Time	tf	IF=20mA		30		ns

* Measured by S3584-08

940nm

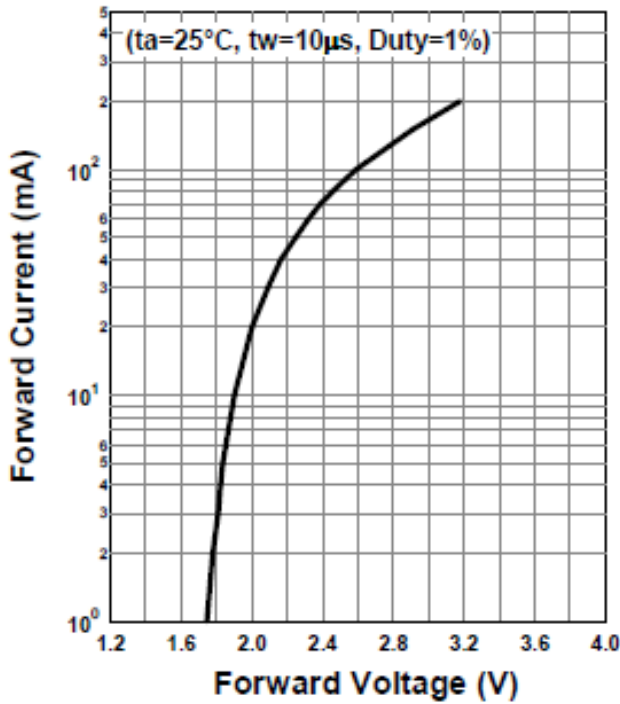
Electro-Optical Characteristics[Tc=25°C]						
Item	Symbol	Condition	Min	Typ	Max	Unit
Forward Voltage	VF	IF=20mA		1.2	1.4	V
	VFP	IFP=1A		2.2		
Total Radiated Power*	PO	IF=20mA		4.8		mW
		IFP=1A		210		
Peak wavelength	λ P	IF=20mA	930		950	nm
Half Width	$\Delta\lambda$	IF=20mA		50		nm
Rise Time	tr	IF=20mA		200		ns
Fall Time	tf	IF=20mA		800		ns

* Measured by S3584-08

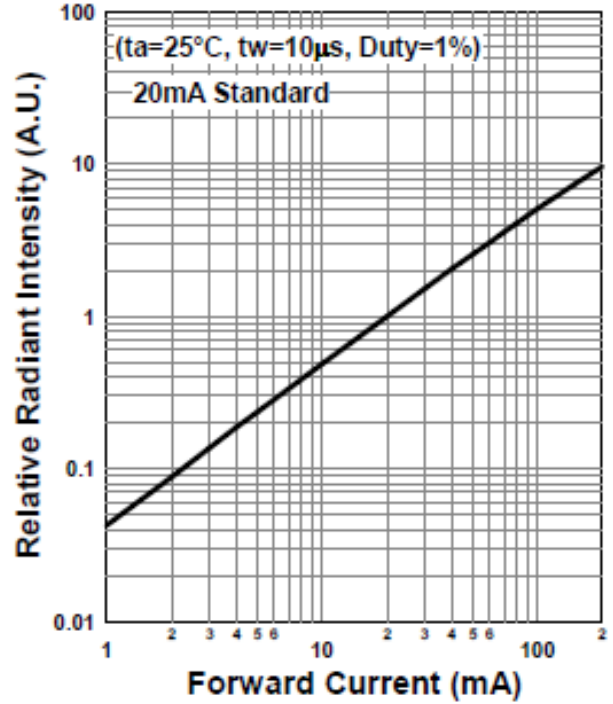
Typical Characteristic Curves

660nm

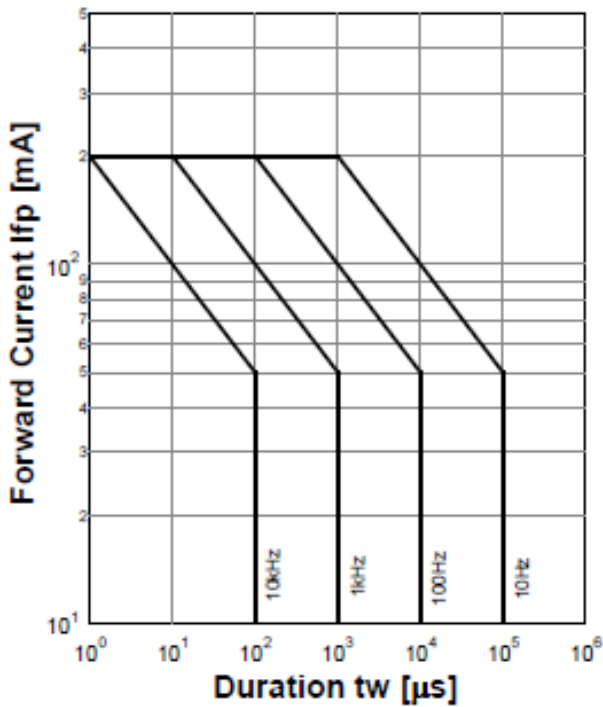
Forward Current - Forward Voltage



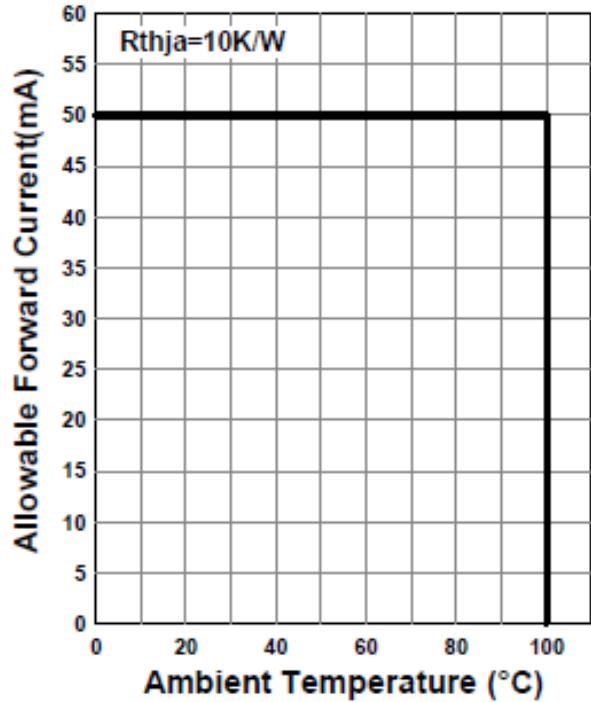
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration

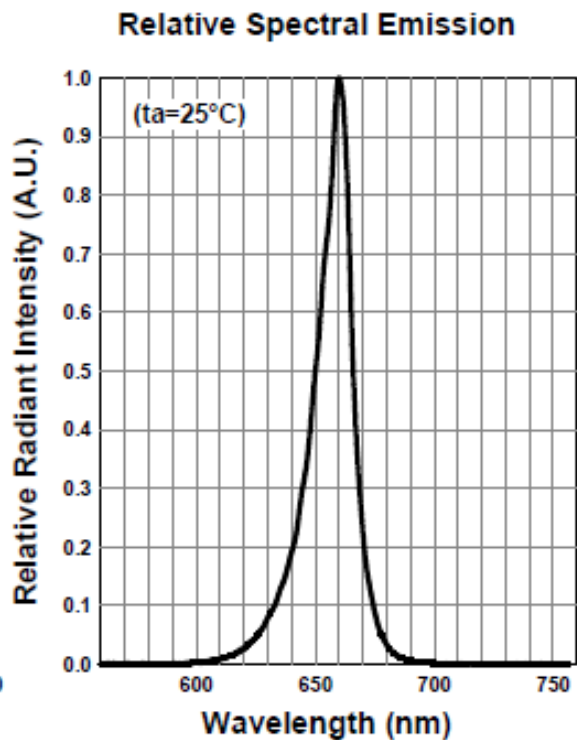
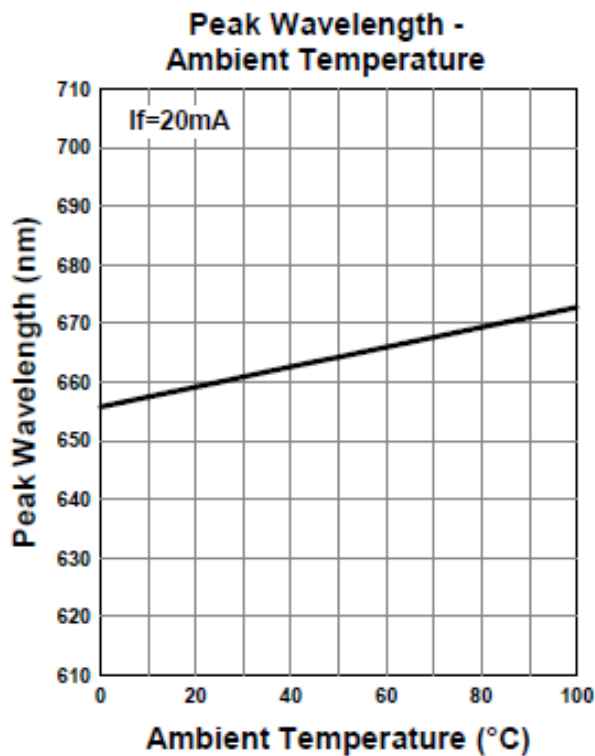
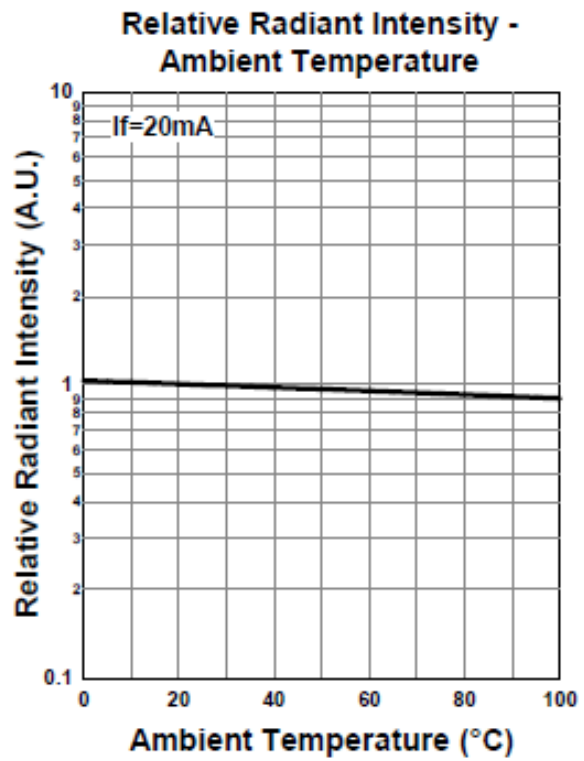
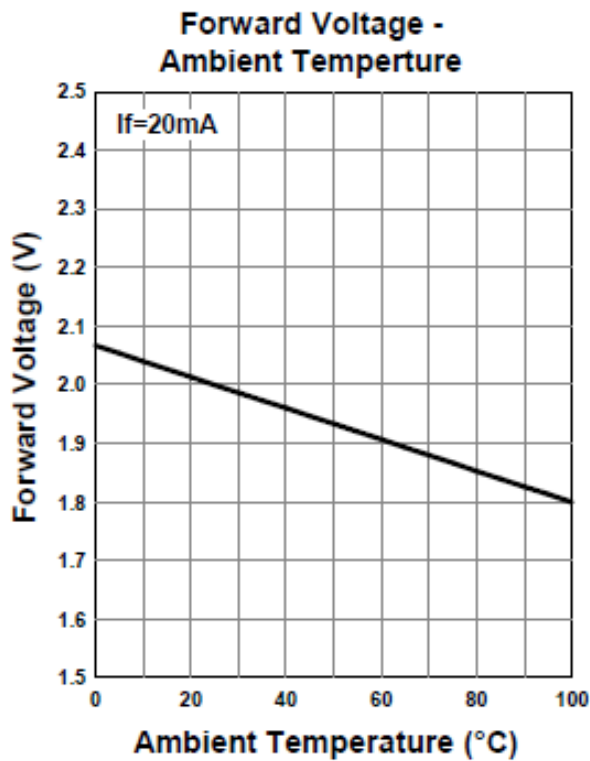


Allowable Forward Current - Ambient Temperature



Typical Characteristic Curves

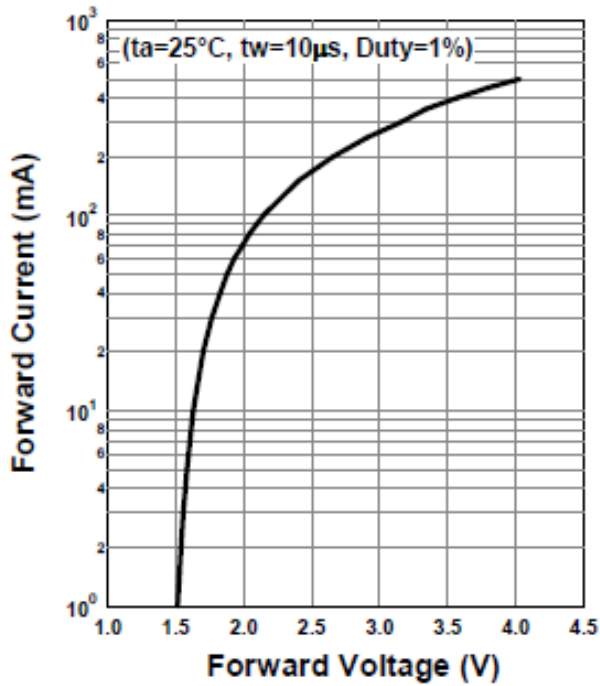
660nm



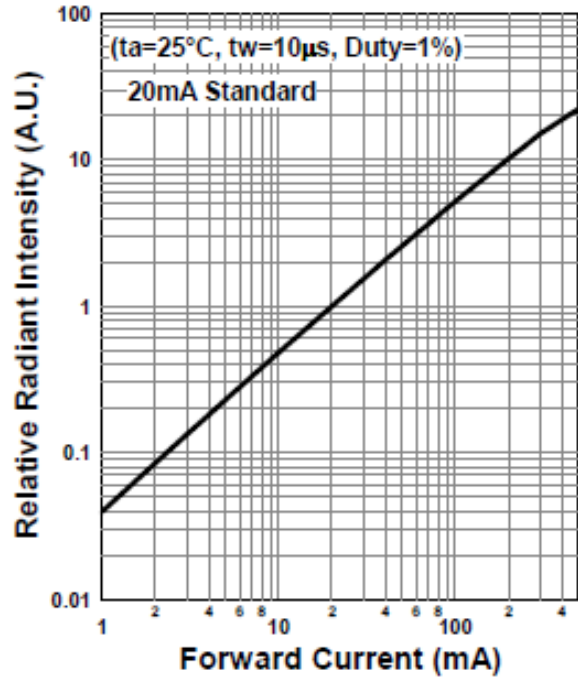
Typical Characteristic Curves

730nm

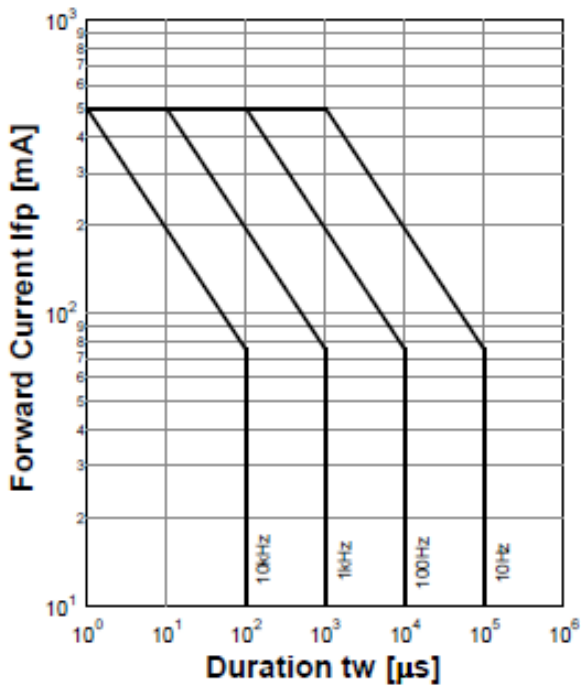
Forward Current - Forward Voltage



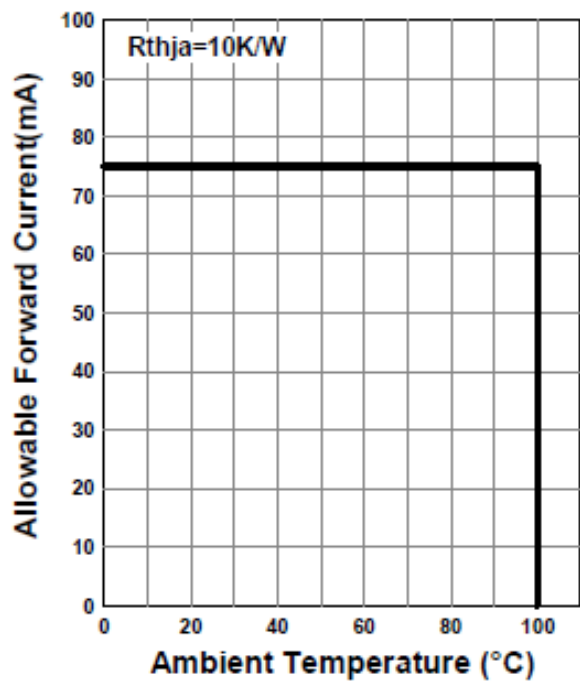
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration

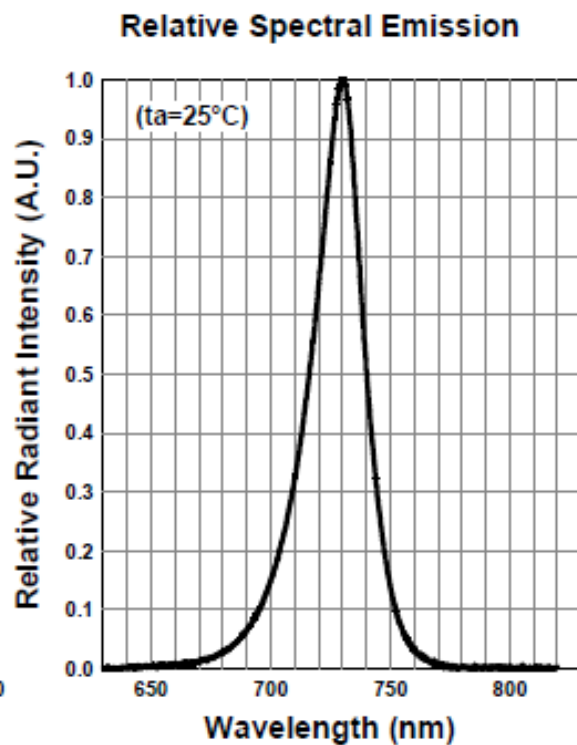
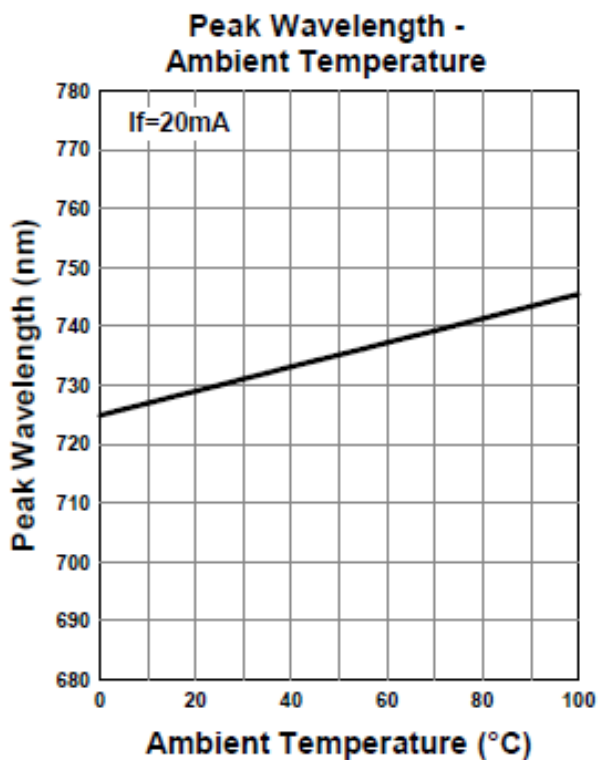
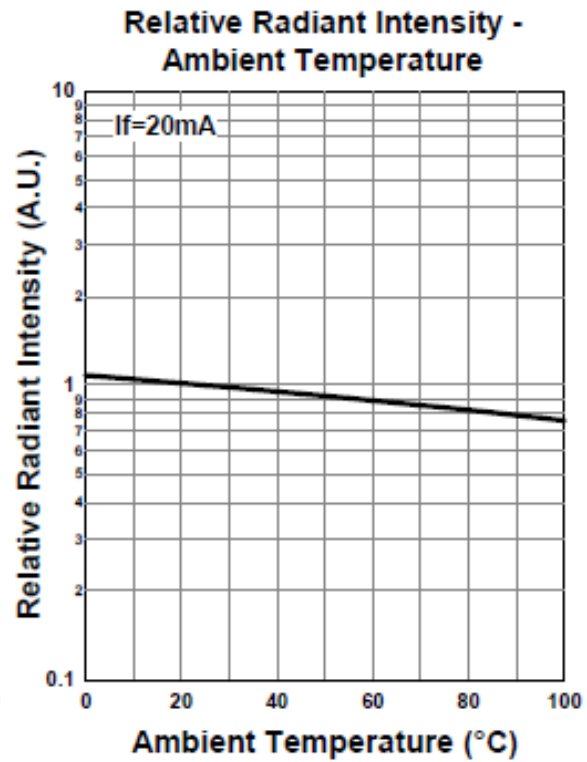
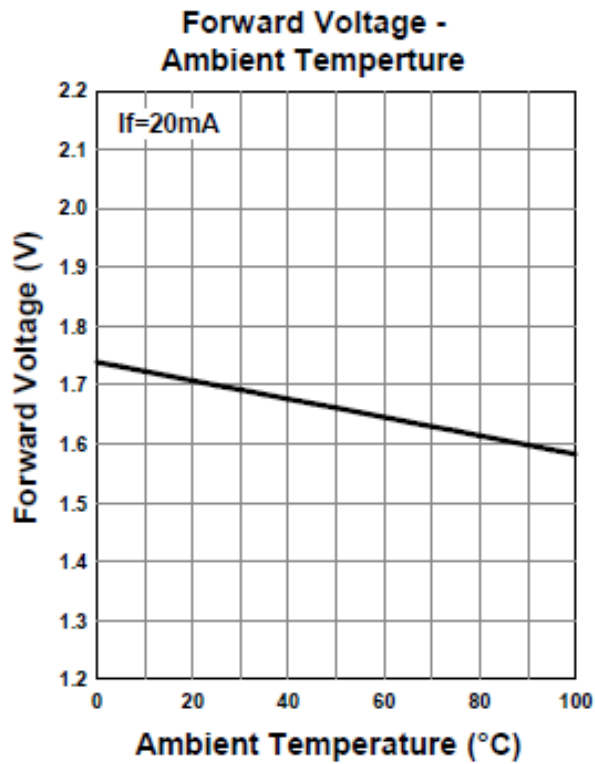


Allowable Forward Current - Ambient Temperature



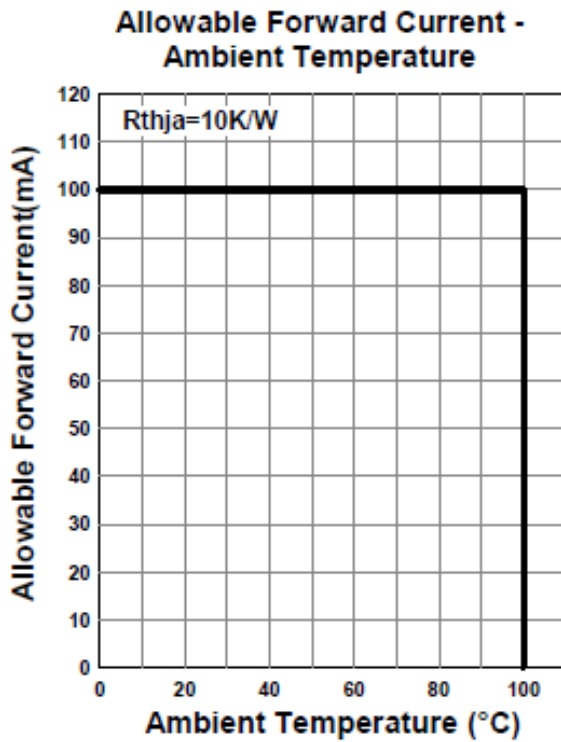
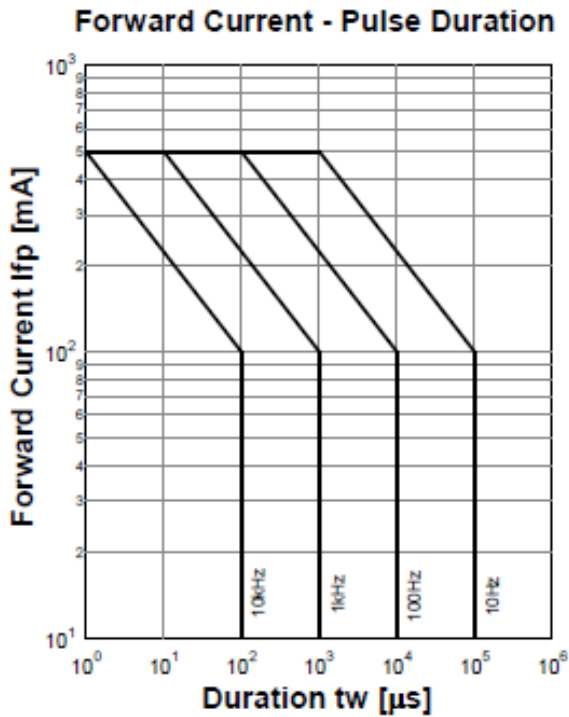
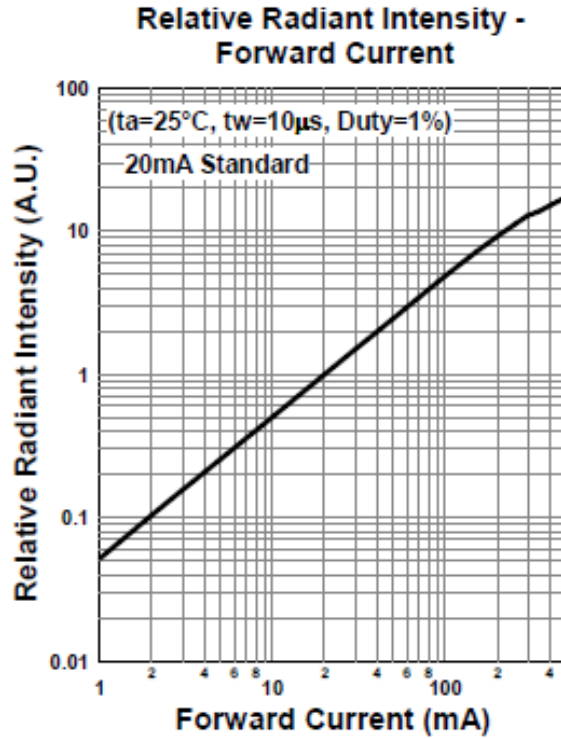
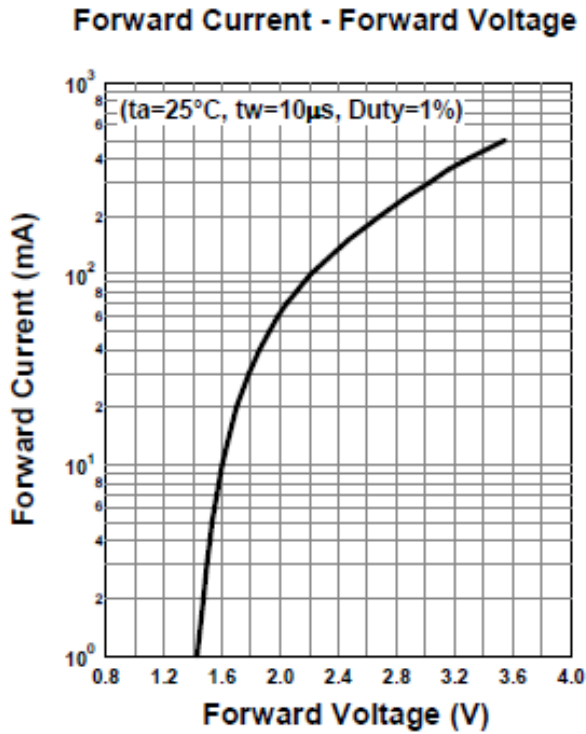
Typical Characteristic Curves

730nm



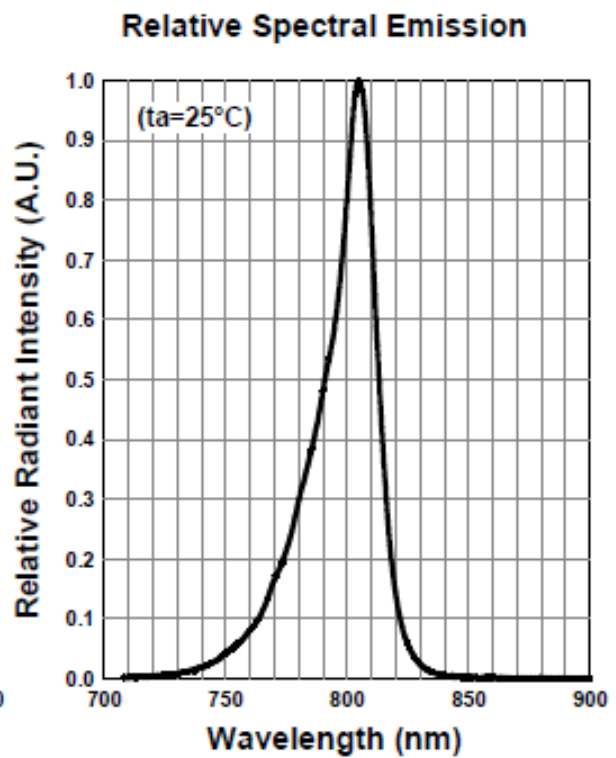
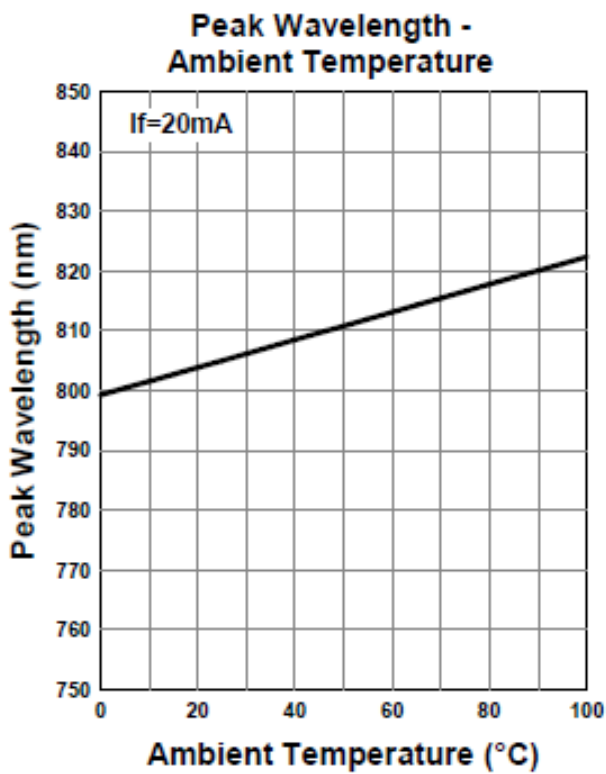
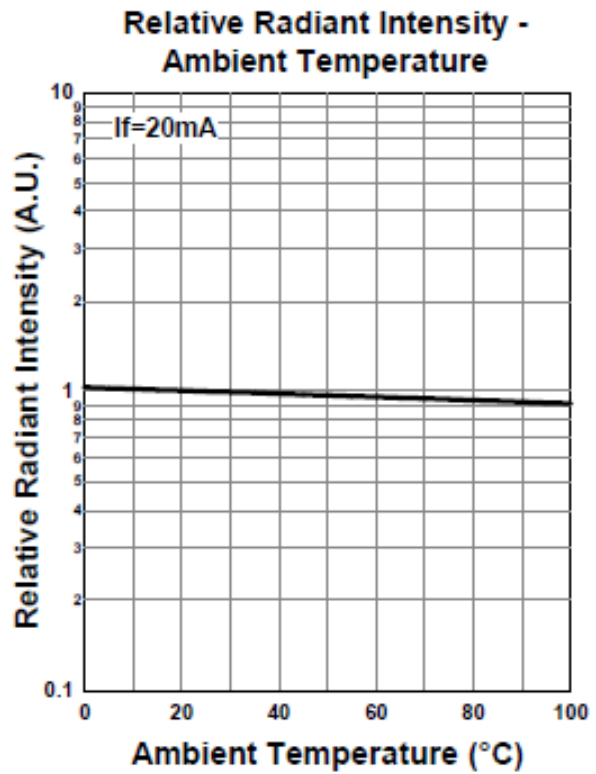
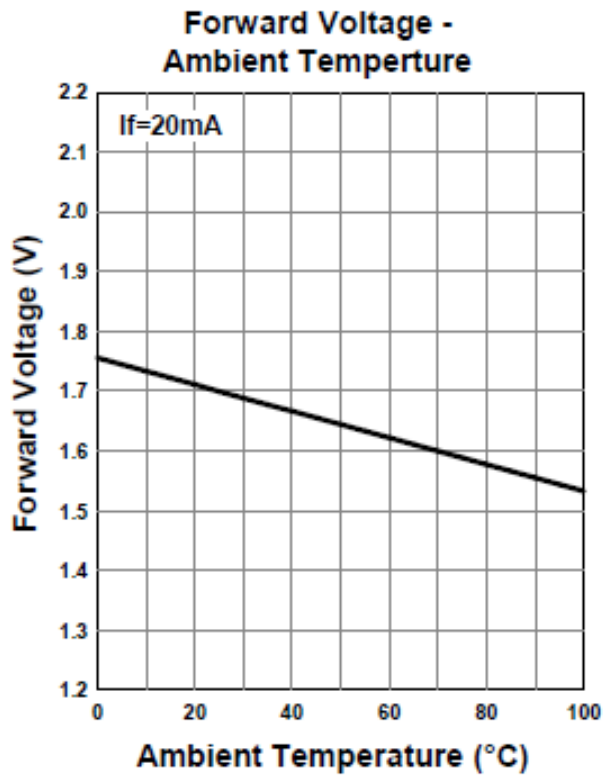
Typical Characteristic Curves

805nm



Typical Characteristic Curves

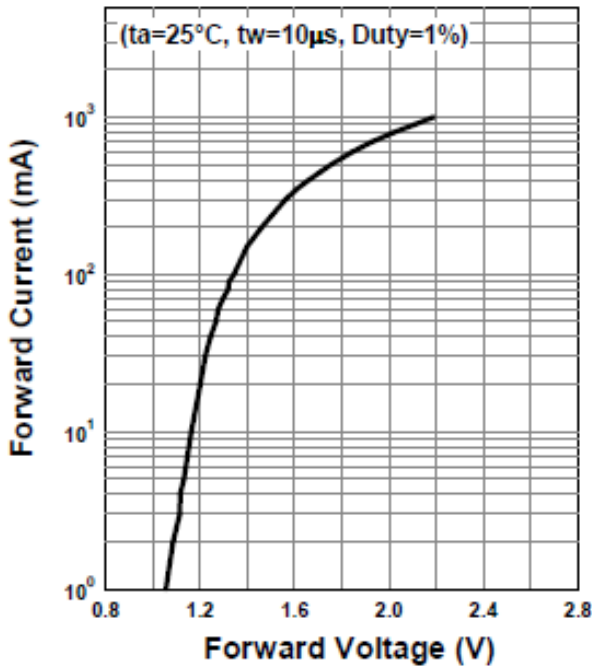
805nm



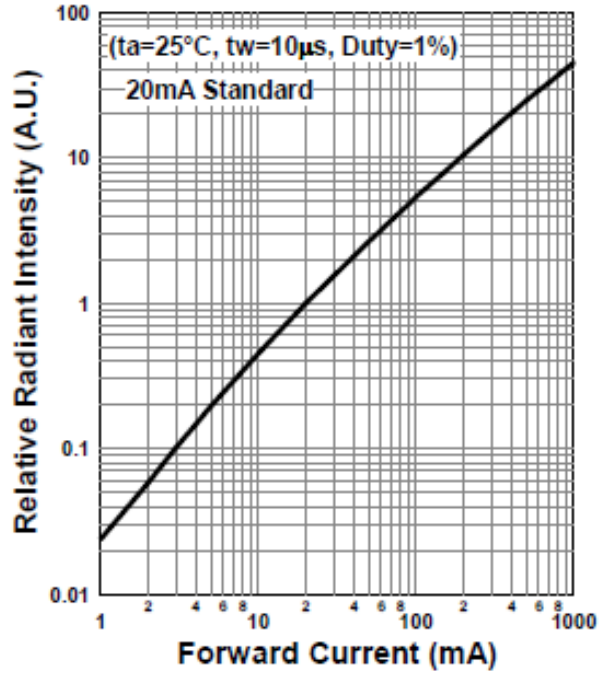
Typical Characteristic Curves

940nm

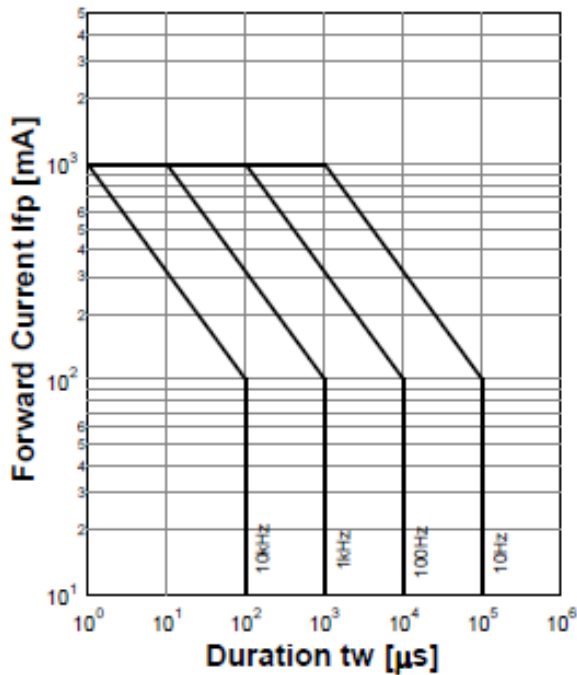
Forward Current - Forward Voltage



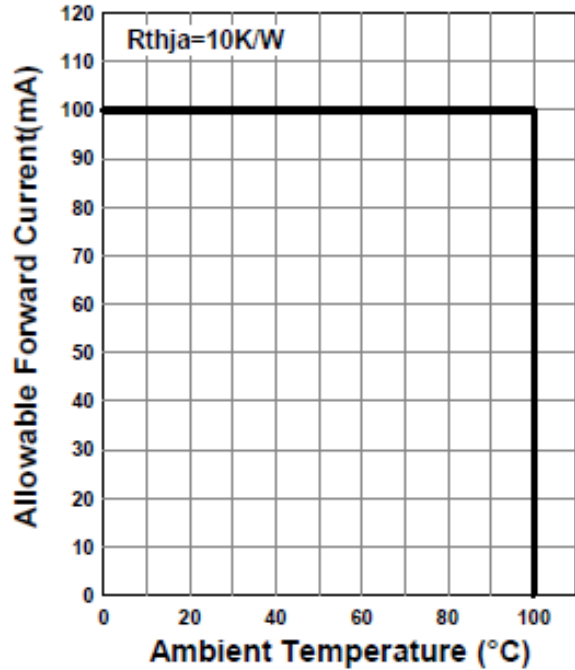
Relative Radiant Intensity - Forward Current



Forward Current - Pulse Duration

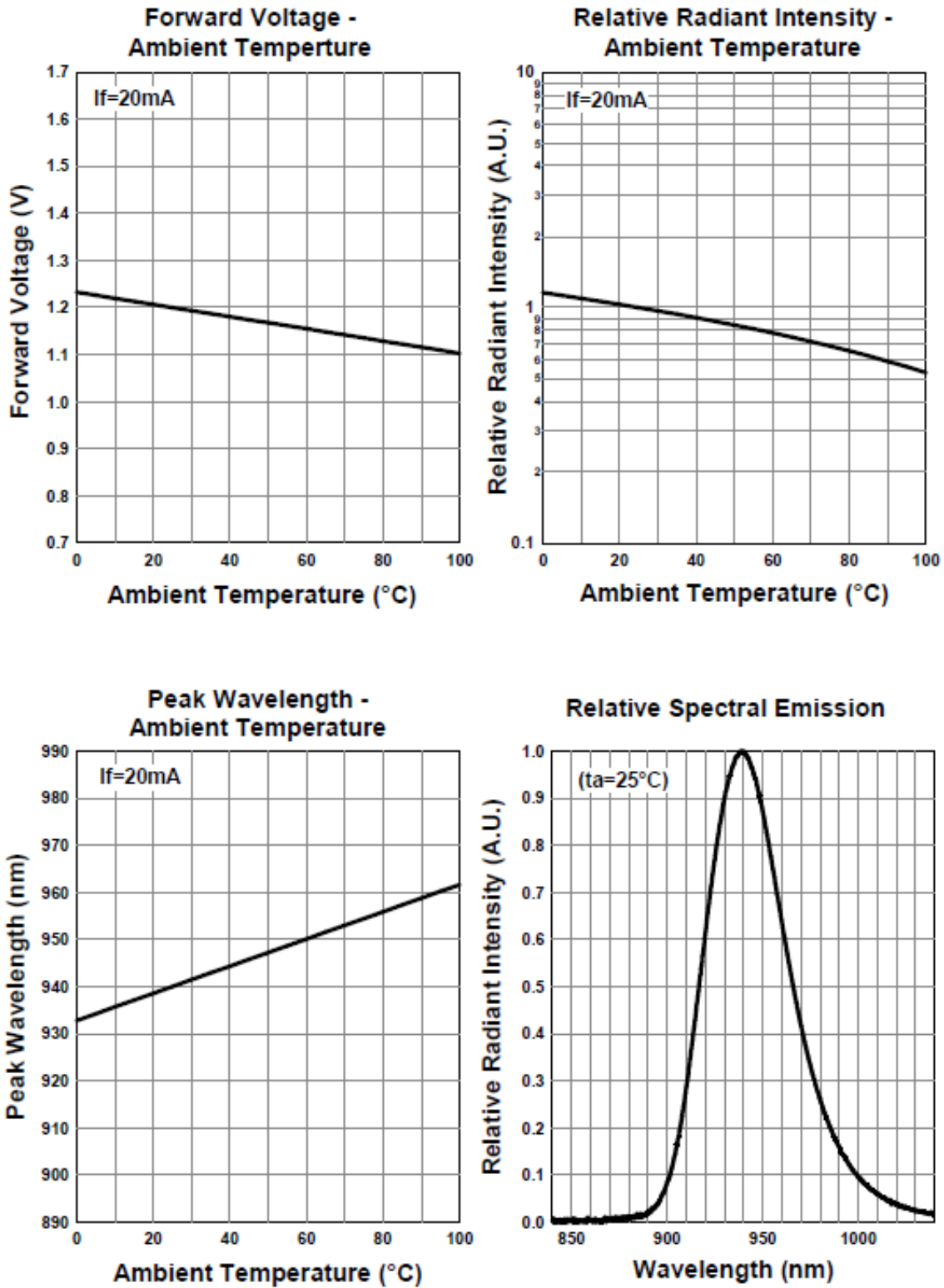


Allowable Forward Current - Ambient Temperature



Typical Characteristic Curves

940nm



Wrapping

Moisture barrier bag aluminum laminated film with a desiccant to keep out the moisture absorption during the transportation and storage.

SMD LED storage and handling precautions

Storage Conditions before Opening a Moisture-Barrier Aluminum Bag

- Before opening a moisture-barrier aluminum bag, please store it at <30°C, <60%RH.
- Please note that the maximum shelf life is 12 months under these conditions.

Storage Conditions after Opening a Moisture-Barrier Aluminum Bag

- After opening a moisture-barrier aluminum bag, store the aluminum bag and silica gel in a desiccator.
- After opening the bag, please solder the LEDs within 72 hours in a room with 5 - 30°C, <50%RH.
- Please put any unused, remaining LEDs and silica gel back in the same aluminum bag and then vacuum-seal the bag.
- It is recommended to keep the re-sealed bag in a desiccator at <30%RH.
- The 72-hour- long floor life does not include the time while LEDs are stored in the moisture-barrier aluminum bag. However, we strongly recommend to solder the LEDs as soon as possible after opening the aluminum bag

Notes about Re-sealing a Moisture-Barrier Aluminum Bag

- When vacuum-sealing an opened aluminum bag, if you find the moisture-indicator of the silica gel has changed to pink from blue (indicating a relative humidity of 30 % or more), please do not use the unused LEDs, the aluminum bag, or the silica gel.

Notes about Opening a Re-sealed Moisture-Barrier Aluminum Bag

- When opening a vacuumed and re-sealed aluminum bag in order to use the remaining LEDs stored in the bag, if you find that the moisture-indicator of the silica has changed to pink, please do not use the LEDs.

Disclaimer

Product specifications and data shown in this product catalog are subject to change without notice for the purposes of improving product performance, reliability, design, or otherwise.

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.

Products shown in this catalog are intended to be used for general electronic equipment. Products are not guaranteed for applications where product malfunction or failure may cause personal injury or death, including but not limited to life-supporting / saving devices, medical devices, safety devices, airplanes, aerospace equipment, automobiles, traffic control systems, and nuclear reactor control systems.

2017.07