



TOYO LED ELECTRONICS LIMITED

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CODE:UR13

CHARACTERS

Chip Material: AlGaInP Ultra Bright Red LED Chip

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
Power Dissipation	P _D	78	mW
Peak Forward Current (1/10 Duty Cycle, 0.1 ms Pulse Width)	I _{PEAK}	90	mA
DC Forward Current	I _F	30	mA
Reverse Voltage	V _R	5	V
Electrostatic discharge	ESD	1000	V
Operating Temperature Range	T _{opr} / T _{stg}	-40°C to +85°C	
Storage Temperature Range	T _{opr} / T _{stg}	-40°C to +100°C	

ELECTRICAL OPTICAL CHARACTER AND CURVES (Ta = 25°C)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITION (Per Chip)
Forward Voltage	V _F	-	2.0	2.6	V	I _F = 20mA
Luminous Intensity	I _v	300	500	-	mcd	I _F = 20mA
Peak Emission Wavelength	λ _p	-	640	-	nm	I _F = 20mA
Dominant Emission Wavelength	λ _d	-	630	-	nm	I _F = 20mA
Spectral Line Half-Width	Δλ	-	20	-	nm	I _F = 20mA
Reverse Current	I _R	-	-	10	uA	V _R = 5V

Note:

1. Luminous intensity tolerance is ±15%;
2. Dominant Emission Wavelength tolerance is ±1nm.



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Typical Electro-Optical Characteristic Curve

FIG. 1 Forward Current Vs. Forward Voltage

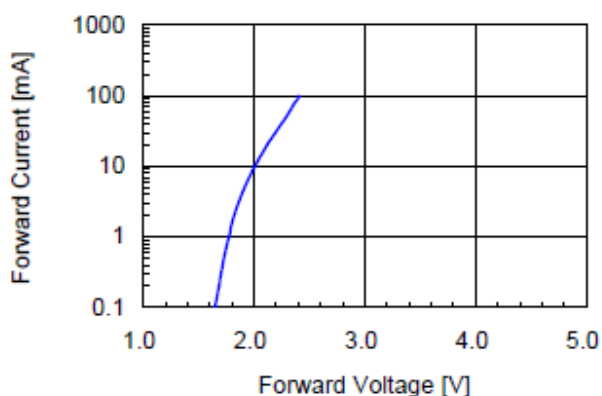


FIG. 2 Relative Intensity Vs. Forward Current

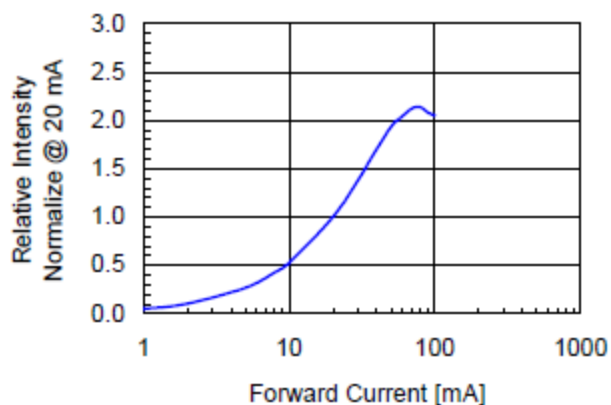


FIG. 3 Forward Voltage Vs. Temperature

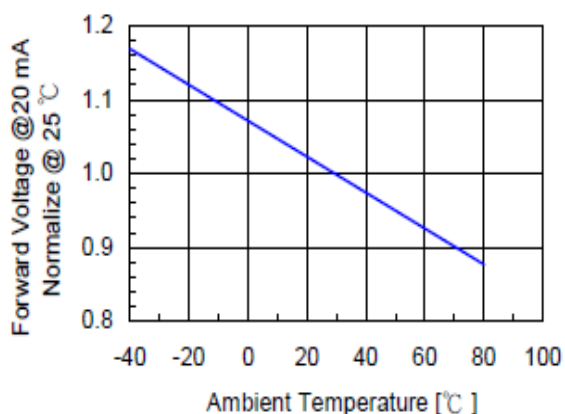


FIG. 4 Relative Intensity Vs. Temperature

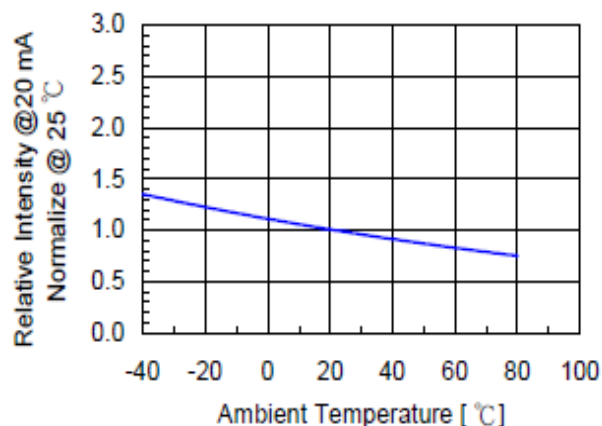


FIG. 5 Relative Intensity Vs. Wavelength

