



TOYO LED ELECTRONICS LIMITED

Room 1610, Hong Kong Plaza, 188 Connaught Road West, Hong Kong.

Tel : (852) 2540 7288

<http://www.toyo-led.com>

Fax : (852) 2517 1797

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P/N:D12574B-N-UR3UG4-0-W

Dot-Matrix Series

SPECIFICATION FOR CUSTOMER APPROVAL

P/N: D12574B-N-UR3UG4-0-W

DATE : 2011-9-8

PREPARED BY : *Candy H*

CONFIRMED BY : *Andy Man*

PLEASE CONFIRM & SIGN BACK THIS SHEET TO US

CUSTOMER: 00268-U
(COMPANY CHOP)

APPROVAL BY: _____
(SIGNATURE)



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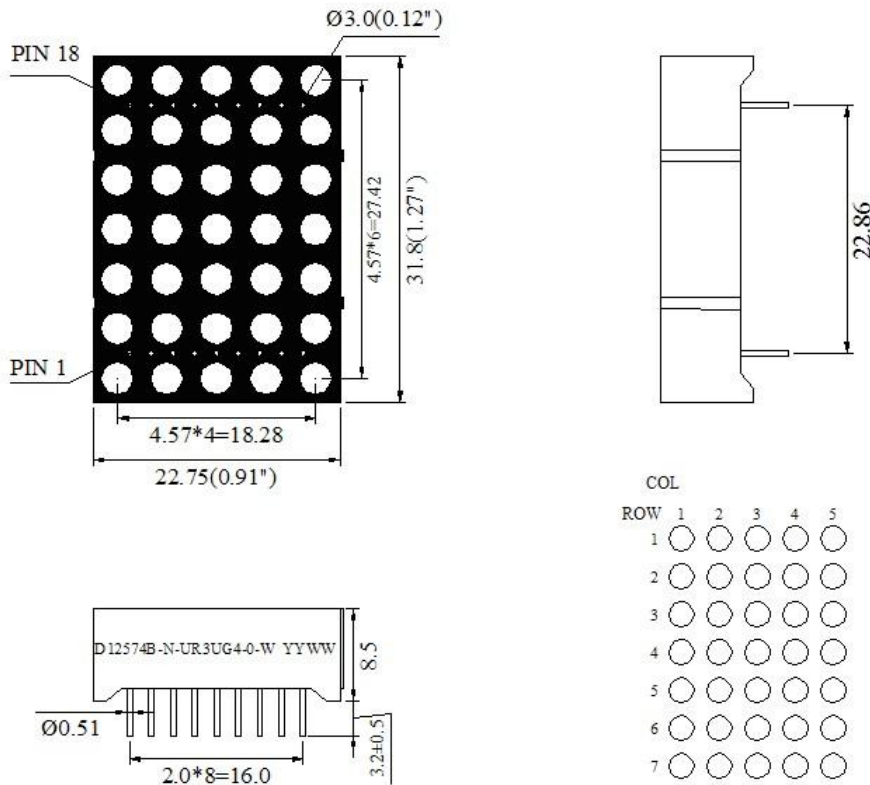
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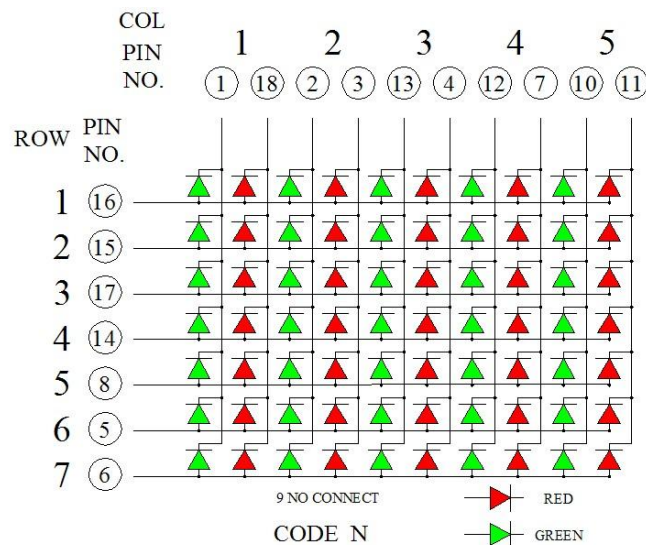
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PACKAGE DIMENSIONS



INTERNAL CIRCUIT DIAGRAM



NOTES:

1. All dimensions are in millimeter(inch);
2. Tolerance is $\pm 0.25\text{mm}(0.01")$ especially other specified;
3. Pin length, housing color, marking no & circuit diagram can be customized;
4. Specifications are subject to change without notice.



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CHIPS

Chip Material: AlGaInP/GaAs Ultra Bright Red LED Chip



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
Power Dissipation	P _D	72	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
Operating Temperature Range	T _A	-40 °C to +85 °C	
Storage Temperature Range	T _{STG}	-40 °C to +85 °C	
Solder temperature 1/16 inch below seating plane for 3 seconds at 260 °C			

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	LOCATION	TEST CONDITION
Forward Voltage	V _F	-	2.05	2.40	V	Per Dot	I _F = 20mA
Luminous Intensity	I _v	38.0	48.0	57.0	mcd	Per Dot	I _F = 20mA
Peak Emission Wavelength	λ _p	-	645	-	nm	Per Dot	I _F = 20mA
Dominant Emission Wavelength	λ _d	630	635	638	nm	Per Dot	I _F = 20mA
Spectral Line Half-Width	Δλ _{1/2}	-	20	-	nm	Per Dot	I _F = 20mA
Reverse Current	I _R	-	-	10	uA	Per Dot	V _R = 5V

Note:

- Luminous intensity tolerance is ±10%;
- Dominant Emission Wavelength tolerance is ±5%.



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TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVE

FIG. 1 Forward Current Vs. Forward Voltage

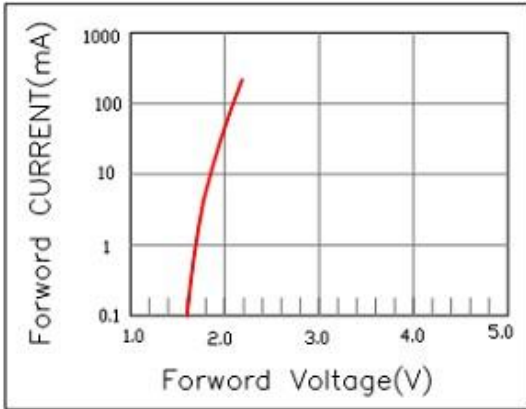


FIG. 2 Relative Intensity Vs. Forward Current

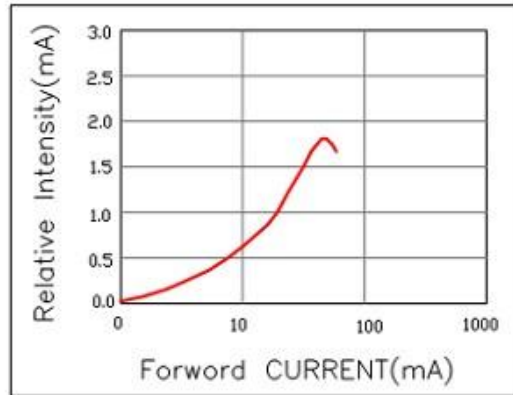


FIG. 3 Forward Voltage Vs. Temperature

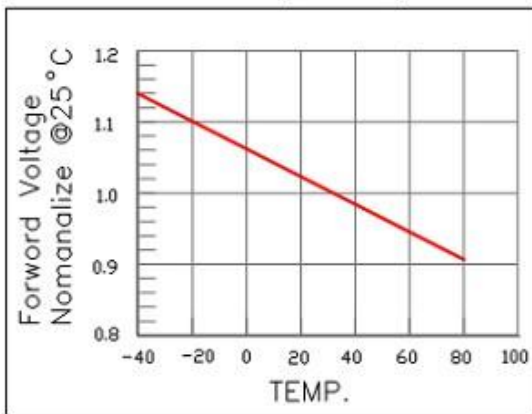


FIG. 4 Relative Intensity Vs. Temperature

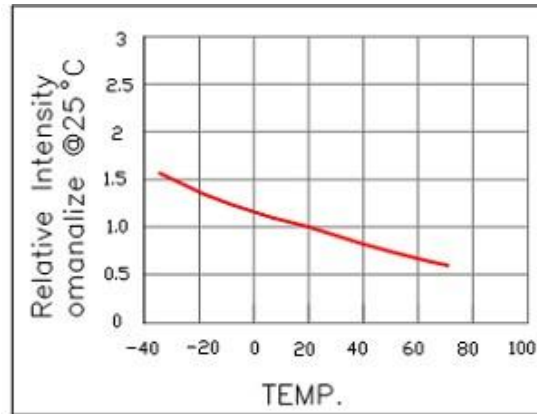
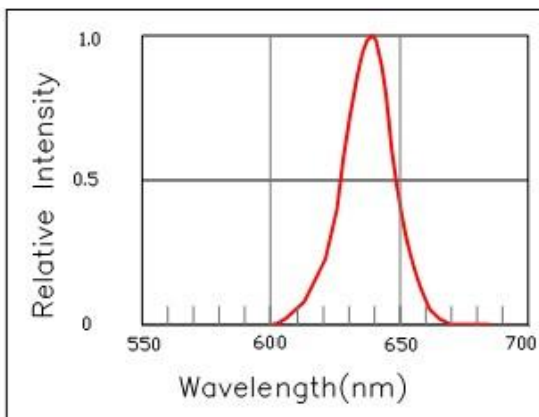


FIG. 5 Relative Intensity Vs. Wavelength





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Chip Material: AlGaInP/GaAs Yellow Green LED Chip



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

PARAMETER	SYMBOL	MAXIMUM RATING	UNIT
Power Dissipation	P _D	60	mW
Peak Forward Current (1/10 Duty Cycle, 0.1 Ms Pulse Width)	I _{PEAK}	100	mA
DC Forward Current	I _F	25	mA
Reverse Voltage	V _R	5	V
Operating Temperature Range	T _A	-40 °C to +85 °C	
Storage Temperature Range	T _{STG}	-40 °C to +85 °C	
Solder temperature 1/16 inch below seating plane for 3 seconds at 260 °C			

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	LOCATION	TEST CONDITION
Forward Voltage	V _F	-	2.20	2.40	V	Per Dot	I _F = 20mA
Luminous Intensity	I _v	40	45	55	mcd	Per Dot	I _F = 20mA
Peak Emission Wavelength	λ _p	-	575	-	nm	Per Dot	I _F = 20mA
Dominant Emission Wavelength	λ _d	569	572	574	nm	Per Dot	I _F = 20mA
Spectral Line Half-Width	Δλ _{1/2}	-	20	-	nm	Per Dot	I _F = 20mA
Reverse Current	I _R	-	-	10	uA	Per Dot	V _R = 5V

Note:

1. Luminous intensity tolerance is ±10%;
2. Dominant Emission Wavelength tolerance is ±5%



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TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVE:

FIG. 1 Forward Current Vs. Forward Voltage

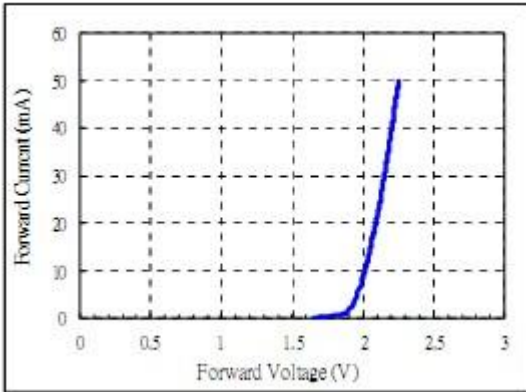


FIG. 2 Relative Intensity Vs. Forward Current

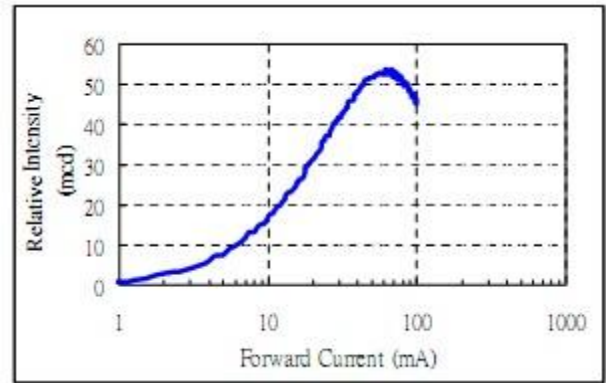


FIG. 3 Forward Voltage Vs. Temperature

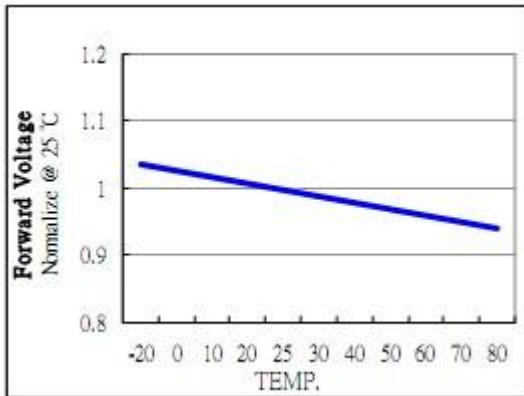


FIG. 4 Relative Intensity Vs. Temperature

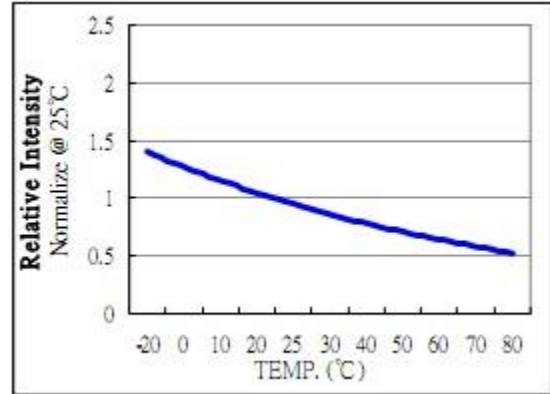


FIG. 5 Relative Intensity Vs. Wavelength

