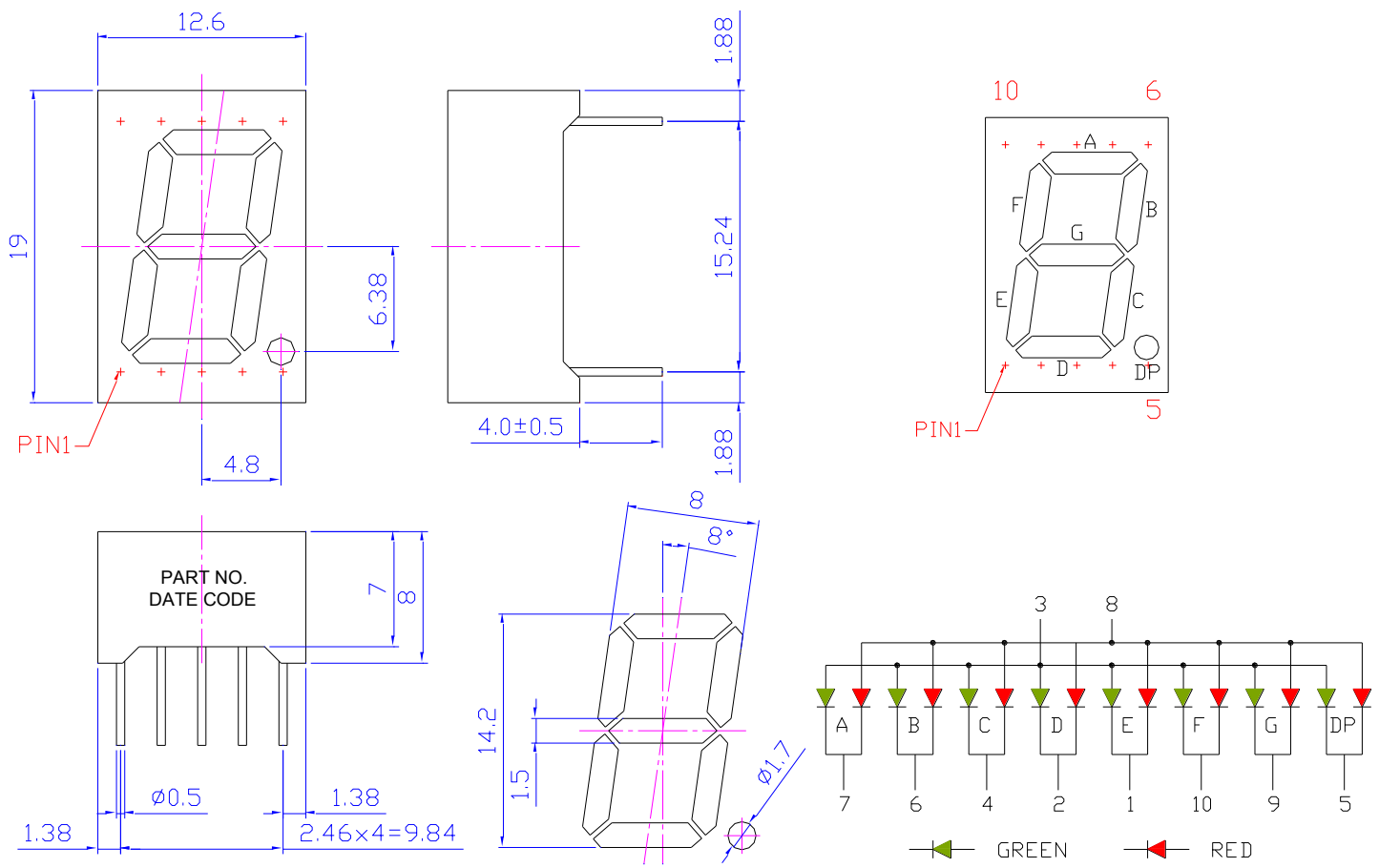


**SPECIFICATIONS** **CDBSA56R2GT2WB**
**OUTLINES DIMENSIONS**


- Notes:
1. All Dimensions are in millimeters (inches).
  2. Tolerance is ± 0.25mm (0.01") unless otherwise noted.
  3. Specifications are subject to change without notice.

Part Number	Chip Material	Color of Emission	Lens Type	Description
CDBSA56R2GT2WB	InGaAlP	Red	White Segment	Common Anode
	InGaN	True Green		



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**ABSOLUTE MAXIMUM RATINGS - RED (InGaAlP)**
**(TA=25°C)**

Parameter	Symbol	Max Rating	Unit
Power Dissipation	P <sub>D</sub>	70	mW
Pulse Forward Current	I <sub>FP</sub>	90	mA
Continuous Forward Current	I <sub>F</sub>	25	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature Range	T <sub>OPR</sub>	-25~+85	°C
Storage Temperature Range	T <sub>STG</sub>	-25~+85	°C
I <sub>FP</sub> = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/10. Soldering Condition: 260 °C/ 5sec			

**OPTICAL-ELECTRICAL CHARACTERISTICS - RED (InGaAlP)**
**(TA=25°C)**

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> = 20mA	-	250	-	mcd
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	-	2.2	2.4	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 40V	-	-	10	μA
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> = 20mA	-	635	-	nm
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	-	630	-	nm
Spectral Radiation Bandwidth	Δλ	I <sub>F</sub> = 20mA	-	20	-	nm



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**ABSOLUTE MAXIMUM RATINGS - TRUE GREEN (InGaN)**
**(TA=25°C)**

Parameter	Symbol	Max Rating	Unit
Power Dissipation	P <sub>D</sub>	120	mW
Pulse Forward Current	I <sub>FP</sub>	120	mA
Continuous Forward Current	I <sub>F</sub>	30	mA
Reverse Voltage	V <sub>R</sub>	5	V
Operating Temperature Range	T <sub>OPR</sub>	-25~+85	°C
Storage Temperature Range	T <sub>STG</sub>	-25~+85	°C
I <sub>FP</sub> = Pulse Width ≤ 10 ms, Duty Ratio ≤ 1/10. Soldering Condition: 260 °C/ 5sec			

**OPTICAL-ELECTRICAL CHARACTERISTICS - TRUE GREEN (InGaN)**
**(TA=25°C)**

Parameter	Symbol	Test Condition	Value			Unit
			Min	Typ	Max	
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> = 20mA	-	200	-	mcd
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> = 20mA	-	3.2	4.0	V
Reverse Leakage Current	I <sub>R</sub>	V <sub>R</sub> = 40V	-	-	10	μA
Peak Wavelength	λ <sub>P</sub>	I <sub>F</sub> = 20mA	-	530	-	nm
Dominant Wavelength	λ <sub>D</sub>	I <sub>F</sub> = 20mA	-	525	-	nm
Spectral Radiation Bandwidth	Δλ	I <sub>F</sub> = 20mA	-	30	-	nm



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## OPTICAL CHARACTERISTIC CURVES - RED

### Typical Electro-optical Characteristic Curves (25 °C Free Air Temperature Unless Otherwise Specified)

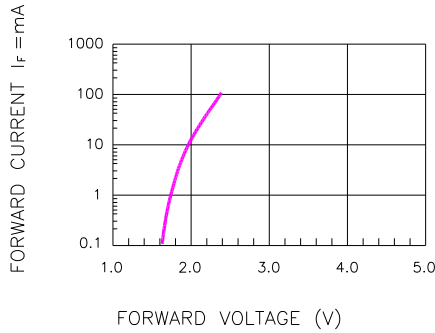


Fig.1 FORWARD CURRENT VS. FORWARD VOLTAGE

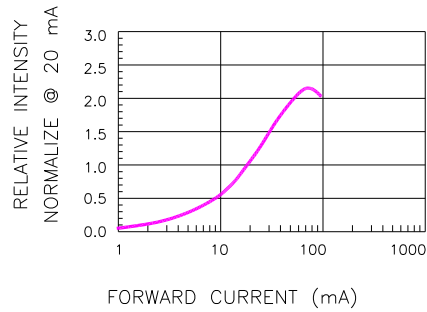


Fig.2 RELATIVE INTENSITY VS. FORWARD CURRENT

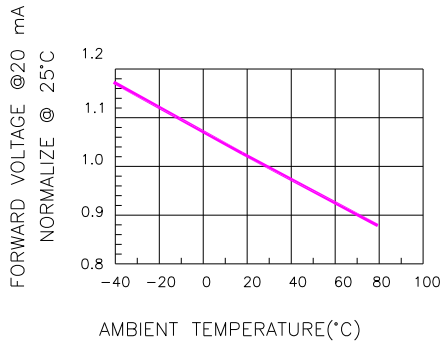


Fig.3 FORWARD VOLTAGE VS. TEMPERATURE

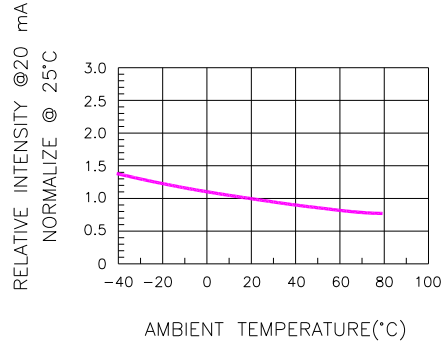


Fig.4 RELATIVE INTENSITY VS. TEMPERATURE

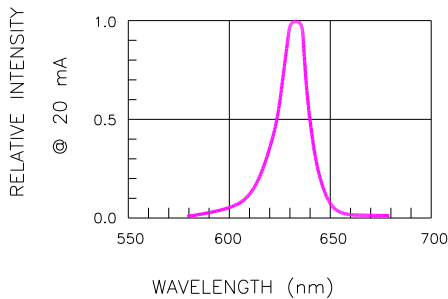


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

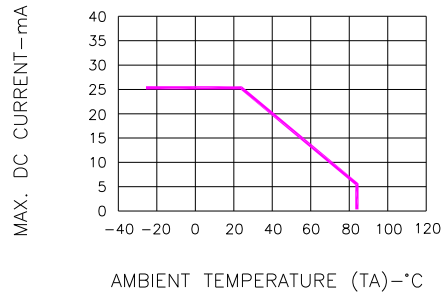


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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## OPTICAL CHARACTERISTIC CURVES - TRUE GREEN

### Typical Electro-optical Characteristic Curves (25 °C Free Air Temperature Unless Otherwise Specified)

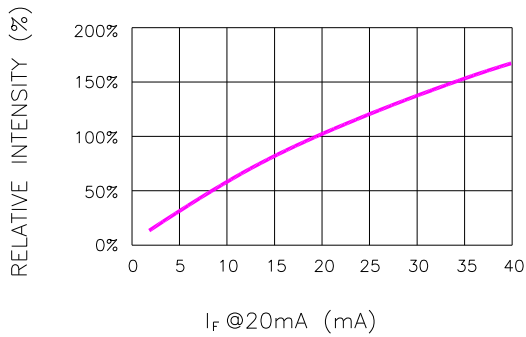


Fig.1 RELATIVE INTENSITY VS. FORWARD CURRENT

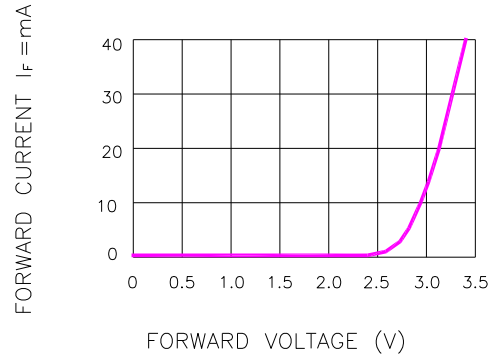


Fig.2 FORWARD CURRENT VS. FORWARD VOLTAGE

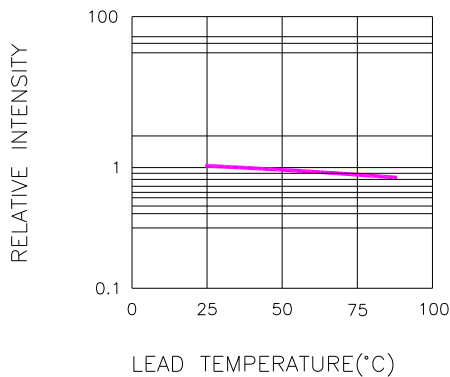


Fig.3 RELATIVE INTENSITY VS. LEAD TEMPERATURE  
(PULSED 20 mA; 300us PULSE, 10ms PERIOD)

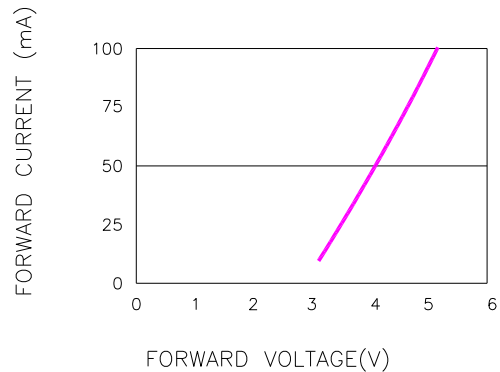


Fig.4 PEAK FORWARD VOLTAGE VS. FORWARD (100us TEST PULSE, 1% DUTY CYCLE)

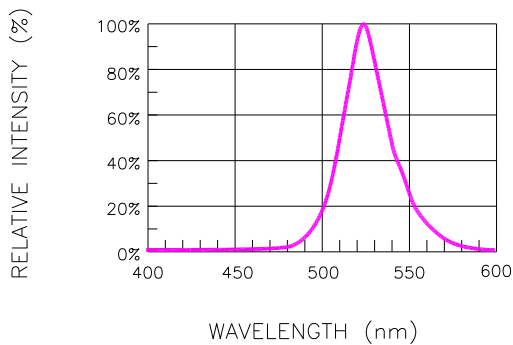


Fig.5 RELATIVE INTENSITY VS. WAVELENGTH

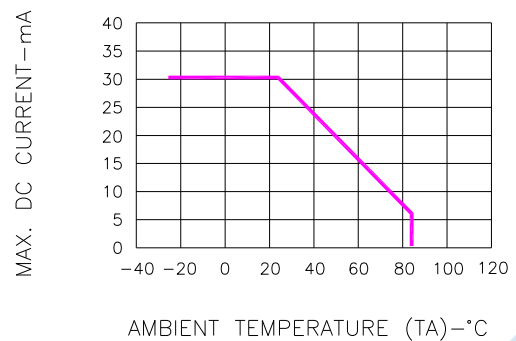
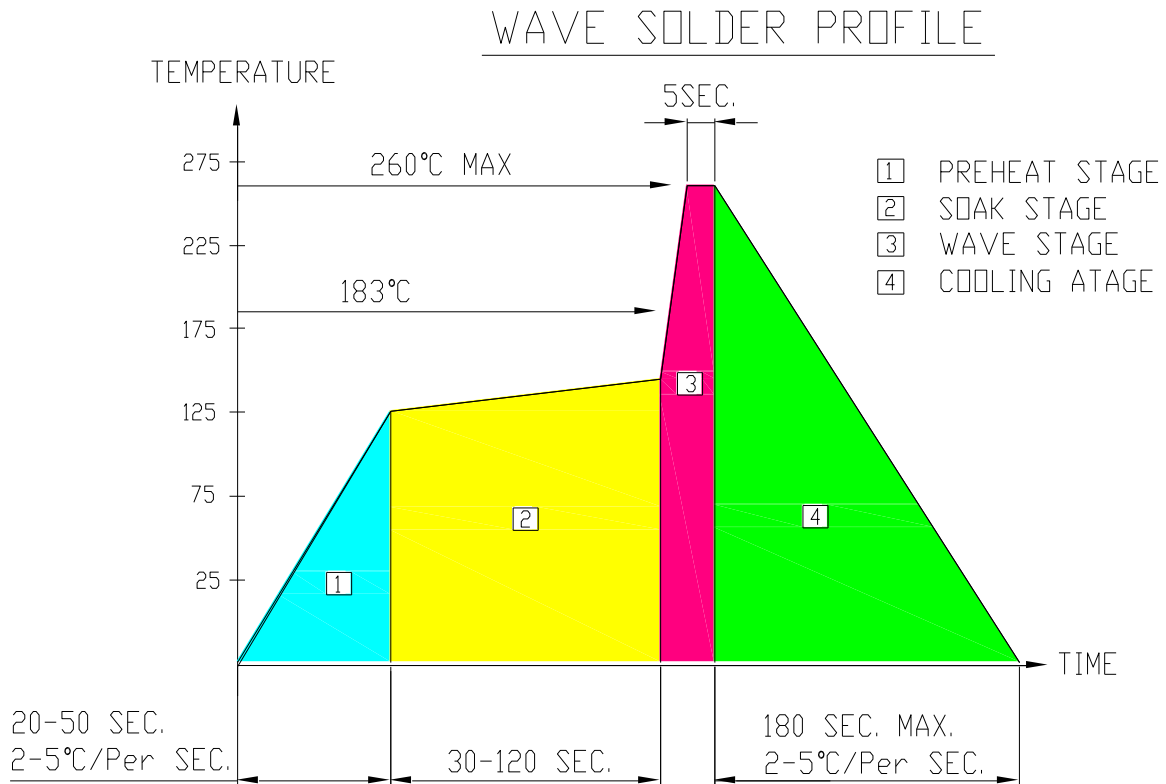


Fig.6 MAX. ALLOWABLE DC CURRENT VS. AMBIENT TEMPERATURE



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**RECOMMENDED SOLDERING PROFILE**

**● SOLDERING IRON**

Basic spec is  $\leq 4$  sec when 260°C. If temperature is higher, time should be shorter (+10°C → 1 sec). Power dissipation of Iron should be smaller than 15W, and temperature should be controllable. Surface temperature of the device should be under 230°C.

**● REWORK**

Customer must finish rework within  $\leq 4$  sec under 245°C.



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