

**ADH-Tech 0.56" Tri-color Digit Number Display  
ACD8143**

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	*****	*****	ACD8143
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**Revision History**

Revision	Page	Version No.	Revision Date
DS original		1.0	12-30-2015

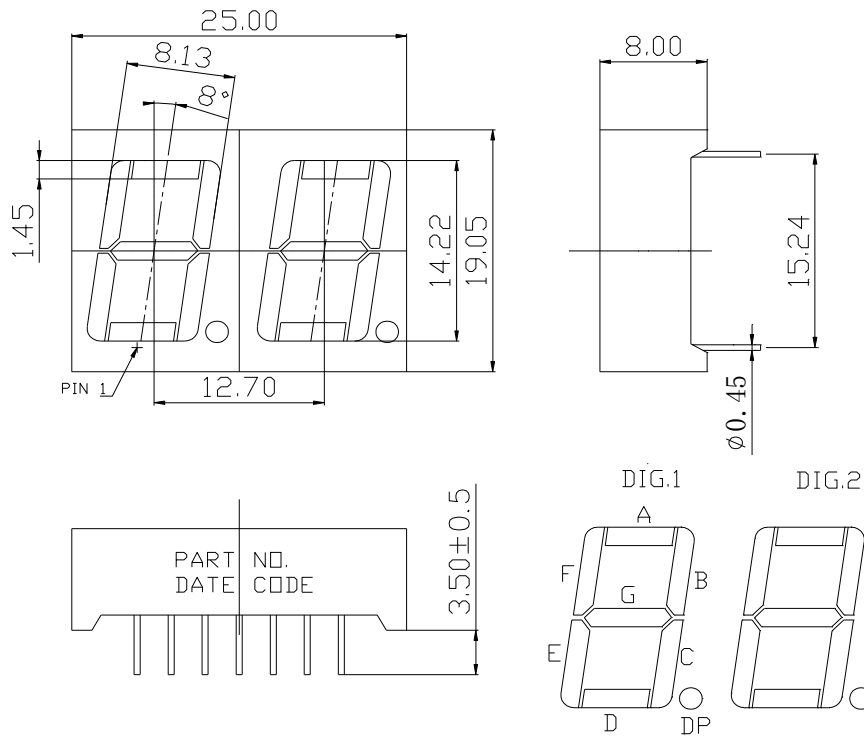
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## FEATURES

- \* 0.56-inch (14.22 mm) DIGIT HEIGHT
- \* CONTINUOUS UNIFORM SEGMENTS
- \* LOW POWER REQUIREMENT
- \* EXCELLENT CHARACTERS APPEARANCE
- \* HIGH BRIGHTNESS & HIGH CONTRAST
- \* WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* CATEGORIZED FOR LUMINOUS INTENSITY
- \* LEAD-FREE PACKAGE

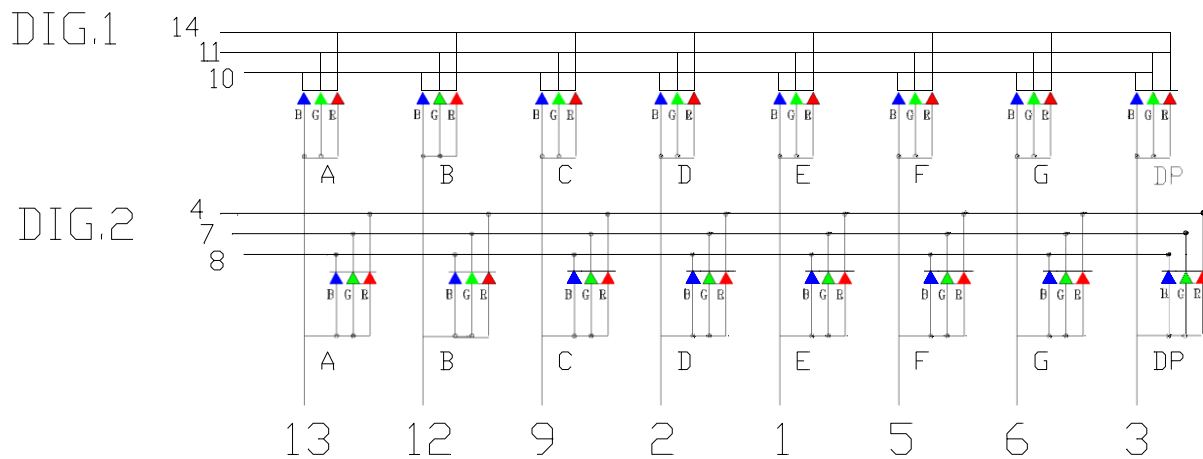
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**PACKAGE DIMENSIONS**



NOTES: 1.All dimensions are in millimeters. Tolerances are  $\pm 0.25\text{mm}$  (0.01") unless otherwise noted.

**INTERNAL CIRCUIT DIAGRAM**



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**ABSOLUTE MAXIMUM RATING AT Ta = 25°C**

PARAMETER	R	G	B	UNIT
Power Dissipation Per Segment	150	150	150	mW
Continuous Forward Current Per Segment	10	5	5	mA
Peak Forward Current	30	15	15	mA
Reverse Voltage Per Segment	5	5	5	V
Operating Temperature Range	-30°C to +80°C			
Storage Temperature Range	-40°C to +100°C			
Soldering Conditions:Max 260°C for max 3sec at 1.6mm below seating plane.				

Remarks:This product should be operated in forward bias.If a reverse voltage is continuously applied to the product, such operation can cause migration resulting in LED damage.

**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25°C**

RED

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	Iv	13.7	21.7		mcd	IF=10mA
Peak Emission Wavelength	$\lambda_p$		629		nm	IF=10mA
Spectral Line Half-Width	$\Delta\lambda$		16		nm	IF=10mA
Dominant Wavelength	$\lambda_d$		622		nm	IF=10mA
Forward Voltage Per Dot	VF		2.0	2.4	V	IF=10mA
Reverse Current Per Dot	IR			100	$\mu$ A	VR=5V
Luminous Intensity Matching Ratio	Iv-m			2:1		IF=10mA

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## GREEN

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	34	70		mcd	IF=10mA
Peak Emission Wavelength	λ <sub>p</sub>		520		nm	IF=5mA
Spectral Line Half-Width	Δλ		32		nm	IF=5mA
Dominant Wavelength	λ <sub>d</sub>		530		nm	IF=5mA
Forward Voltage Per Dot	V <sub>F</sub>		2.85	3.4	V	IF=5mA
Reverse Current Per Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		IF=10mA

## BLUE

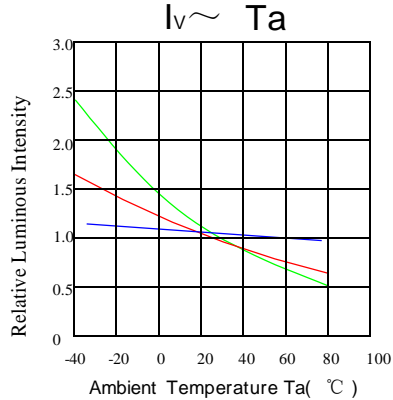
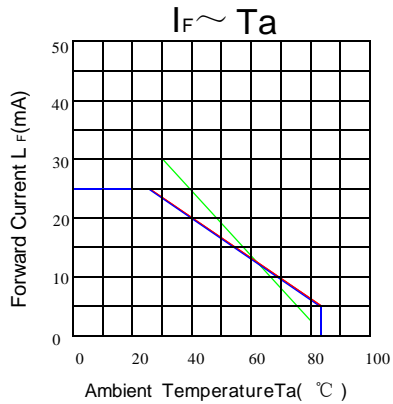
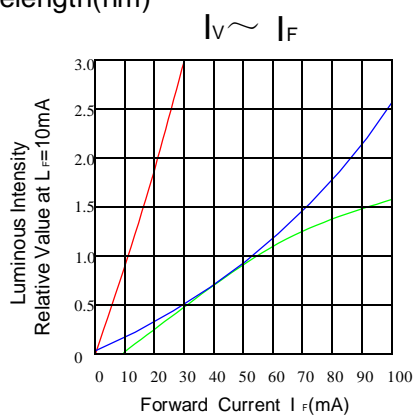
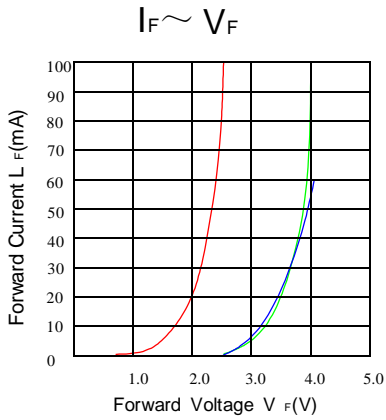
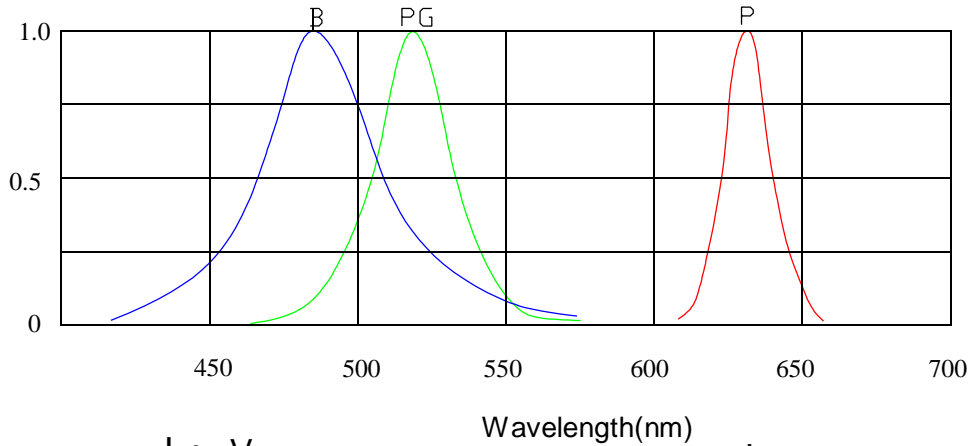
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity	I <sub>v</sub>	13.7	21.7		mcd	IF=10mA
Peak Emission Wavelength	λ <sub>p</sub>		464		nm	IF=5mA
Spectral Line Half-Width	Δλ		22		nm	IF=5mA
Dominant Wavelength	λ <sub>d</sub>		470		nm	IF=5mA
Forward Voltage Per Dot	V <sub>F</sub>		2.95	3.4	V	IF=25mA
Reverse Current Per Dot	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		IF=5mA

Note:Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

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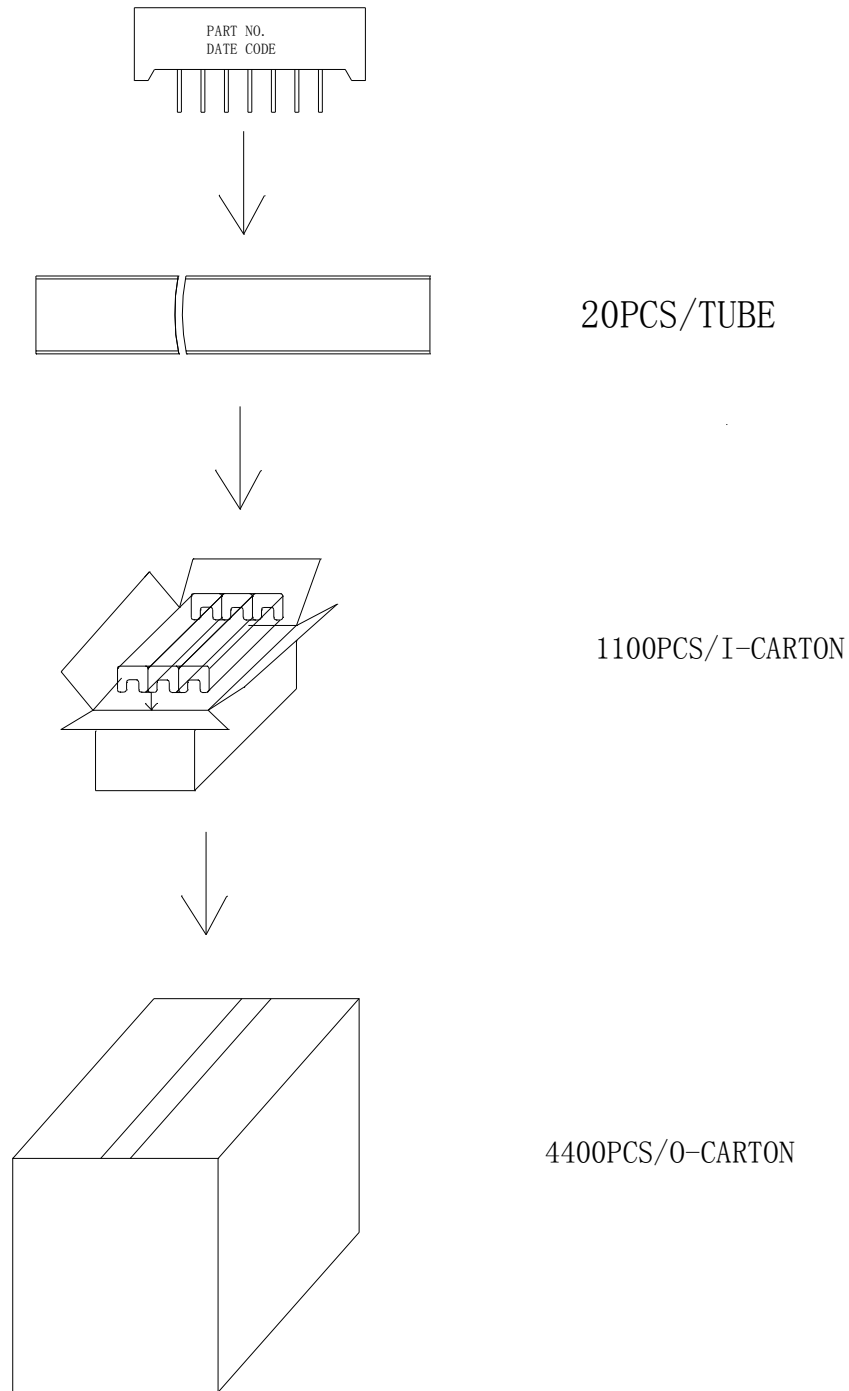
**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES**  
(25°C Ambient Temperature Unless Otherwise Noted)

**RELATIVE INTENSITY vs WAVELENGTH**



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**Pack process:**



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