



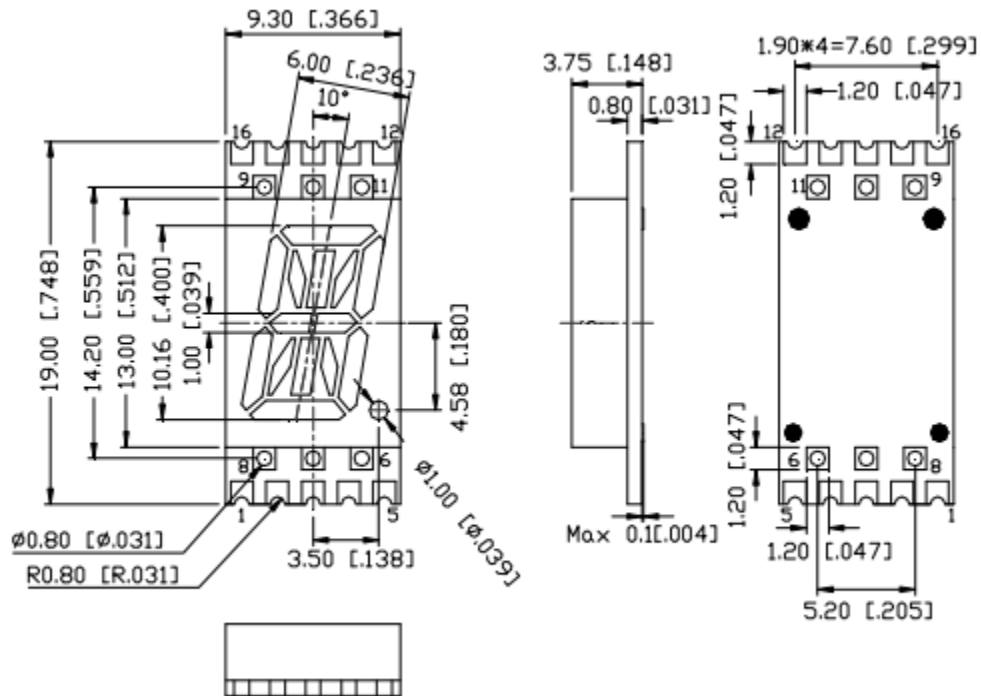
# American Opto Plus LED Corp.

## SMA4018SR-C GW

## SMC4018SR-C GW

### 0.4" Super Red Single Digit Alphanumeric SMD Display

#### MECHANICAL DIMENSIONS



#### Notes:

1. Dimension in millimeter [inch], tolerance is  $\pm 0.25$  [0.10] and the angle is  $\pm 1\%$  unless otherwise noted.
2. Bending  $\leq$  Length \* 1%.

Chip Material	Emitted Color	Segment/Face	Description
AlGaInP	Super Red	White/Gray	Common Anode Common Cathode



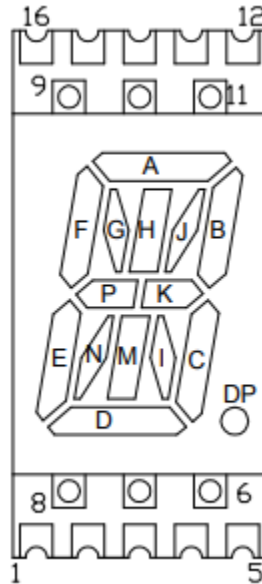
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SMA4018SR-C GW

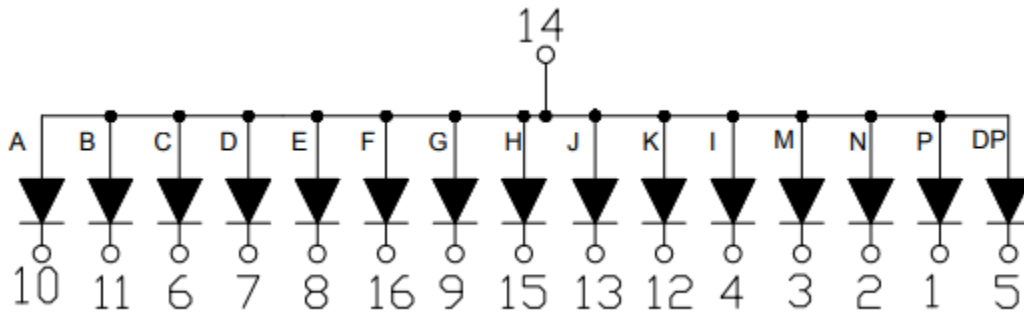
SMC4018SR-C GW

0.4" Super Red Single Digit Alphanumeric SMD Display

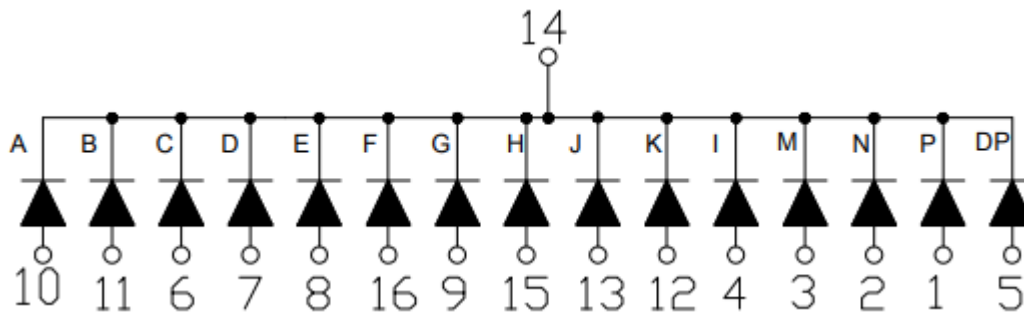
ALL LIGHT ON SEGMENTS FEATURE



INTERNAL CIRCUIT DIAGRAMS



Common Anode



Common Cathode



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#### ABSOLUTE MAXIMUM RATING

(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation (Per Dice)	$P_D$	70	mW
Continuous Forward Current (Per Dice)	$I_F$	25	mA
Peak Current (Per Dice, duty cycle 1/10,1KHz)	$I_{FP}$	90	mA
Derating Liner from 25°C(Per Dice)	$\Delta I_F/\Delta T$	0.33	mA/°C
Reverse Voltage (Per Dice)	$V_R$	5	V
Electrostatic discharge(HBM)	ESD	--	V
Operating Temp.	$T_{OPR}$	-40 ~ +105	°C
Storage Temp.	$T_{STG}$	-40 ~ +105	°C

#### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage (Per Segment)	$V_F$	$I_F=20mA$	--	2.0	2.8	V
Dominant Wavelength	$\lambda_d$	$I_F=10mA$	--	645	--	nm
Peak Wavelength	$\lambda_p$		--	660	--	nm
Luminous Intensity Matching Ratio	$I_{V-m}$		--	--	2:1	--
Luminous Intensity (Per Segment)	$I_V$		--	4	--	mcd
Reverse Current	$I_r$	$V_R=5V$	--	--	100	$\mu A$



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**LUMINOUS GENERAL IV BIN GRADE**

( $I_f = 10\text{mA}$ )

Bin	Min	Max	Unit
F	1.641	2.626	mcd
G	2.627	4.203	
H	4.204	6.726	

Notes: Tolerance:  $\pm 20\%$



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#### ELECTRICAL/OPTICAL CHARACTERISTICS CURVES

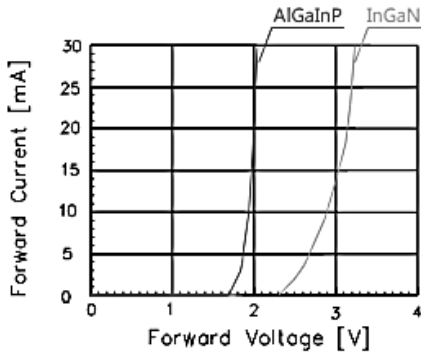


Fig 1. Forward Current vs. Forward Voltage

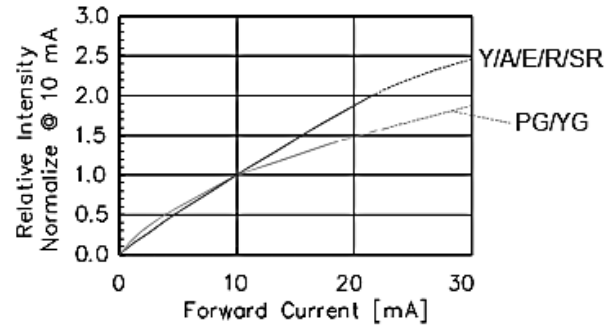


Fig 2. Relative Intensity vs. Forward Current

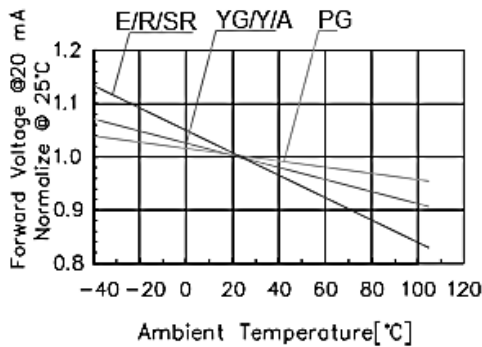


Fig 3. Forward Voltage vs. Temperature

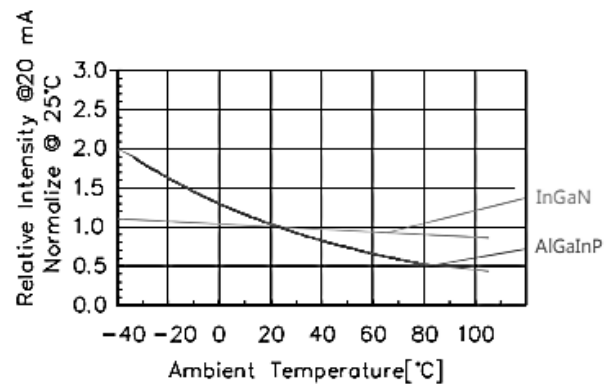


Fig 4. Relative Intensity vs. Temperature

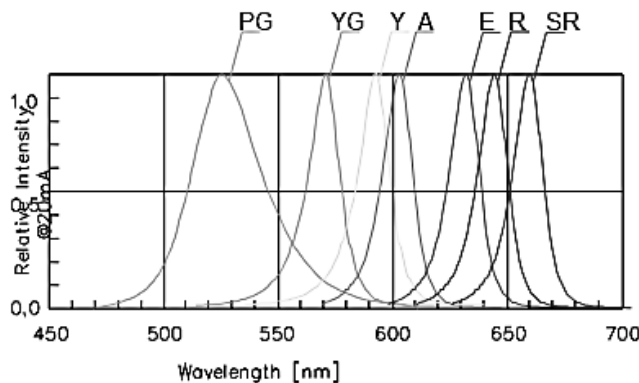


Fig 5. Relative Intensity vs. Wavelength

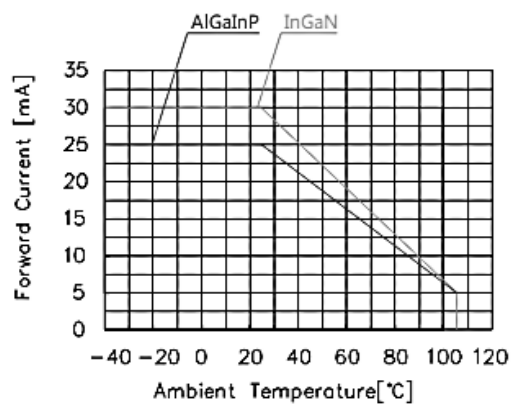


Fig 6. Forward current vs. Temperature



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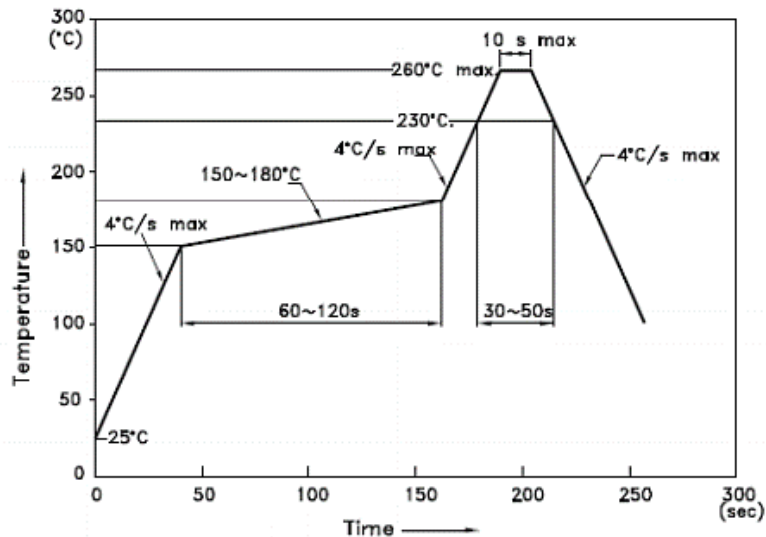
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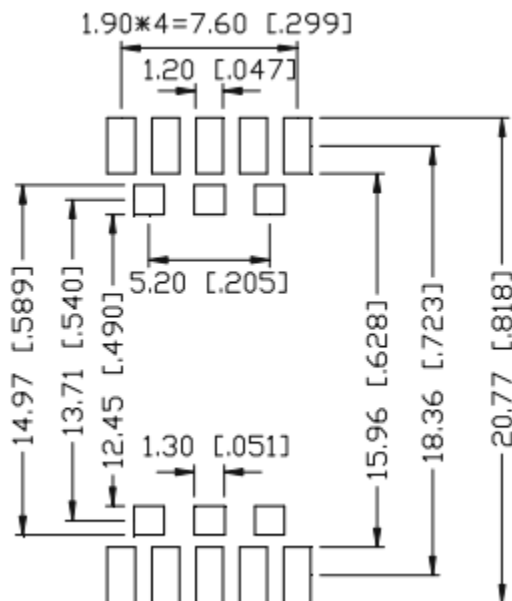
#### REFLOW SOLDERING CONDITION

#### IR Reflow Temperature/ Time



1. We recommend the reflow temperature is  $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$ .
2. The maximum soldering temperature should be limited to  $260^{\circ}\text{C}$ .
3. Do not cause any stress to the epoxy resin while it is exposed to the high temperature.
4. Number of reflow process shall be 2 times or less.

#### RECOMMENDED PCB LAYOUT





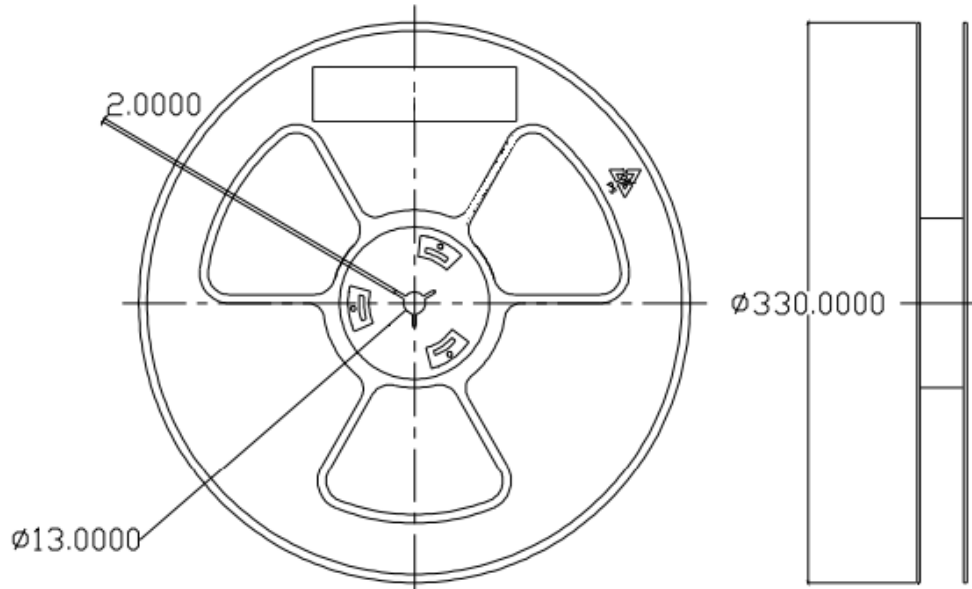
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**SMA4018SR-C GW**

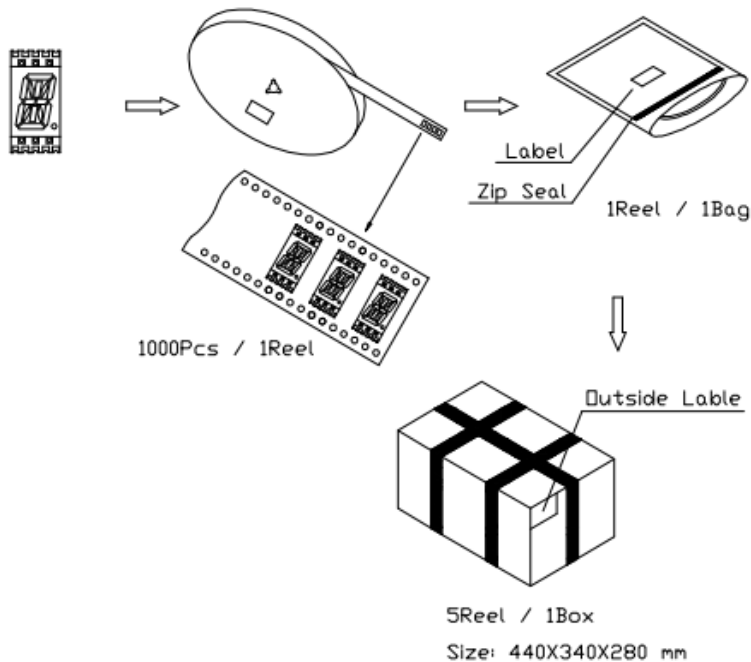
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**0.4" Super Red Single Digit Alphanumeric SMD Display**

**REEL DIMENSION**



**PACKING & LABEL DIMENSIONS**



**Note:**

1. Specifications are subject to change without notice.
2. Please contact us for the updated information.