



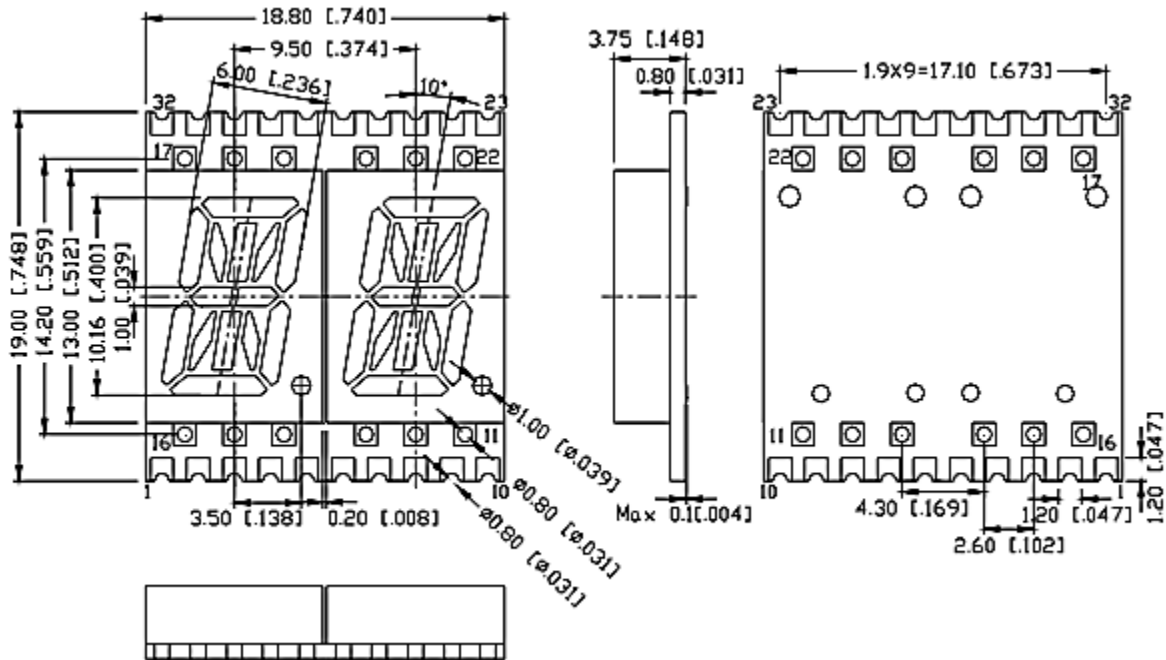
American Opto Plus LED Corp.

SMA4028Y-C GW

SMC4028Y-C GW

0.4" Yellow Dual Digit Alphanumeric SMD Display

MECHANICAL DIMENSIONS



Notes:

1. Dimension in millimeter [inch], tolerance is ± 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	Yellow	White/Gray	Common Anode Common Cathode



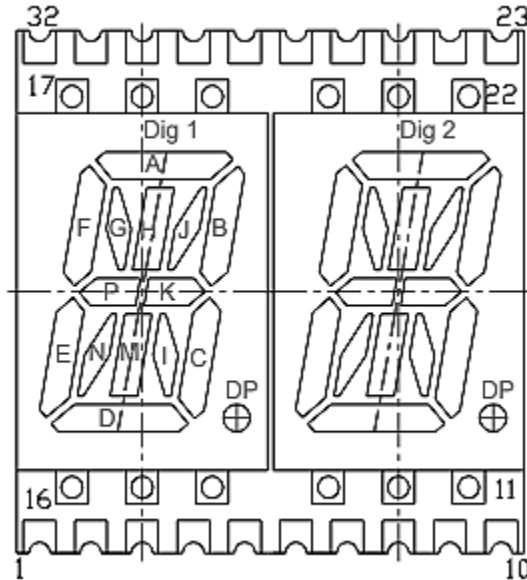
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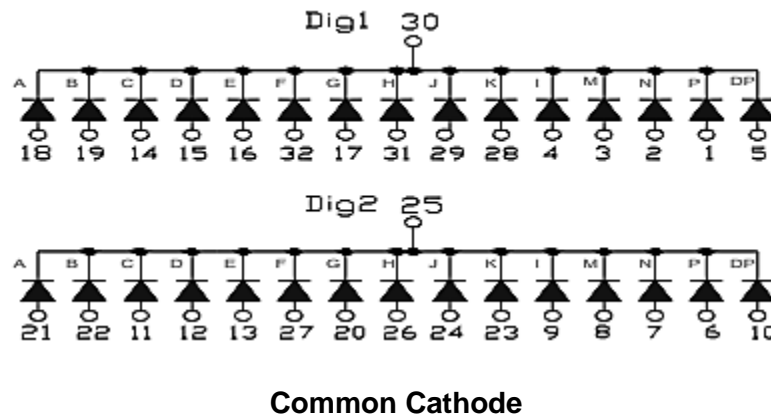
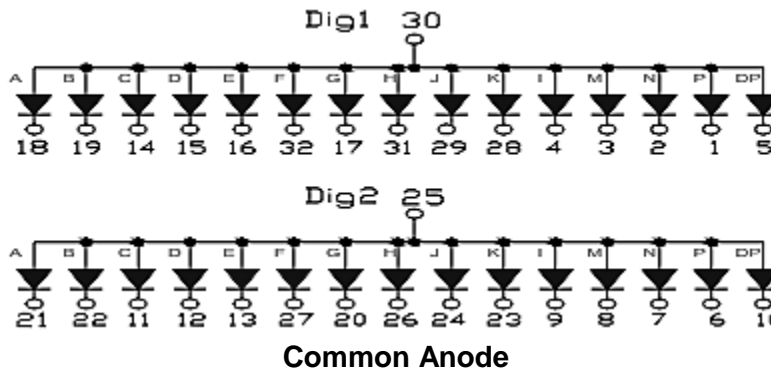
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ALL LIGHT ON SEGMENTS FEATURE



INTERNAL CIRCUIT DIAGRAMS





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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)	VF	IF=20mA	--	2.0	2.8	V
Dominant Wavelength	λ_d	IF=10mA	--	590	--	nm
Peak Wavelength	λ_p		--	592	--	nm
Luminous Intensity Matching Ratio	IV-m		--	--	2:1	--
Luminous Intensity (Per Segment)	IV		--	15	--	mcd
Reverse Current	Ir	VR=5V	--	--	100	μA



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LUMINOUS GENERAL IV BIN GRADE

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

Bin	Min	Max	Unit
J	6.727	10.763	mcd
K	10.764	17.223	
L	17.224	27.558	

Notes: Tolerance: $\pm 20\%$

COLOR RANK LIMITS

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

Bin	Min	Max	Unit
1	583	585	nm
2	585	587	
3	587	589	
4	589	591	
5	591	593	

Notes: Tolerance: $\pm 1\text{nm}$



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ELECTRICAL/OPTICAL CHARACTERISTICS CURVES

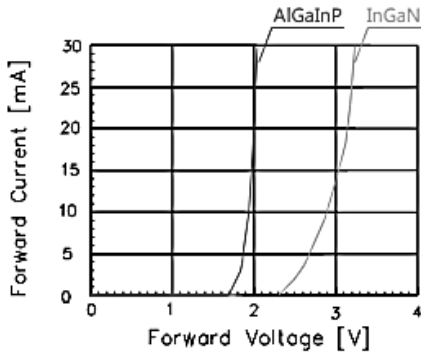


Fig 1. Forward Current vs. Forward Voltage

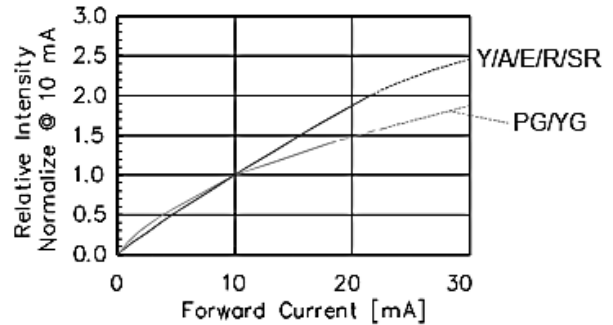


Fig 2. Relative Intensity vs. Forward Current

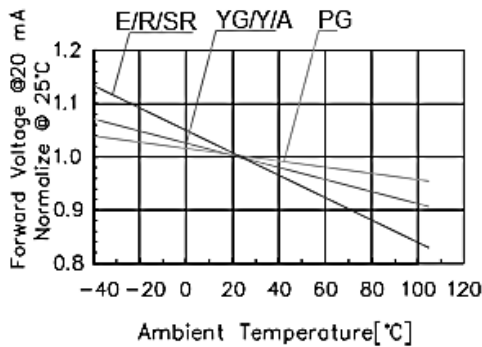


Fig 3. Forward Voltage vs. Temperature

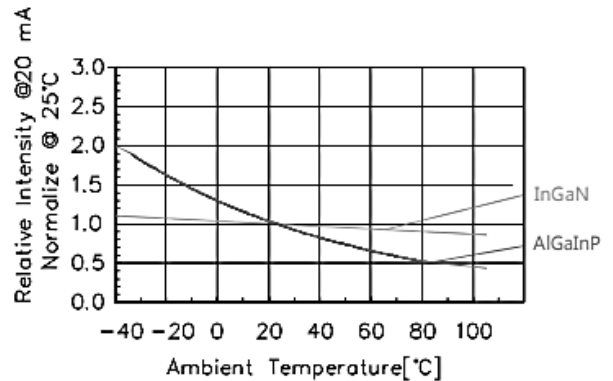


Fig 4. Relative Intensity vs. Temperature

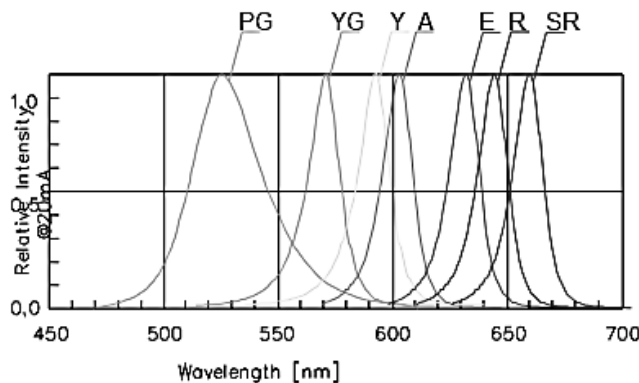


Fig 5. Relative Intensity vs. Wavelength

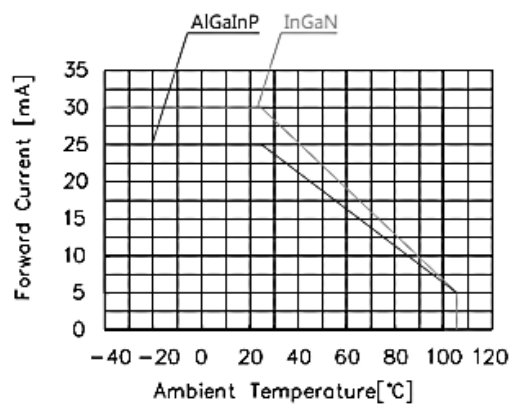


Fig 6. Forward current vs. Temperature



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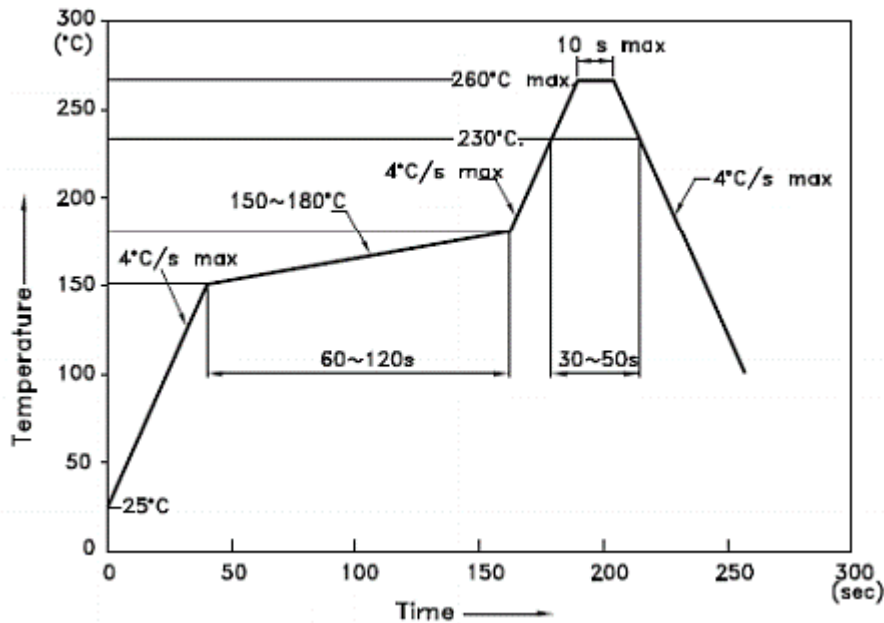
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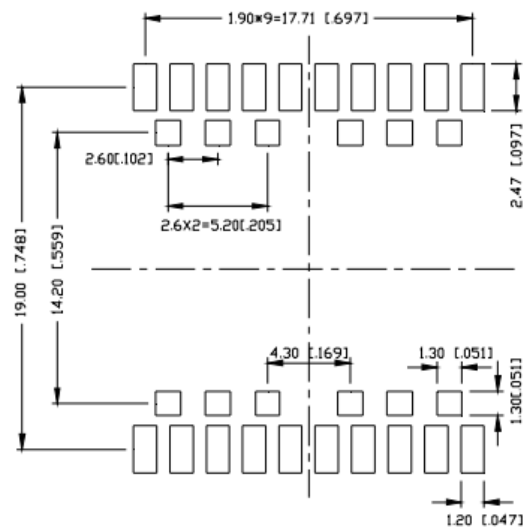
REFLOW SOLDERING CONDITION

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°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





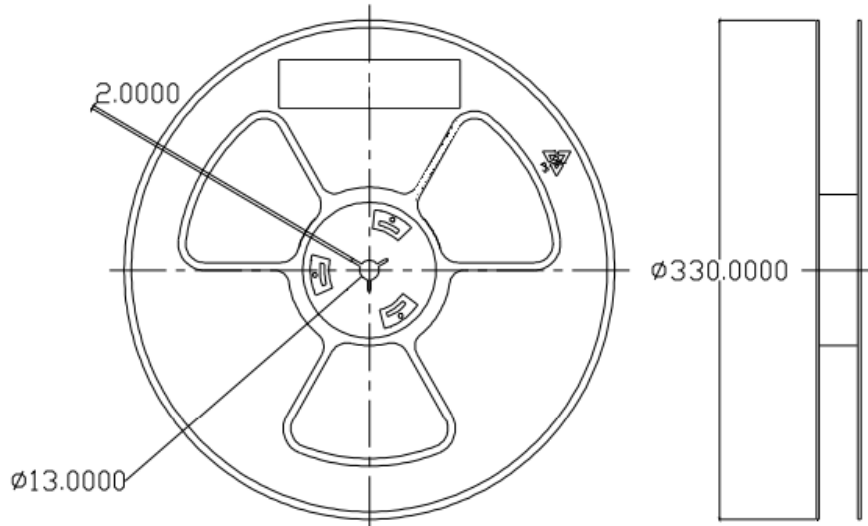
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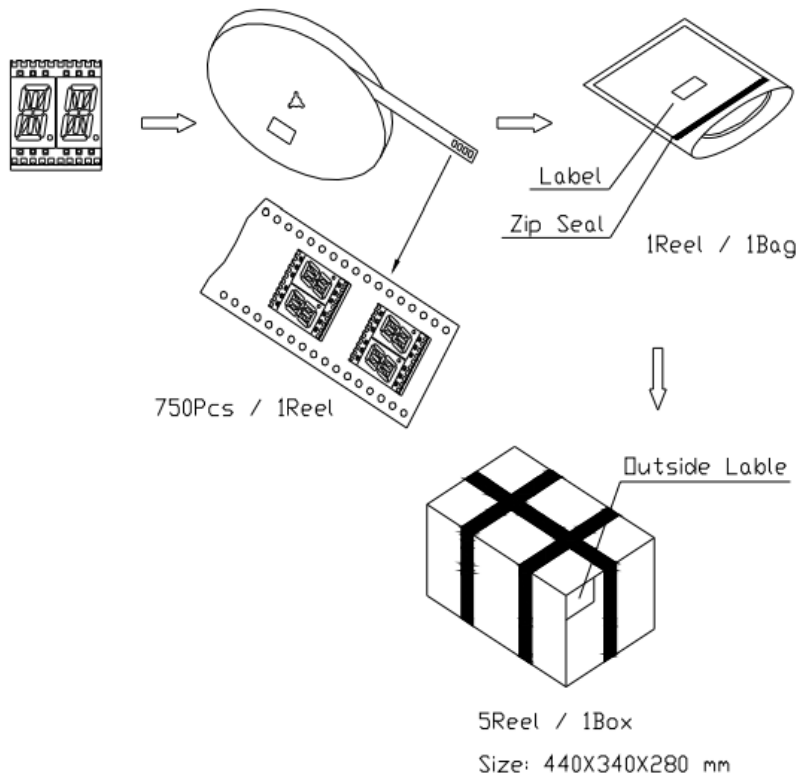
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REEL DIMENSION



PACKING & LABEL DIMENSIONS



Note: specifications are subject to change without notice.
Please contact us for the updated information.