



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# BABCOCK

DISPLAY PRODUCTS DIVISION

MODEL: SP-450-034-XX

XX denotes dash numbers below

7-SEGMENTED SCREEN IMAGE, PDP

The dc-plasma, easy-to-read, 7-Segment Screen Image Display is arranged as 5 digits by 1 row and features bright neon-orange pixels, wide viewing angle, and sharp contrast. The slim profile, compact outline, and large viewing area make efficient use of valuable system, front panel space. Inherently rugged, dc-plasma displays are a cost-effective solution when overcoming vibration, temperature, or EMI/RFI issues.

## SPECIFICATIONS

### Recommended Operating Conditions

PARAMETER	SYM	MIN	TYP	MAX	UNITS	NOTES
Supply Voltage	$E_{bb}$	165	185	200	VDC	1
Operating Voltage @ 2.2 mA "b" Segment	$V_{op}$		140		VDC	1
Interdigit Blanking Period (Segment "b" current 2 mA max)	$t_{kb}$	30	60		$\mu$ Sec	
Digit "On" Period	$t_{on}$	60			$\mu$ Sec	1
Reionization Time	$t_{zr}$			7	$\mu$ Sec	1
Heater Resistance @ 25°C		78		100	Ohms	
Peak Segment Current Density				100	mA/cm <sup>2</sup>	
Leakage, Anode to Anode		3			M-Ohms	3
Leakage, Heater to all Segments		3			M-Ohms	3
Projected Life		18K			Hours	2
Intersegmented Leakage		3			M-Ohms	4
View Angle		130			Degrees	
Luminance @ 25°C	fL	180 (616)	240 (812)	300 (1027)	fL (cd/cm <sup>2</sup> )	3

Notes:

1. The listed parameters and data are for application purposes only.
2. Continuous operation, at rated operating conditions. End of life is defined as 50% of minimum luminance.
3. Required parameters for inspections and quality conformance.
4. Display will not have segment faults that cause ambiguous 0-9 readings (e.g. Ghosting).
5. 26 VAC heater operation will maintain display temperature above 0°C for cold temperature operation.

### Environmental Characteristics

Operating Temperature (Heater)	-40 to +70°C (see note 5)
Operating Temperature (Display)	0 to +70°C
Storage Temperature	-45 to +85°C
Humidity, Operational	10 to 95% non-condensing
Humidity, Storage	2 to 98% non-condensing

### Pin Connection Table

Pin Number	Segment	Pin Number	Segment
1	Anode # 1	10	All Commas
2	Heater Cond.	11	Segment D
3	Segment F	12	Segment B
4	Anode # 2	13	Anode # 4
5	Segment G	14	Segment A
6	Segment C	15	Keep Alive
7	Segment E	16	Heater Cond.
8	Anode # 3	17	Anode # 5
9	All Decimals		

SPECIFICATIONS ARE FOR REFERENCE ONLY

9200-0096 Rev. A

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*Ratio Table*

Segment	A	B	C	D	E	F	G	DEC	COM	KA
Ratio	.99	1.0	.98	.99	.99	.98	1.09	.31	.31	.16

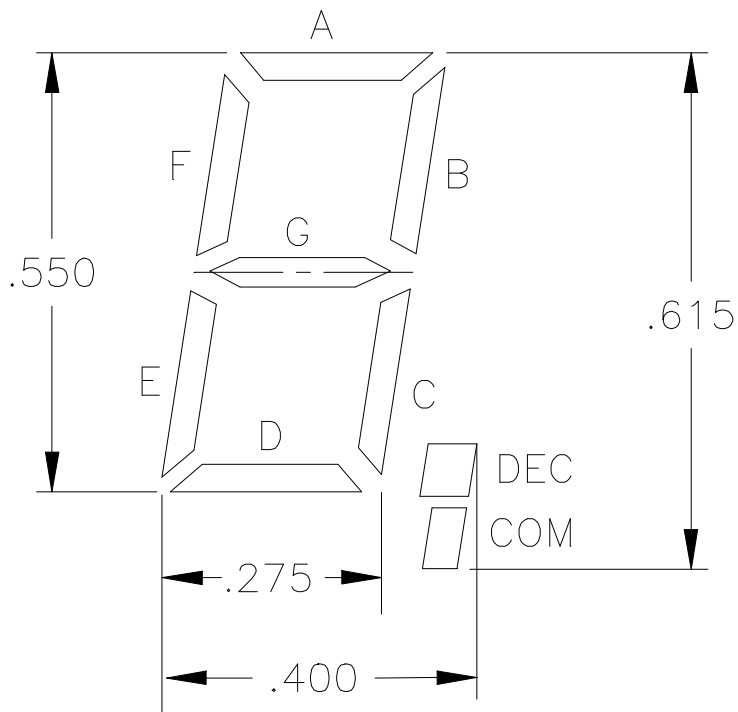
Segment Ratios

$\text{b}'' = .00055245$

Seg Area

Ratio =  $\frac{\text{Seg Area}}{\text{Seg } \text{b}'' \text{ Area}}$

Seg  $\text{b}''$  Area



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DISPLAY PRODUCTS DIVISION

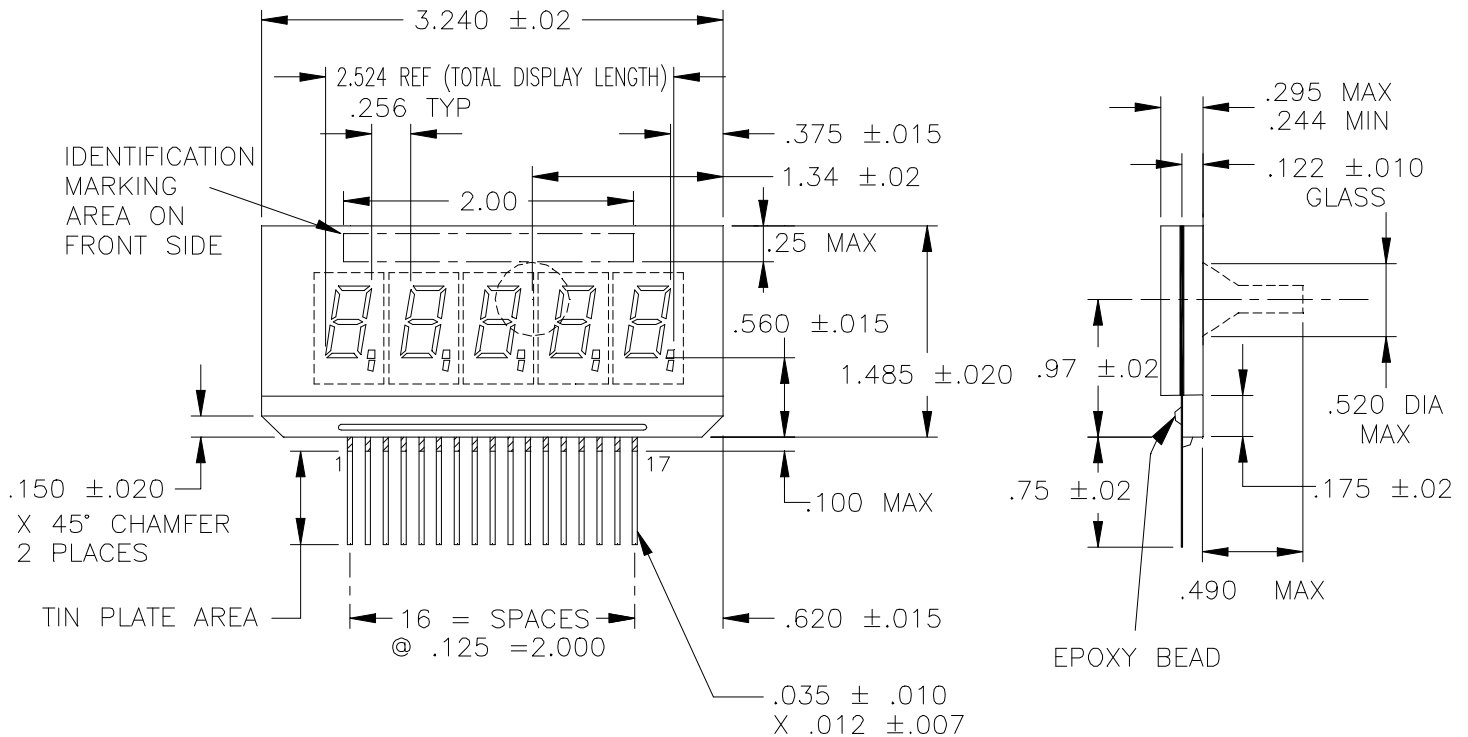
MODEL: **SP-450-034-XX**

XX denotes dash numbers below

**7-SEGMENTED SCREEN IMAGE, PDP**

## Outline and Mounting Dimensions:

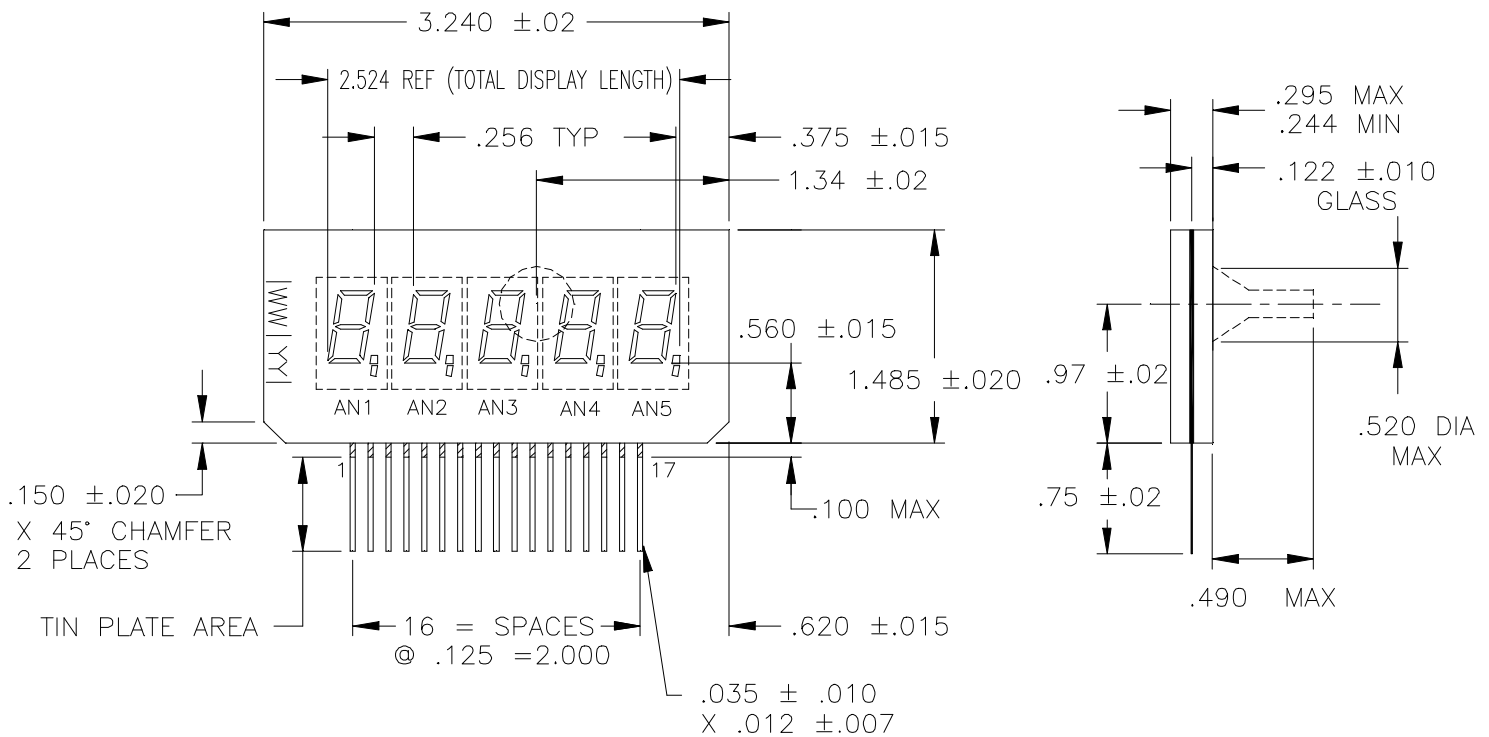
### SP-450-034



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**BABCOCK****DISPLAY PRODUCTS DIVISION****MODEL: SP-450-034-XX****XX denotes dash numbers below****7-SEGMENTED SCREEN IMAGE, PDP****SP-450-034-02**

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