





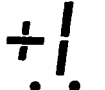





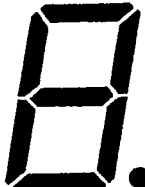









LED NUMERIC SINGLE DIGIT DISPLAYS



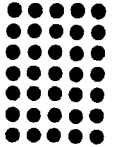
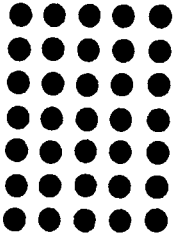
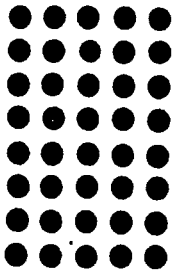
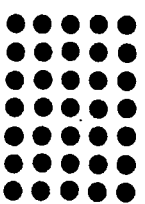
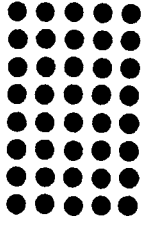
ACTUAL DIGIT HEIGHT	EMITTED COLOR					COMMON CATHODE or COMMON ANODE	PIN CONNECTION & PACKAGE
	GaAsp RED	GREEN	ORANGE	Gap RED	HI-EFFI RED		
0.3 inch (7.62 mm) 	CM1-3011 CM1-3021	CM1-3012 CM1-3022	CM1-3013 CM1-3023	CM1-3014 CM1-3024	CM1-3015 CM1-3025	C. C. C. A.	FIG. 1
0.3 inch (7.62 mm) 	CM0-3011 CM0-3021	CM0-3012 CM0-3022	CM0-3013 CM0-3023	CM0-3014 CM0-3024	CM0-3015 CM0-3025	C. C. C. A.	FIG. 2
0.36 inch (9.14 mm) 	CM1-3611 CM1-3621	CM1-3612 CM1-3622	CM1-3613 CM1-3623	CM1-3614 CM1-3624	CM1-3615 CM1-3625	C. C. C. A.	FIG. 3
0.36 inch (9.14 mm) 	CM1-3611 CM0-3621	CM0-3612 CM0-3622	CM0-3613 CM0-3623	CM0-3614 CM0-3624	CM0-3615 CM0-3625	C. C. C. A.	FIG. 4
0.4 inch (10.16 mm) 	CM1-4011 CM1-4021	CM1-4012 CM1-4022	CM1-4013 CM1-4023	CM1-4014 CM1-4024	CM1-4015 CM1-4025	C. C. C. A.	FIG. 5
0.43 inch (10.92 mm) 	CM1-4311 CM1-4321	CM1-4312 CM1-4322	CM1-4313 CM1-4323	CM1-4314 CM1-4324	CM1-4315 CM1-4325	C. C. C. A.	FIG. 6
0.43 inch (10.92 mm) 	CM0-4311 CM0-4321	CM0-4312 CM0-4322	CM0-4313 CM0-4323	CM0-4314 CM0-4324	CM0-4315 CM0-4325	C. C. C. A.	FIG. 7
0.5 inch (12.70 mm) 	CM1-5011 CM1-5021	CM1-5012 CM1-5022	CM1-5013 CM1-5023	CM1-5014 CM1-5024	CM1-5015 CM1-5025	C. C. C. A.	FIG. 8
0.56 inch (14.22 mm) 	CM1-5611 CM1-5621	CM1-5612 CM1-5622	CM1-5613 CM1-5623	CM1-5614 CM1-5624	CM1-5615 CM1-5625	C. C. C. A.	FIG. 9
0.56 inch (14.22 mm) 	CM0-5611 CM0-5621	CM0-5612 CM0-5622	CM0-5613 CM0-5623	CM0-5614 CM0-5624	CM0-5615 CM0-5625	C. C. C. A.	FIG. 10
0.6 inch (15.24 mm) 	CM1-6011 CM1-6021	CM1-6012 CM1-6022	CM1-6013 CM1-6023	CM1-6014 CM1-6024	CM1-6015 CM1-6025	C. C. C. A.	FIG. 11

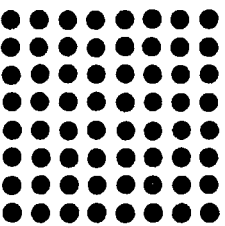


SINGLE DIGIT & DUAL DIGIT DISPLAYS

T-41-35

ACTUAL DIGIT HEIGHT	EMITTED COLOR					COMMON CATHODE or COMMON ANODE	PIN CONNECTION & PACKAGE
	GaAsp RED	GREEN	ORANGE	Gap RED	HI-EFFI RED		
0.8 inch (20.32 mm) 	CM1-8011 CM1-8021	CM1-8012 CM1-8022	CM1-8013 CM1-8023	CM1-8014 CM1-8024	CM1-8015 CM1-8025	T-41-31 C. C. C. A.	FIG. 12
1.0 inch (25.40 mm) 	CM1-10011 CM1-10021	CM1-10012 CM1-10022	CM1-10013 CM1-10023	CM1-10014 CM1-10024	CM1-10015 CM1-10025	C. C. C. A.	FIG. 13
1.02 inch (26.00 mm) 	CM1-10211 CM1-10221	CM1-10212 CM1-10222	CM1-10213 CM1-10223	CM1-10214 CM1-10224	CM1-10215 CM1-10225	C. C. C. A.	FIG. 14
2.30 inch (58.42 mm) 	CM1-23011 CM1-23021	CM1-23012 CM1-23022	CM1-23013 CM1-23023	CM1-23014 CM1-23024	CM1-23015 CM1-23025	C. C. C. A.	FIG. 15
0.3 inch (7.62 mm) 	CM2-3011 CM2-3021	CM2-3012 CM2-3022	CM2-3013 CM2-3023	CM2-3014 CM2-3024	CM2-3015 CM2-3025	C. C. C. A.	FIG. 16
0.4 inch (10.16 mm) 	CM2-4011 CM2-4021	CM2-4012 CM2-4022	CM2-4013 CM2-4023	CM2-4014 CM2-4024	CM2-4015 CM2-4025	C. C. C. A.	FIG. 17
0.5 inch (12.70 mm) 	CM2-5011 CM2-5021	CM2-5012 CM2-5022	CM2-5013 CM2-5023	CM2-5014 CM2-5024	CM2-5015 CM2-5025	C. C. C. A.	FIG. 18
0.54 inch (13.80 mm) 	CM2-5411 CM2-5421	CM2-5412 CM2-5422	CM2-5413 CM2-5423	CM2-5414 CM2-5424	CM2-5415 CM2-5425	C. C. C. A.	FIG. 19
0.56 inch (14.22 mm) 	CM2-5611 CM2-5621	CM2-5612 CM2-5622	CM2-5613 CM2-5623	CM2-5614 CM2-5624	CM2-5615 CM2-5625	C. C. C. A.	FIG. 20

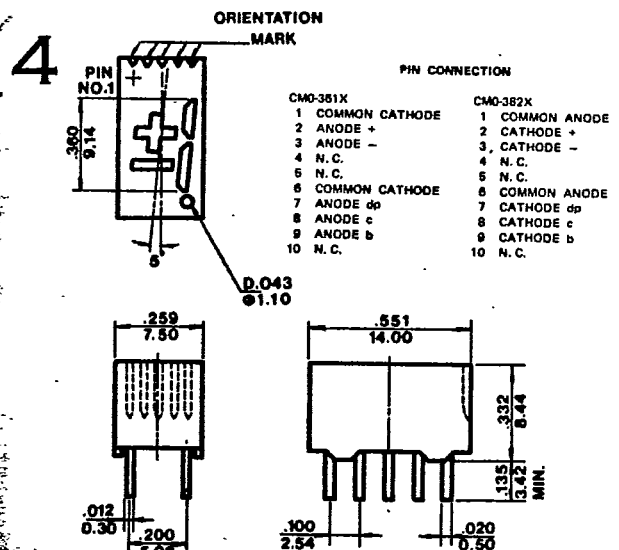
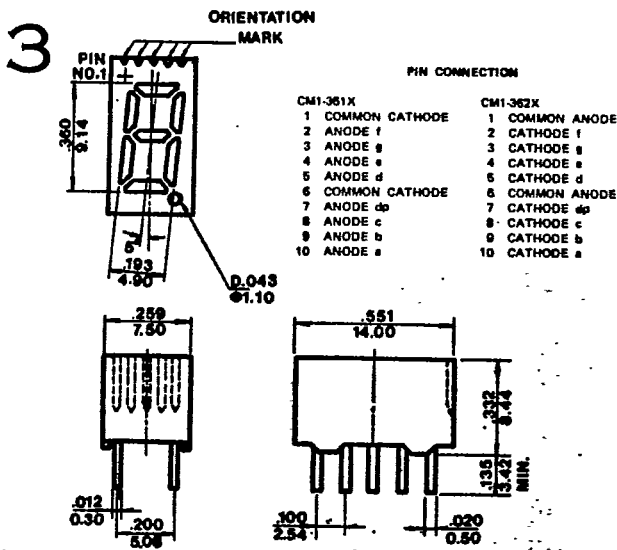
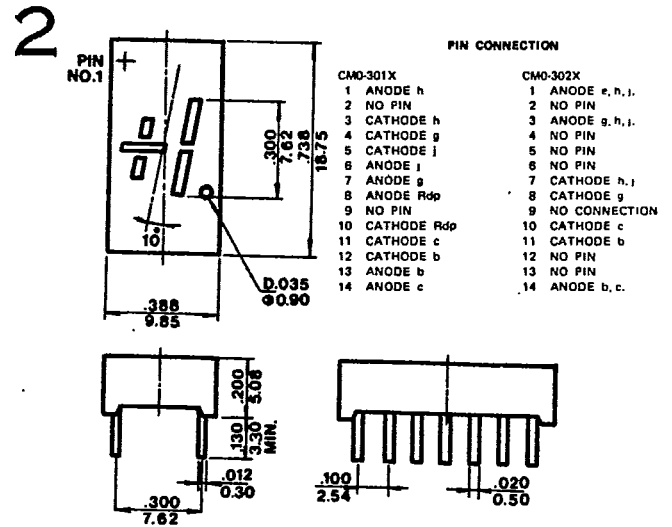
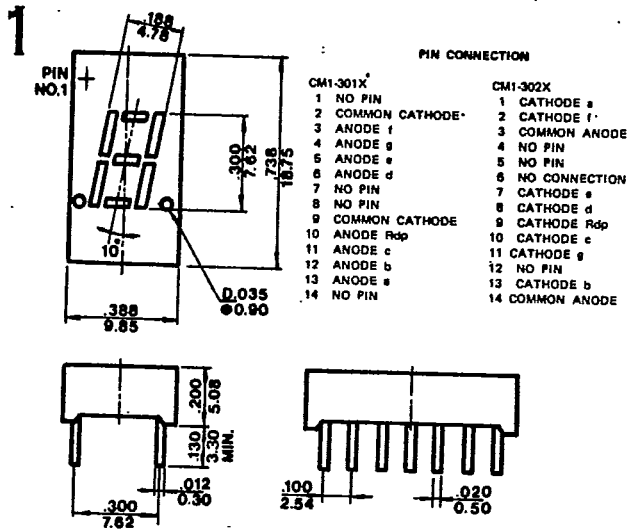
THREE FOUR DIGIT & DOT MATRIX DISPLAYS T-41-35

ACTUAL DIGIT HEIGHT	EMITTED COLOR T-41-31					COMMON CATHODE or COMMON ANODE	PIN CONNECTION & PACKAGE
	GaAsp RED	GREEN	ORANGE	Gap RED	HI-EFFI RED		
0.56 inch (14.22 mm) 	CM3-5611 CM3-5651 CM3-5621 CM3-5661	CM3-5612 CM3-5652 CM3-5622 CM3-5662	CM3-5613 CM3-5653 CM3-5623 CM3-5663	CM3-5614 CM3-5654 CM3-5624 CM3-5664	CM3-5615 CM3-5655 CM3-5625 CM3-5665	C. C. C. C. C. A. C. A.	FIG. 21
0.56 inch (14.22 mm)  (SCALE 1/2)	CM4-5611 CM4-5651 CM4-5621 CM4-5661	CM4-5612 CM4-5652 CM4-5622 CM4-5662	CM4-5613 CM4-5653 CM4-5623 CM4-5663	CM4-5614 CM4-5654 CM4-5624 CM4-5664	CM4-5615 CM4-5655 CM4-5625 CM4-5665	C. C. C. C. C. A. C. A.	FIG. 22
0.7 inch (17.78 mm) 	CMD-25711 CMD25721	CMD-25712 CMD-25722	CMD-25713 CMD-25723	CMD-25714 CMD-25724	CMD-25715 CMD-25725	C. C. C. A.	FIG. 23
1.2 inch (30.48 mm) 	CMD-35711 CMD-35721	CMD-35712 CMD-35722	CMD-35713 CMD-35723	CMD-35714 CMD-35724	CMD-35715 CMD-35725	C. C. C. A.	FIG. 24
1.4 inch (35.56 mm) 	CMD-35811 CMD-35821	CMD-35812 CMD-35822	CMD-35813 CMD-35823	CMD-35814 CMD-35824	CMD-35815 CMD-35825	C. C. C. A.	FIG. 25
2.0 inch (50.8 mm)  (SCALE 1/2)	CMD-55711 CMD-55721	CMD-55712 CMD-55722	CMD-55713 CMD-55723	CMD-55714 CMD-55724	CMD-55715 CMD-55725	C. C. C. A.	FIG. 26
2.3 inch (58.42 mm)  (SCALE 1/2)	CMD-55811 CMD-55821	CMD-55812 CMD-55822	CMD-55813 CMD-55823	CMD-55814 CMD-55824	CMD-55815 CMD-55825	C. C. C. A.	FIG. 27

ACTUAL DIGIT HEIGHT	EMITTED COLOR					COMMON CATHODE or COMMON ANODE	PIN CONNECTION & PACKAGE
	GaAsp RED	GREEN	ORANGE	Gap RED	HI-EFFI RED		
2.3 inch (58.42 mm)  (SCALE 1/2)	CMD-58811 CMD-58821	CMD-58812 CMD-58822	CMD-58813 CMD-58823	CMD-58814 CMD-58824	CMD-58815 CMD-58825	C. C. C. A.	FIG. 28
LIGHT BAR 	CML-1001	CML-1002	CML-1003	CML-1004	CML-1005		FIG. 29
10 BAR GRAPH ARRAY  (SCALE 1/2)	CML-10001	CML-10002	CML-10003	CML-10004	CML-10005		FIG. 30

PACKAGE DIMENSIONS

Note: All Dimension Are In $\frac{\text{Inches,}}{\text{Millimeters}}$ Tolerance Is $\frac{0.010''}{(0.25 \text{ mm})}$ Unless Otherwise Noted.



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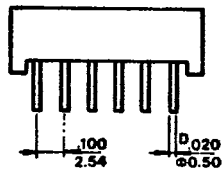
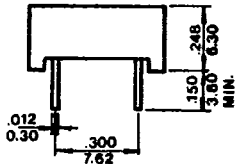
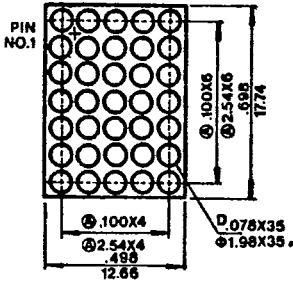
PIN CONNECTION

CMD-2571X

- 1 ANODE COLUMN 1
- 2 CATHODE ROW 3
- 3 ANODE COLUMN 2
- 4 CATHODE ROW 5
- 5 CATHODE ROW 6
- 6 CATHODE ROW 7
- 7 ANODE COLUMN 4
- 8 ANODE COLUMN 5
- 9 CATHODE ROW 4
- 10 ANODE COLUMN 3
- 11 CATHODE ROW 2
- 12 CATHODE ROW 1

CMD-2572X

- 1 CATHODE COLUMN 1
- 2 ANODE ROW 3
- 3 CATHODE COLUMN 2
- 4 ANODE ROW 5
- 5 ANODE ROW 6
- 6 ANODE ROW 7
- 7 CATHODE COLUMN 4
- 8 CATHODE COLUMN 5
- 9 ANODE ROW 4
- 10 CATHODE COLUMN 3
- 11 ANODE ROW 2
- 12 ANODE ROW 1



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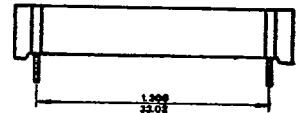
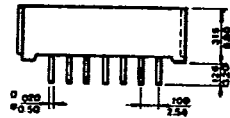
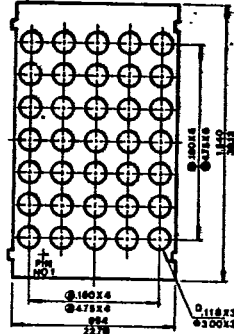
PIN CONNECTION

CMD-3571X

- 1 ANODE ROW 5
- 2 ANODE ROW 7
- 3 CATHODE COLUMN 2
- 4 CATHODE COLUMN 3
- 5 ANODE ROW 4
- 6 CATHODE COLUMN 8
- 7 ANODE ROW 6
- 8 ANODE ROW 3
- 9 ANODE ROW 1
- 10 CATHODE COLUMN 4
- 11 CATHODE COLUMN 3
- 12 ANODE ROW 4
- 13 CATHODE COLUMN 1
- 14 ANODE ROW 2

CMD-3572X

- 1 CATHODE ROW 5
- 2 CATHODE ROW 7
- 3 ANODE COLUMN 2
- 4 ANODE COLUMN 3
- 5 CATHODE ROW 4
- 6 ANODE COLUMN 8
- 7 CATHODE ROW 6
- 8 CATHODE ROW 3
- 9 CATHODE ROW 1
- 10 ANODE COLUMN 4
- 11 ANODE COLUMN 3
- 12 CATHODE ROW 4
- 13 ANODE COLUMN 1
- 14 CATHODE ROW 2



25

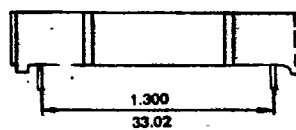
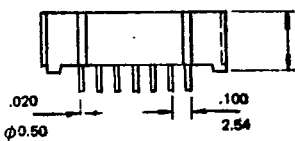
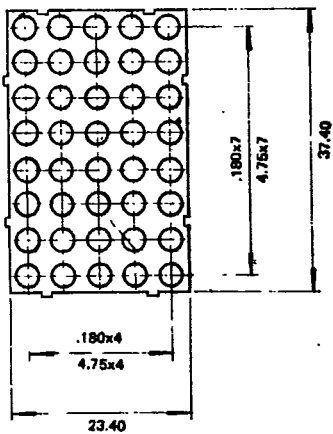
PIN CONNECTION

CMD-3581X

- 1 ANODE ROW 6
- 2 ANODE ROW 8
- 3 CATHODE COLUMN 2
- 4 CATHODE COLUMN 3
- 5 ANODE ROW 5
- 6 CATHODE COLUMN 5
- 7 ANODE ROW 7
- 8 ANODE ROW 3
- 9 ANODE ROW 1
- 10 CATHODE COLUMN 4
- 11 CATHODE COLUMN 3
- 12 ANODE ROW 4
- 13 CATHODE COLUMN 1
- 14 ANODE ROW 2

CMD-3582X

- 1 CATHODE ROW 6
- 2 CATHODE ROW 8
- 3 ANODE COLUMN 2
- 4 ANODE COLUMN 3
- 5 CATHODE ROW 5
- 6 ANODE COLUMN 5
- 7 CATHODE ROW 7
- 8 CATHODE ROW 3
- 9 CATHODE ROW 1
- 10 ANODE COLUMN 4
- 11 ANODE COLUMN 3
- 12 ANODE ROW 4
- 13 ANODE COLUMN 1
- 14 CATHODE ROW 2



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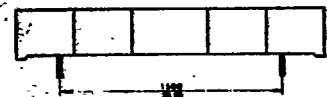
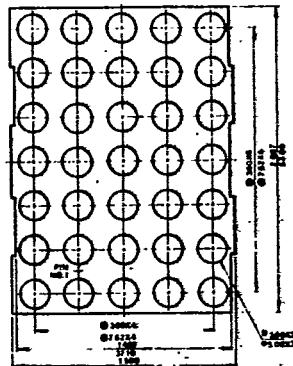
PIN CONNECTION

CMD-5571X

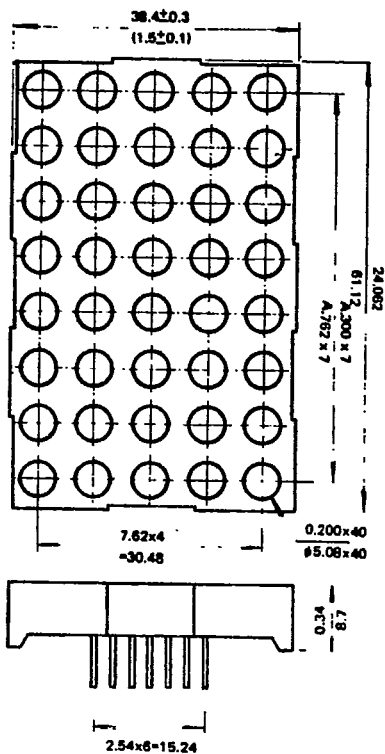
- 1 ANODE ROW 5
- 2 ANODE ROW 7
- 3 CATHODE COLUMN 2
- 4 CATHODE COLUMN 3
- 5 ANODE ROW 4
- 6 CATHODE COLUMN 5
- 7 ANODE ROW 6
- 8 ANODE ROW 3
- 9 ANODE ROW 1
- 10 CATHODE COLUMN 4
- 11 CATHODE COLUMN 3
- 12 ANODE ROW 4
- 13 CATHODE COLUMN 1
- 14 ANODE ROW 2

CMD-5572X

- 1 CATHODE ROW 5
- 2 CATHODE ROW 7
- 3 ANODE COLUMN 2
- 4 ANODE COLUMN 3
- 5 CATHODE ROW 4
- 6 ANODE COLUMN 5
- 7 CATHODE ROW 6
- 8 CATHODE ROW 3
- 9 CATHODE ROW 1
- 10 ANODE COLUMN 4
- 11 ANODE COLUMN 3
- 12 CATHODE ROW 4
- 13 ANODE COLUMN 1
- 14 CATHODE ROW 2



27

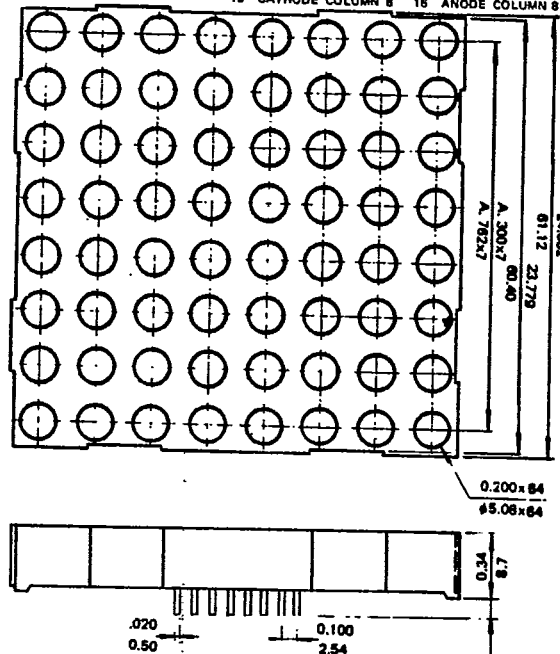


PIN CONNECTION

- CMD-5581X**
- 1 ANODE ROW 6
 - 2 ANODE ROW 8
 - 3 CATHODE COLUMN 2
 - 4 CATHODE COLUMN 3
 - 5 ANODE ROW 5
 - 6 CATHODE COLUMN 5
 - 7 ANODE ROW 7
 - 8 ANODE ROW 3
 - 9 ANODE ROW 1
 - 10 CATHODE COLUMN 4
 - 11 CATHODE COLUMN 3
 - 12 ANODE ROW 4
 - 13 CATHODE COLUMN 1
 - 14 ANODE ROW 2

- CMD-5582X**
- 1 CATHODE ROW 6
 - 2 CATHODE ROW 8
 - 3 ANODE COLUMN 2
 - 4 ANODE COLUMN 3
 - 5 CATHODE ROW 5
 - 6 ANODE COLUMN 5
 - 7 CATHODE ROW 7
 - 8 CATHODE ROW 3
 - 9 CATHODE ROW 1
 - 10 ANODE COLUMN 4
 - 11 ANODE COLUMN 3
 - 12 ANODE ROW 4
 - 13 ANODE COLUMN 1
 - 14 CATHODE ROW 2

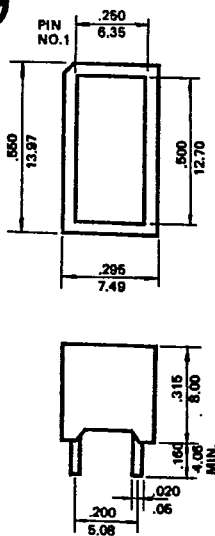
28



- PIN CONNECTION**
- | | | | |
|---------------------|--------------------|--------------------|--------------------|
| CMD-5581X | 1 ANODE ROW 5 | CMD-5582X | 1 CATHODE ROW 5 |
| 2 ANODE ROW 7 | 2 CATHODE ROW 8 | 2 CATHODE ROW 8 | 2 CATHODE ROW 8 |
| 3 CATHODE COLUMN 2 | 3 ANODE COLUMN 2 | 3 ANODE COLUMN 2 | 3 ANODE COLUMN 2 |
| 4 CATHODE COLUMN 3 | 4 ANODE COLUMN 3 | 4 ANODE COLUMN 3 | 4 ANODE COLUMN 3 |
| 5 ANODE ROW 5 | 5 CATHODE ROW 5 | 5 CATHODE ROW 5 | 5 CATHODE ROW 5 |
| 6 CATHODE COLUMN 5 | 6 ANODE ROW 6 | 6 ANODE ROW 6 | 6 ANODE ROW 6 |
| 7 ANODE ROW 7 | 7 CATHODE COLUMN 5 | 7 CATHODE COLUMN 5 | 7 CATHODE COLUMN 5 |
| 8 ANODE ROW 3 | 8 CATHODE ROW 3 | 8 CATHODE ROW 3 | 8 CATHODE ROW 3 |
| 9 ANODE ROW 1 | 9 CATHODE ROW 1 | 9 CATHODE ROW 1 | 9 CATHODE ROW 1 |
| 10 CATHODE COLUMN 4 | 10 ANODE COLUMN 4 | 10 ANODE COLUMN 4 | 10 ANODE COLUMN 4 |
| 11 CATHODE COLUMN 6 | 11 ANODE COLUMN 6 | 11 ANODE COLUMN 6 | 11 ANODE COLUMN 6 |
| 12 ANODE ROW 4 | 12 CATHODE ROW 4 | 12 CATHODE ROW 4 | 12 CATHODE ROW 4 |
| 13 CATHODE COLUMN 1 | 13 ANODE COLUMN 1 | 13 ANODE COLUMN 1 | 13 ANODE COLUMN 1 |
| 14 ANODE ROW 2 | 14 CATHODE ROW 2 | 14 CATHODE ROW 2 | 14 CATHODE ROW 2 |
| 15 CATHODE COLUMN 7 | 15 ANODE COLUMN 7 | 15 ANODE COLUMN 7 | 15 ANODE COLUMN 7 |
| 16 CATHODE COLUMN 8 | 16 ANODE COLUMN 8 | 16 ANODE COLUMN 8 | 16 ANODE COLUMN 8 |

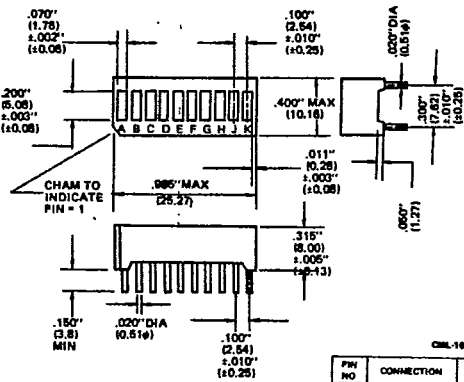
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- CML-100X**
- 1. CATHODE A
 - 2. NO PIN
 - 3. ANODE B
 - 4. CATHODE B
 - 5. NO CONNECTION
 - 6. ANODE A

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CML-100XK

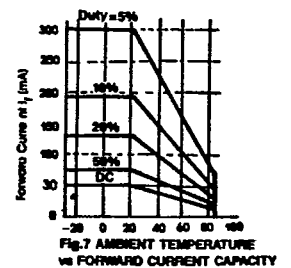
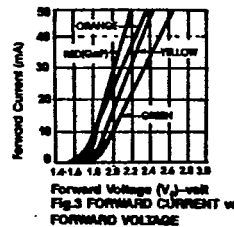
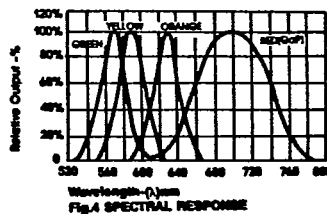
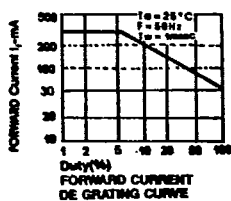
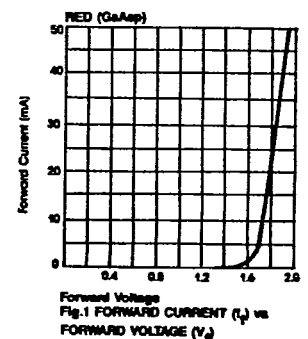
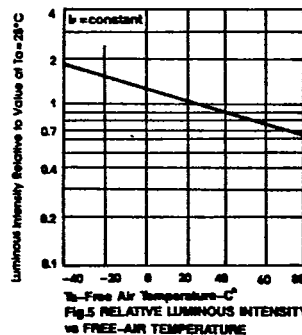
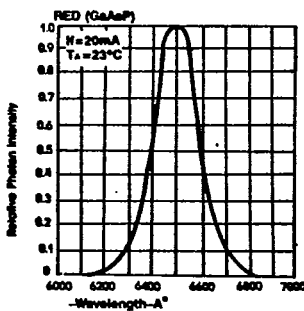
PIN NO.	CONNECTION	PIN NO.	CONNECTION
1	Anode A	11	Cathode K
2	Anode B	12	Cathode J
3	Anode C	13	Cathode H
4	Anode D	14	Cathode G
5	Anode E	15	Cathode F
6	Anode F	16	Cathode E
7	Anode G	17	Cathode D
8	Anode H	18	Cathode C
9	Anode J	19	Cathode B
19	Anode K	20	Cathode A

ABSOLUTE MAXIMUM RATINGS (Ta = 25)						
ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)						
PARAMETER	RED (GaAsP)	GREEN	ORANGE	Gap RED	HI-EFFI RED	UNITS
Reverse Voltage Per Segment or D.P.	5	5	5	5	5	V
Average Forward Current (If)	30	30	30	30	30	mA
Peak Forward Current Per Segment or D.P.	200	200	200	200	200	mA
Power Dissipation	100	85	85	85	85	mW
Operating Temperature Range	-40°C TO 85°C					
Storage Temperature Range	-40°C TO 100°C					
Lead Solder Temperature (1.6 mm From Body) 260°C for 3sec.						

ELECTRO - OPTICAL CHARACTERISTICS (T_a = 25°C)

PARAMETER	SYMBOL	DEVICES	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Forward Voltage	V _F	GaAsp RED	1.5	1.7	2.0	V	I _F = 10mA
		GREEN	1.54	2.2	3.0		
		ORANGE	1.47	2.1	3.0		
		Gap RED	1.40	2.0	3.0		
		HI-EFF RED	1.47	2.1	3.0		
Wavelength	λ _p	GaAsp RED		655		nm	I _F = 20mA
		GREEN		567			
		ORANGE		635			
		Gap RED		700			
		HI-EFFI RED		635			
Spectral Line Halfwidth	Δλ	GaAsp RED		40		nm	I _F = 20mA
		GREEN		30			
		ORANGE		45			
		Gap RED		90			
		HI-EFFI RED		45			
Reverse Current	I _R	GaAsp RED			100	μA	*1 DICE V _R = 5V 2 DICES V _R = 10V 3 DICES V _R = 20V
		GREEN			100		
		ORANGE			100		
		Gap RED			100		
		HI-EFFI RED			100		

TYPICAL ELECTRO-OPTICAL CHARACTERISTIC CURVES (25°C Free Air Temperature Unless Otherwise Specified)



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