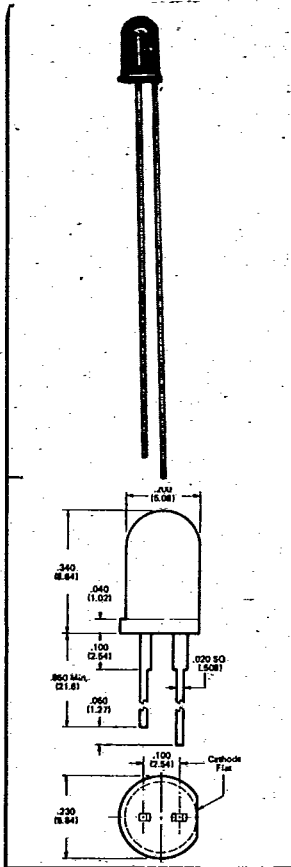


# BULGIN Light Emitting Diodes

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3368291 ERCONA CORP

09C 00022 D T-41-21



## CM4-83, SOLID STATE LAMP, RED GALLIUM ARSENIDE PHOSPHIDE

Optical Characteristics (@ 25°C)

Device Number	Lens Tint	Diffusion	Light Colour	Peak Wavelength Typical	Luminous Intensity @ If = 10mA		Viewing Angle Typical
					Gtd. Min.	Typical	
CM4-83	Red	Diffused	Red	660 nm	1.0 mcd	2.0 mcd	24°
CM4-83-2	Red	Diffused	Red	660 nm	2.0 mcd	3.0 mcd	24°
CM4-83-3	Red	Diffused	Red	660 nm	3.0 mcd	4.0 mcd	24°

Light Source: Up to 4.0 mcd luminous intensity @ 10mA (8.0 mcd at 20mA). Size: Cylindrical lens is T-1¼ size. Leads: Tin-plated. Mounting Clip: CM4-6.

### Electrical Characteristics (@ 25°C)

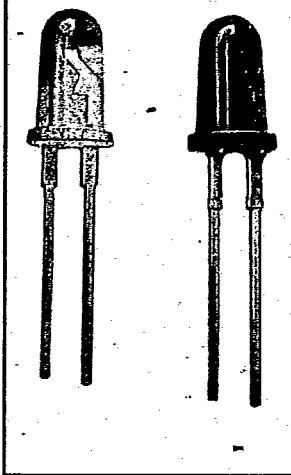
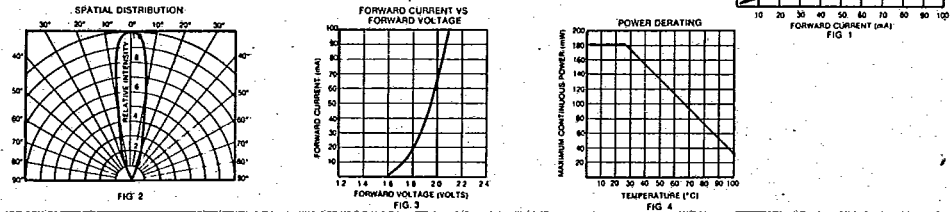
Parameter	Forward Voltage @ If = 20mA	Reverse Voltage @ Ir = 100µA	Response Time	Capacitance @ 1MHz, 0V DC
Minimum		5.0 Volts		
Typical	1.8 Volts	20.0 Volts	50nS	35 pF
Maximum	2.2 Volts			

### MAXIMUM RATINGS (@ 25°C)

Continuous Forward Current . . . . . 100mA  
 Peak Forward Current (1µs pulse, .1% duty cycle) . . . . . 6.0A  
 Storage and Operating Temperature . . . . . -55°C to 100°C  
 Solder Time @ 260°C (MIL. S-750) . . . . . 5 seconds

### TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

(25°C Free Air Temperature Unless Otherwise Specified)



## CM4-X80B SERIES, SOLID STATE LAMP, RED, GREEN, ORANGE AND YELLOW

Optical Characteristics (@ 25°C)

Device Number	Lens Tint	Diffusion	Light Colour	Material	Peak Wavelength Typical	Luminous Intensity @ If = 20mA		Viewing Angle Typical
						Gtd. Min.	Typical	
CM4-282B	Red	Transparent	Red	GaAsP	635 nm	17.0 mcd	40.0 mcd	28°
CM4-283B	Red	Diffused	Red	GaAsP	635 nm	1.7 mcd	8.0 mcd	24°
CM4-284B	Red	Diffused	Red	GaAsP	635 nm	1.2 mcd	4.0 mcd	65°
CM4-382B	Green	Transparent	Green	GaP	565 nm	5.0 mcd	15.0 mcd	28°
CM4-383B	Green	Diffused	Green	GaP	565 nm	0.6 mcd	3.0 mcd	24°
CM4-384B	Green	Diffused	Green	GaP	565 nm	0.5 mcd	1.5 mcd	65°
CM4-482B	Orange	Transparent	Orange	GaAsP	635 nm	17.0 mcd	40.0 mcd	28°
CM4-483B	Orange	Diffused	Orange	GaAsP	635 nm	1.7 mcd	8.0 mcd	24°
CM4-484B	Orange	Diffused	Orange	GaAsP	635 nm	1.2 mcd	4.0 mcd	65°
CM4-582B	Yellow	Transparent	Yellow	GaAsP	585 nm	16.0 mcd	45.0 mcd	28°
CM4-583B	Yellow	Diffused	Yellow	GaAsP	585 nm	3.0 mcd	10.0 mcd	24°
CM4-584B	Yellow	Diffused	Yellow	GaAsP	585 nm	2.5 mcd	6.0 mcd	65°

Light Source: Up to 45.0 mcd luminous intensity. Size: Cylindrical lens is T-1¼ size. Leads: Tin-plated. Mounting Clip: CM4-6.

### Electrical Characteristics (@ 25°C)

Parameter	Forward Voltage @ If = 20mA	Reverse Voltage @ Ir = 100µA	Response Time	Capacitance @ 1MHz, 0V DC
Minimum		5.0 Volts		
Typical	2.0 Volts, OR. & RED 2.1 Volts, YEL.	25.0 Volts	50nS	45 pF
Maximum	3.0 Volts			

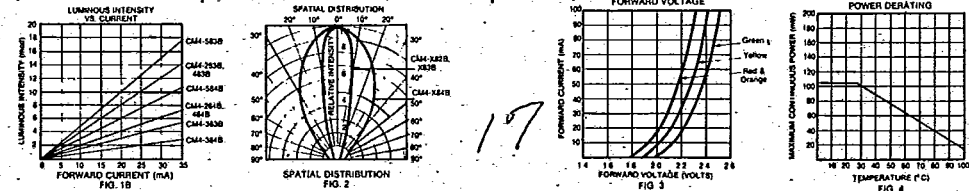
Super high brightness version available add /2 to the device number

### MAXIMUM RATINGS (@ 25°C)

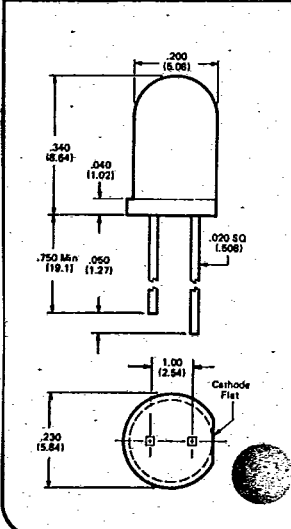
Continuous Forward Current . . . . . 35mA  
 Power Dissipation . . . . . 105 mW  
 Power Derating Above 25°C . . . . . -1.15mW/°C  
 Peak Forward Current (1µ pulse, .1% duty cycle) . . . . . 5.0A  
 Storage and Operating Temperature . . . . . -55°C to 100°C  
 Solder Time @ 260°C . . . . . 5 seconds

### TYPICAL ELECTRO-OPTICAL CHARACTERISTICS

(25°C Free Air Temperature Unless Otherwise Specified)



Light Emitting Diodes ready for panel mounting are also available. See Signal Lamp catalogue.



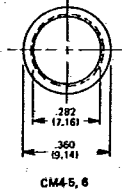
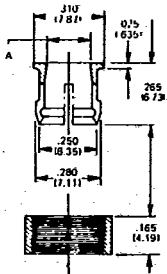
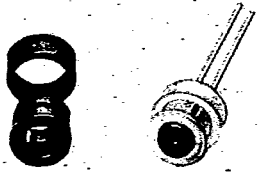
## Light Emitting Diodes

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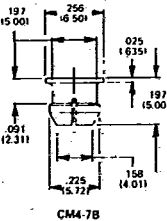
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### CM4 SERIES /4999 SERIES. SOLID STATE LAMP. LED PANEL MOUNTING HARDWARE



CM4-5, 6



CM4-7B

Part Number	Material	Colour	Lamp Size	Applicable Lamps		Max. Panel Thickness	Mounting Hole Dia.	Dim. A
				Lamp Number	Lamp Shape			
CM4-5B	Polypro*	Black	T-1 1/4	CM4-20 Series	Tapered	.125"	.250"	.175"
CM4-5C	Polypro*	Clear	T-1 1/4	CM4-20 Series	Tapered	.125"	.250"	.175"
CM4-6B	Polypro*	Black	T-1 1/4	CM-80B Series, CM4-X80B Series, CM4-83	Cylindrical	.125"	.250"	.200"
CM4-6C	Polypro*	Clear	T-1 1/4	CM4-80B Series, CM4-X80B Series, CM4-83	Cylindrical	.125"	.250"	.200"
CM4-7B	Polypro*	Black	T-1	CM4-43, CM4-X44B Series	Cylindrical	.060"	.200"	NA

\* or equivalent

Light Emitting Diodes ready for panel mounting are also available. See Signal Lamp catalogue.

## Filament Lamps (Nearest Equivalents)

Joint Service Number	Bulgin Part no.	Joint Service Number	Bulgin Part no.	Joint Service Number	Bulgin Part no.
6240-99-		995-1238	L990	995-4314	L679
995-1110	L991	995-1285	L641	995-4448	L721
995-1112	LG198	995-1294	LW504	995-4452	LCM32
995-1114	L411	995-1297	L650	995-4453	LW483
995-1128	L661	995-1901	L673	995-4534	LCM6838
995-1148	L539	995-1903	L682	995-4739	LW643
995-1158	L540	995-1904	L674	995-9103	L995-9103
995-1170	L643	995-1905	L280	995-9107	L995-9107
995-1180	L529	995-1906	L687	995-9118	L727
995-1182	LW593	995-1928	LG549	995-9119	L723
995-1185	LG541	995-1942	LG592	995-9120	L725
995-1186	LG537	995-1945	L690	995-9122	L729
995-1187	LG529	995-1954	L734	995-9125	L726
995-1189	LCM683	995-2109	LG410	995-9135	L724
995-1195	LG473	995-2314	LW607	995-9144	LG573
995-1197	L528	995-2318	L281	995-9150	L400
995-1198	LCM685	995-2324	L673WE	995-9156	LG1303
995-1199	L676	995-2329	L761	995-9180	L679
995-1204	L640	995-2522	LCM718	995-9181	LW476
995-1208	L982	995-2524	LCM715	995-9182	L736
995-1232	LW599	995-2627	LCM6839	995-9184	LCM6839
995-1233	LW600	995-2629	LCM682	995-9190	L995-9190
995-1234	L651	995-3247	L987	995-9198	L740
		995-3258	L688	995-9233	LW592