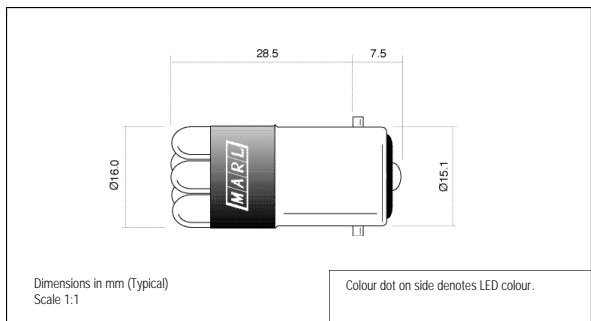
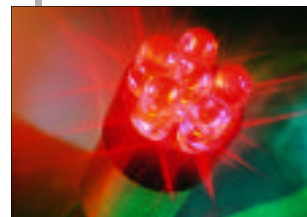


**FILAMENT REPLACEMENT LEDs - MULTI-LED CLUSTER**



- Direct replacement for BA15s
- Bi-polar
- Ideal for high vibration applications



**231 SERIES**

**MLQ = 20**



**Ordering Information & Typical Technical Characteristics (Ta = 25°C)**

Mean Time Between Failure = 100,000 Hours. Luminous intensity figures refer to a single unmodified discrete LED.

PART NUMBER	COLOUR	LENS	VOLTAGE DC Vopr	CURRENT DC Iopr	LUMINOUS INTENSITY Iv@20mA	WAVE LENGTH p	VIEWING ANGLE	OPERATING TEMP Topr	STORAGE TEMP Tstg
<b>HIGH INTENSITY</b>									
231-501-21	Red	Water Clear	12	40	2750	660	Narrow	-40 ~ +80	-40 ~ +80
231-521-21	Yellow		12	40	4500	590			
231-532-21	Green		12	40	6000	525			
231-930-21	Blue		12	40	2000	470			
231-997-21	White		12	40	3000	•			
231-501-22	Red		24	20	2750	660			
231-521-22	Yellow		24	20	4500	590			
231-532-22	Green		24	20	6000	525			
231-930-22	Blue		24	20	2000	470			
231-997-22	White		24	20	3000	•			
231-501-23	Red		28	19	2750	660			
231-521-23	Yellow		28	20	4500	590			
231-532-23	Green		28	17	6000	525			
231-930-23	Blue		28	17	2000	470			
231-997-23	White		28	17	3000	•			
<b>UNITS</b>				<b>Vdc</b>	<b>mA</b>	<b>mcd</b>			

• = Typical emission colour: x=0.31, y=0.32. Colour temperature 8000K.  
 Intensities (Iv) and colour shades of white (x,y co-ordinates) may vary between LEDs within a batch.

**CUSTOM DESIGN SERVICE**