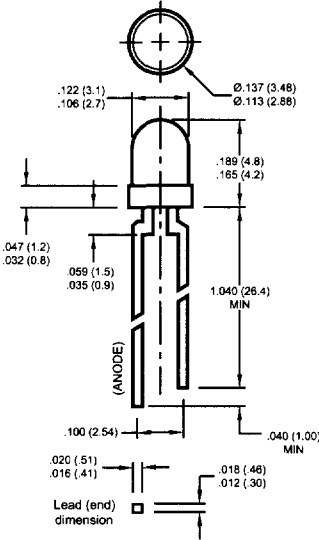


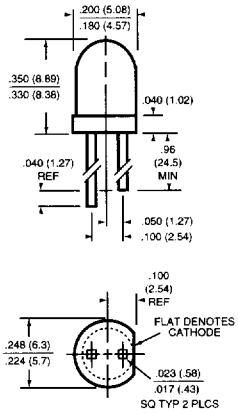
T-100 Super Bright Clear Lens									
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes
					typ	max	min	typ	
MV7042		645	Water Clear	60°	2.1	2.8	100	150	4
MV7043		645	Water Clear	60°	2.1	2.8	160	240	4
MV7044		645	Water Clear	60°	2.1	2.8	250	375	4
MV7342	AlInGaP Yellow	590	Water Clear	60°	2.1	2.8	100	150	4
MV7343		590	Water Clear	60°	2.1	2.8	160	240	4
MV7344		590	Water Clear	60°	2.1	2.8	250	375	4
MV7441		570	Water Clear	60°	2.1	2.8	100	150	4
MV7442		570	Water Clear	60°	2.0	2.8	160	240	4
MV7742		620	Water Clear	60°	2.1	2.8	100	150	4
MV7743		620	Water Clear	60°	2.1	2.8	160	240	4
MV7744		620	Water Clear	60°	2.1	2.8	250	375	4
MV7842		630	Water Clear	60°	2.1	2.8	100	150	4
MV7843		630	Water Clear	60°	2.1	2.8	160	240	4
MV7844		630	Water Clear	60°	2.1	2.8	250	375	4
MV5B60		430	Water Clear	35°	3.8	5.5	200	350	4
MV5B640		430	Blue Diffused	45°	3.8	5.5	80	120	4



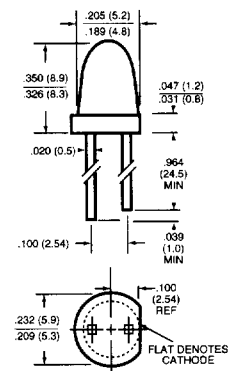
**Notes:**

- 4.  $V_F$  &  $I_V$  @  $I_F = 20$  mA.  
HER = High Efficiency Red.

T-1 3/4 Super Bright Diffused Lens										
Part Number	Source Color	Wave-length $\lambda$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes	
					typ	max	min	typ		
MV8190	Black	660	Red Diffused	40°	1.7	2.4	63	100	4	
MV8191		660	Red Diffused	40°	1.7	2.4	100	200	4	

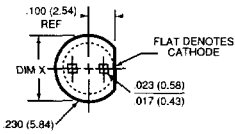
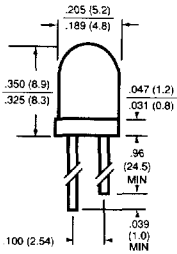


T-1 3/4 Super Bright Tapered Clear Lens										
Part Number	Source Color	Wave-length $\lambda$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes	
					typ	max	min	typ		
MV8713	Black	620	Water Clear	12°	2.1	2.8	630	940	4	
MV8714		620	Water Clear	12°	2.1	2.8	1000	1500	4	
MV8715		620	Water Clear	12°	2.1	2.8	1600	2400	4	
MV8716		620	Water Clear	12°	2.1	2.8	2500	3500	4	
MV8111		660	Water Clear	12°	1.7	2.4	250	370	4	
MV8112		660	Water Clear	12°	1.7	2.4	630	950	4	
MV8113		660	Water Clear	12°	1.7	2.4	1000	1500	4	
MV8114		660	Water Clear	12°	1.7	2.4	1600	2400	4	
MV8313		AllInGaP Yellow	590	Water Clear	12°	2.1	2.8	630	940	4
MV8314			590	Water Clear	12°	2.1	2.8	1000	1500	4
MV8315			590	Water Clear	12°	2.1	2.8	1600	2400	4
MV8316			590	Water Clear	12°	2.1	2.8	2500	3500	4
MV8410		Black	565	Water Clear	12°	2.1	2.8	160	240	4
MV8411			565	Water Clear	12°	2.1	2.8	250	370	4
MV8412	565		Water Clear	12°	2.1	2.8	400	600	4	
MV8813	Black		630	Water Clear	12°	2.1	2.8	630	940	4
MV8814			630	Water Clear	12°	2.1	2.8	1000	1500	4
MV8815			630	Water Clear	12°	2.1	2.8	1600	2400	4
MV8816		630	Water Clear	12°	2.1	2.8	2500	3500	4	
MV8012		Black	645	Water Clear	12°	2.1	2.8	630	950	4
MV8013			645	Water Clear	12°	2.1	2.8	1000	1500	4
MV8014	645		Water Clear	12°	2.1	2.8	1600	2400	4	
MV8015	645	Water Clear	12°	2.1	2.8	2500	3500	4		



## T-1 3/4 Super Bright Clear Lens

Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes
					typ	max	min	typ	
MV8703	AlGaIn	620	Water Clear	20°	2.1	2.8	630	940	4
MV8704		620	Water Clear	20°	2.1	2.8	1000	1500	4
MV8705		620	Water Clear	20°	2.1	2.8	1600	2400	4
MV8731		620	Water Clear	30°	2.1	2.8	400	600	4
MV8732		620	Water Clear	30°	2.1	2.8	630	940	4
MV8741		620	Water Clear	45°	2.1	2.8	250	370	4
MV8742		620	Water Clear	45°	2.1	2.8	400	600	4
MV8102		660	Water Clear	20°	1.7	2.4	250	370	4
MV8103		660	Water Clear	20°	1.7	2.4	630	940	4
MV8104		660	Water Clear	20°	1.7	2.4	1000	1500	4
MV8132		660	Water Clear	30°	1.7	2.4	630	940	4
MV8140		660	Water Clear	40°	1.7	2.4	120	220	4
MV8141		660	Water Clear	40°	1.7	2.4	250	370	4
MV8303		AlInGaP Yellow	590	Water Clear	20°	2.1	2.8	630	940
MV8304	590		Water Clear	20°	2.1	2.8	1000	1500	4
MV8305	590		Water Clear	20°	2.1	2.8	1600	2400	4
MV8331	590		Water Clear	30°	2.1	2.8	400	600	4
MV8332	590		Water Clear	30°	2.1	2.8	630	940	4
MV8341	590		Water Clear	45°	2.1	2.8	160	220	4
MV8342	590		Water Clear	45°	2.1	2.8	250	370	4
MV8803	AlGaIn		630	Water Clear	20°	2.1	2.8	630	940
MV8804		630	Water Clear	20°	2.1	2.8	1000	1500	4
MV8805		630	Water Clear	20°	2.1	2.8	1600	2400	4
MV8831		630	Water Clear	30°	2.1	2.8	400	600	4
MV8832		630	Water Clear	30°	2.1	2.8	630	940	4
MV8003		645	Water Clear	20°	2.1	2.8	630	940	4
MV8004		645	Water Clear	20°	2.1	2.8	1000	1500	4
MV8005		645	Water Clear	20°	2.1	2.8	1600	2400	4
MV8031		645	Water Clear	30°	2.1	2.8	400	600	4
MV8032		645	Water Clear	30°	2.1	2.8	630	940	4
MV8041	645	Water Clear	45°	2.1	2.8	160	220	4	



Part Numbers	DIM X	
	MAX	MIN
MV8331/2	232 (5.9)	209 (5.3)
MV8303/4/5	244 (6.2)	220 (5.6)
MV810X	248 (6.3)	224 (5.7)
MV814X/MV834X		
MV870X/MV874X		

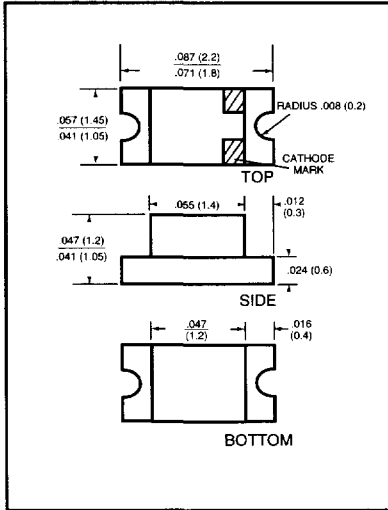
### Notes:

- $V_F$  &  $I_V$  @  $I_F = 20$  mA.
  - $V_F$  &  $I_V$  @  $I_F = 0.5$  mA.
- HER = High Efficiency Red.

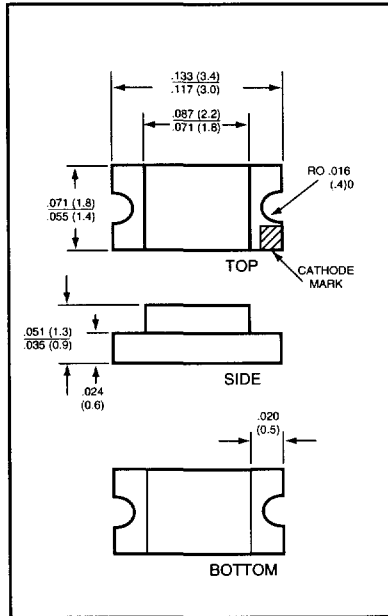
<b>T-3/4 Square Base, Super Bright (Subminiature) Clear Lens</b>										
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes	
					typ	max	min	typ		
HLMA-QH00A		620	Water Clear	20°	2.1	2.8	135	250	4	
HLMP-Q106A		660	Water Clear	20°	1.7	2.4	56	160	4	
HLMA-QL00A	AlInGaP Yellow	590	Water Clear	20°	2.0	2.8	135	250	4	
HLMP-Q156A		645	Water Clear	20°	1.6	1.9	2.1	7	5	

<b>T-3/4 Square Base, Super Bright (Subminiature) Water Clear Offset Lens</b>										
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes	
					typ	max	min	typ		
QTLP912-E		620	Water Clear	25°	2.0	2.8	100	250	4	
QTLP912-R		660	Water Clear	25°	1.7	2.4	100	160	4	
QTLP912-Y	AlInGaP Yellow	590	Water Clear	25°	2.0	2.8	100	250	4	

<b>Super Bright SMD Right Angle</b>										
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes	
					typ	max	min	typ		
QTLP610C-E		620	Water Clear	140°	2.0	2.8	18	30	4	
QTLP610C-R		660	Water Clear	140°	2.0	2.8	10	15	4	
QTLP610C-Y	AlInGaP Yellow	590	Water Clear	140°	2.1	2.8	18	30	4	
QTLP610C-B		430	Water Clear	140°	3.8	5.5	13	17	4	



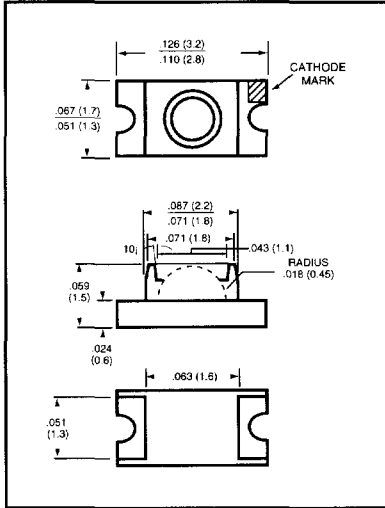
SMD 0805 Package, Super Bright									
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes
					typ	max	min	typ	
QTLP630C-E		620	Water Clear	140°	2.1	2.8	25	40	4
QTLP630C-R		660	Water Clear	140°	1.7	2.4	17	29	4
QTLP630C-Y	AllInGaP Yellow	590	Water Clear	140°	2.1	2.8	42	72	4



SMD 1206 Package, Super Bright									
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes
					typ	max	min	typ	
QTLP650C-E		620	Water Clear	140°	1.7	2.8	16	28	4
QTLP650C-R		660	Water Clear	140°	2.1	2.8	12	25	4
QTLP650C-Y	AllInGaP Yellow	590	Water Clear	140°	2.1	2.8	26	44	4
QTLP650C-B	GaN/SiC Blue	430	Water Clear	140°	3.8	5.5	8	12	4

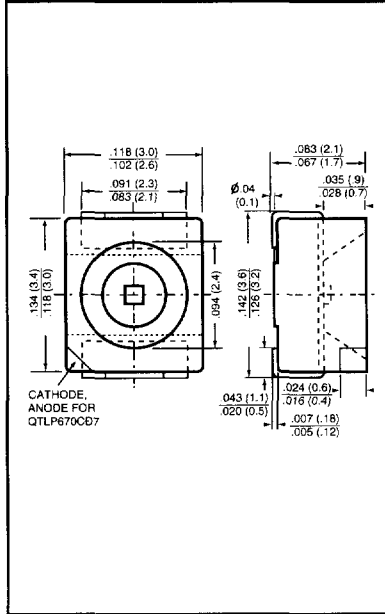
**Notes:**

- 4.  $V_F$  &  $I_V$  @  $I_F = 20$  mA.
- HER = High Efficiency Red.



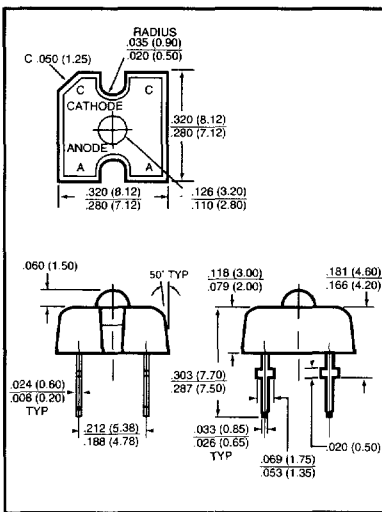
**Super Bright 1206 SMD Package with Lens**

Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes
					typ	max	min	typ	
QTLP651C-R		660	Water Clear	20°	1.7	2.8	25	40	4
QTLP651C-Y	AlInGaP Yellow	590	Water Clear	20°	1.7	2.8	42	70	4
QTLP651C-E		610	Water Clear	20°	1.7	2.8	35	60	4

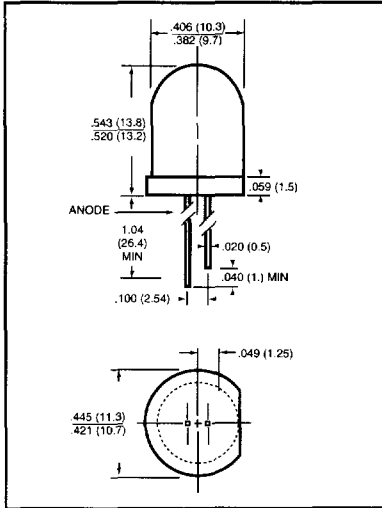


**Super Bright PLCC-2 SMD Package**

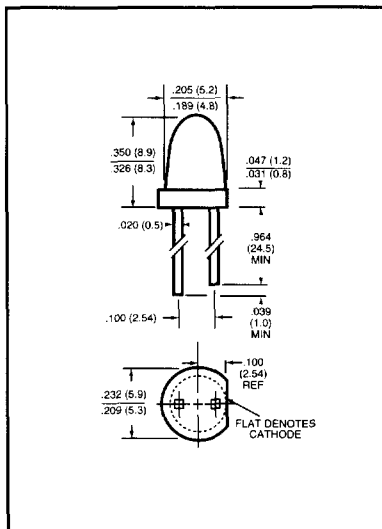
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F$ (V)		Luminous Intensity $I_V$ (mcd)		Notes
					typ	max	min	typ	
QTLP670C-E		620	Water Clear	120°	2.1	2.8	40	60	4
QTLP670C-R		660	Water Clear	120°	1.7	2.4	36	62	4
QTLP670C-Y	AlInGaP Yellow	590	Water Clear	120°	1.7	2.8	29	45	4
QTLP670C-B	AlInGaP Blue	430	Water Clear	120°	3.8	5.5	20	30	4



Super Bright, 4-Pin Power LED									
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F(V)$		Luminous Intensity $I_V(mcd)$		Notes
					typ	max	min	typ	
QTLP320C-E	AllnGaP Yellow	620	Water Clear	70°	2.25	2.75	400	630	8
QTLP321C-E		620	Water Clear	40°	2.25	2.75	630	800	8
QTLP320C-R		660	Water Clear	70°	2.25	2.75	550	800	8
QTLP321C-R		660	Water Clear	40°	2.25	2.75	630	800	8
QTLP320C-Y		590	Water Clear	70°	2.25	2.75	630	800	8
QTLP321C-Y		590	Water Clear	40°	2.25	2.75	800	1000	8



10mm Super Bright LED									
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F(V)$		Luminous Intensity $I_V(mcd)$		Notes
					typ	max	min	typ	
MV9100	Water Clear	660	Water Clear	8°	2.1	2.4	630	940	4
MV9101		660	Water Clear	8°	1.7	2.4	1000	1500	4
MV9102		660	Water Clear	8°	1.7	2.4	1600	2400	4



T-1 3/4 Super Bright Blue LED									
Part Number	Source Color	Wave-length $\lambda_p$ (nm)	Lens Color	Typical Viewing Angle	Forward Voltage $V_F(V)$		Luminous Intensity $I_V(mcd)$		Notes
					typ	max	min	typ	
MV8B01	Blue	430	Water Clear	24°	4.9	5.5	400	1000	4
MV8B11				12°	4.9	5.5	630	1500	4

**Notes:**

- 4.  $V_F$  &  $I_V$  @  $I_F = 20$  mA.
- 8.  $V_F$  &  $I_V$  @  $I_F = 70$  mA.
- HER = High Efficiency Red.