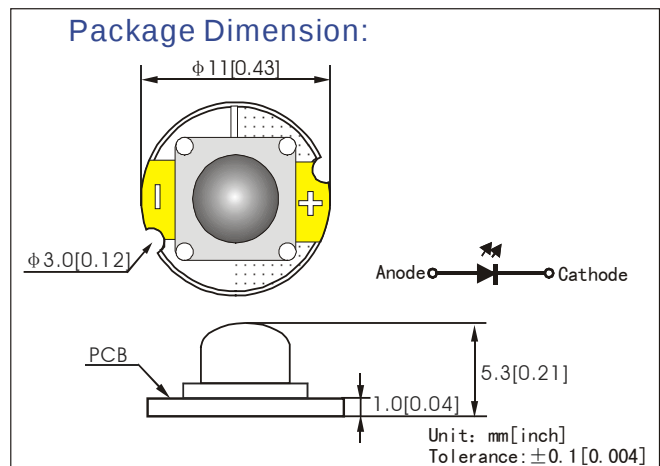


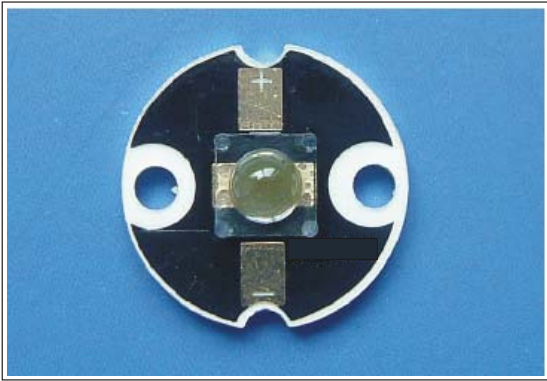
Round 11 High Power LED



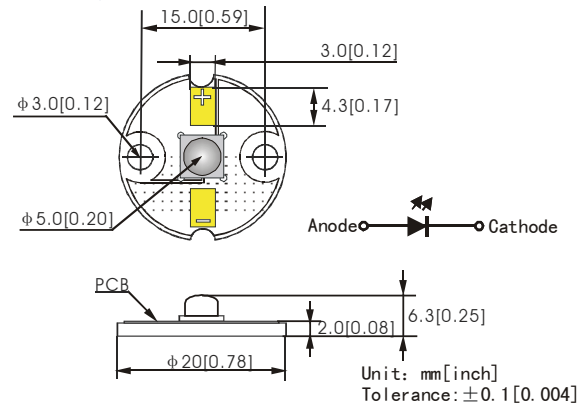
Part Number	Chip Material	Emitting Color	Lens Type	Forward Voltage V _F (V)		Dominant Wavelength λ _D (nm)		Luminous Intensity I _v (mcd) or *Light Power P ₀ (mw)*		Reverse Current I _R (μ A) AT V _R =5V	Viewing Angle 2 θ 1/2 (°)
				Test Condition:I _F =350mA							
				Min.	Max.	Min.	Max.	Min.	Max.		
C11A1-HW-30	InGaN	White	Water Clear	3.2	4.0	---	---	20000	25000	<100	30
C11A1-HW-60	InGaN	White	Water Clear	3.2	4.0	---	---	12000	18000	<100	60
C11A1-HW-120	InGaN	White	Water Clear	3.2	4.0	---	---	8000	12000	<100	120
C11A1-HB-30	InGaN	Blue	Water Clear	3.2	4.0	460	470	12000	16000	<100	30
C11A1-HB-60	InGaN	Blue	Water Clear	3.2	4.0	460	470	8000	12000	<100	60
C11A1-HB-120	InGaN	Blue	Water Clear	3.2	4.0	460	470	4000	7000	<100	120
C11A1-HC-30	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	18000	23000	<100	30
C11A1-HC-60	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	10000	16000	<100	60
C11A1-HC-120	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	6000	10000	<100	120
C11A1-HG-30	InGaN	Green	Water Clear	3.2	4.0	515	525	20000	25000	<100	30
C11A1-HG-60	InGaN	Green	Water Clear	3.2	4.0	515	525	12000	18000	<100	60
C11A1-HG-120	InGaN	Green	Water Clear	3.2	4.0	515	525	8000	12000	<100	120
C11A1-HY-30	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	12000	16000	<100	30
C11A1-HY-60	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	8000	12000	<100	60
C11A1-HY-120	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	4000	7000	<100	120
C11A1-HR-30	AlGaInP	Red	Water Clear	2.0	2.8	625	635	12000	16000	<100	30
C11A1-HR-60	AlGaInP	Red	Water Clear	2.0	2.8	625	635	8000	12000	<100	60
C11A1-HR-120	AlGaInP	Red	Water Clear	2.0	2.8	625	635	4000	7000	<100	120
C11A1-H850-30	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	50	65	<100	30
C11A1-H850-60	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	30	45	<100	60
C11A1-H850-120	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	20	30	<100	120
C11A1-H880-30	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	50	65	<100	30
C11A1-H880-60	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	30	45	<100	60
C11A1-H880-120	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	20	30	<100	120
C11A1-H940-30	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	50	65	<100	30
C11A1-H940-60	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	30	45	<100	60
C11A1-H940-120	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	20	30	<100	120

*Infrared LED Parameter is P_o (Light Power).

Round 20 High Power LED



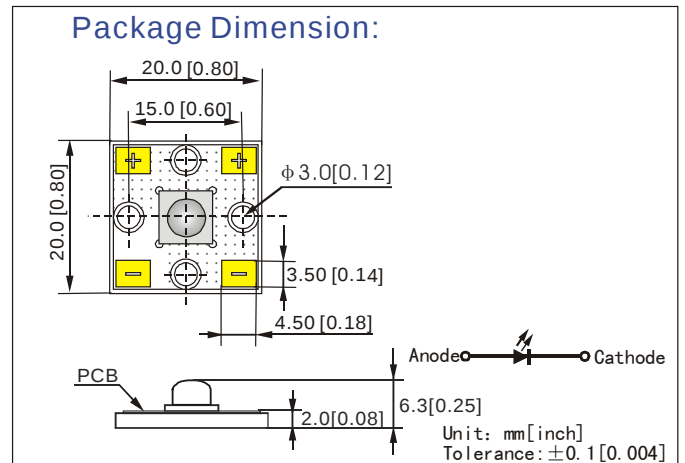
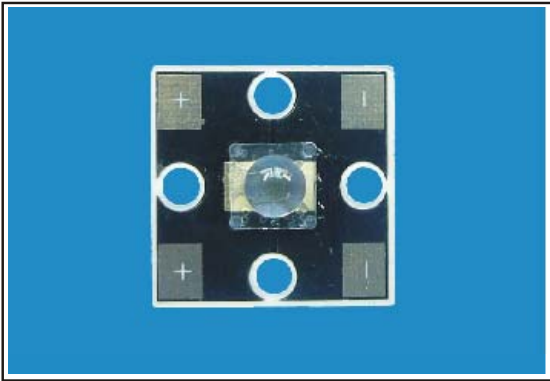
Package Dimension:



Part Number	Chip Material	Emitting Color	Lens Type	Forward Voltage V _F (V)		Dominant Wavelength λ _D (nm)		Luminous Intensity I _v (mcd) or *Light Power P _D (mw)*		Reverse Current I _R (μ A) AT V _R =5V	Viewing Angle 2 θ 1/2 (°)		
				Test Condition:I _F =350mA									
				Min.	Max.	Min.	Max.	Min.	Max.				
C20A1-HW-30	InGaN	White	Water Clear	3.2	4.0	—	—	20000	25000	<100	30		
C20A1-HW-60	InGaN	White	Water Clear	3.2	4.0	—	—	12000	18000	<100	60		
C20A1-HW-120	InGaN	White	Water Clear	3.2	4.0	—	—	8000	12000	<100	120		
C20A1-HB-30	InGaN	Blue	Water Clear	3.2	4.0	460	470	12000	16000	<100	30		
C20A1-HB-60	InGaN	Blue	Water Clear	3.2	4.0	460	470	8000	12000	<100	60		
C20A1-HB-120	InGaN	Blue	Water Clear	3.2	4.0	460	470	4000	7000	<100	120		
C20A1-HC-30	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	18000	23000	<100	30		
C20A1-HC-60	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	10000	16000	<100	60		
C20A1-HC-120	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	6000	10000	<100	120		
C20A1-HG-30	InGaN	Green	Water Clear	3.2	4.0	515	525	20000	25000	<100	30		
C20A1-HG-60	InGaN	Green	Water Clear	3.2	4.0	515	525	12000	18000	<100	60		
C20A1-HG-120	InGaN	Green	Water Clear	3.2	4.0	515	525	8000	12000	<100	120		
C20A1-HY-30	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	12000	16000	<100	30		
C20A1-HY-60	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	8000	12000	<100	60		
C20A1-HY-120	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	4000	7000	<100	120		
C20A1-HR-30	AlGaInP	Red	Water Clear	2.0	2.8	625	635	12000	16000	<100	30		
C20A1-HR-60	AlGaInP	Red	Water Clear	2.0	2.8	625	635	8000	12000	<100	60		
C20A1-HR-120	AlGaInP	Red	Water Clear	2.0	2.8	625	635	4000	7000	<100	120		
C20A1-H850-30	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	50	65	<100	30		
C20A1-H850-60	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	30	45	<100	60		
C20A1-H850-120	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	20	30	<100	120		
C20A1-H880-30	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	50	65	<100	30		
C20A1-H880-60	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	30	45	<100	60		
C20A1-H880-120	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	20	30	<100	120		
C20A1-H940-30	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	50	65	<100	30		
C20A1-H940-60	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	30	45	<100	60		
C20A1-H940-120	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	20	30	<100	120		

*Infrared LED Parameter is P_O (Light Power).

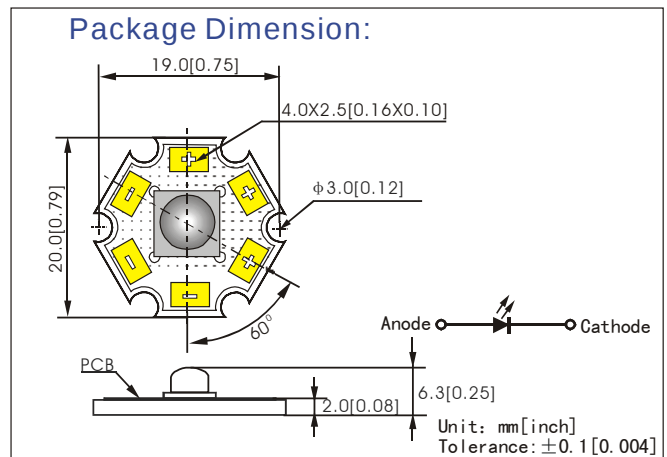
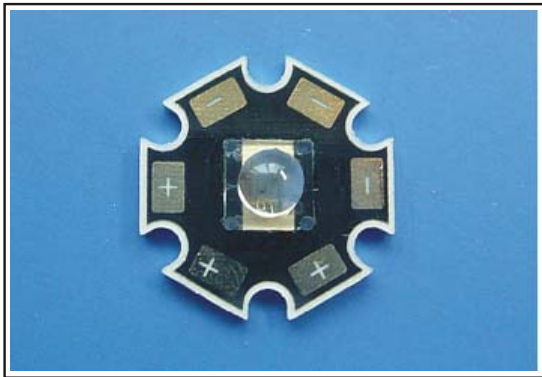
Square High Power LED



Part Number	Chip Material	Emitting Color	Lens Type	Forward Voltage V _F (V)		Dominant Wavelength λ _D (nm)		Luminous Intensity I _v (mcd) or *Light Power P _O (mw)*		Reverse Current I _R (μ A) AT V _R =5V	Viewing Angle 2 θ 1/2 (°)		
				Test Condition:I _F =350mA									
				Min.	Max.	Min.	Max.	Min.	Max.				
F20A1-HW-30	InGaN	White	Water Clear	3.2	4.0	—	—	20000	25000	<100	30		
F20A1-HW-60	InGaN	White	Water Clear	3.2	4.0	—	—	12000	18000	<100	60		
F20A1-HW-120	InGaN	White	Water Clear	3.2	4.0	—	—	8000	12000	<100	120		
F20A1-HB-30	InGaN	Blue	Water Clear	3.2	4.0	460	470	12000	16000	<100	30		
F20A1-HB-60	InGaN	Blue	Water Clear	3.2	4.0	460	470	8000	12000	<100	60		
F20A1-HB-120	InGaN	Blue	Water Clear	3.2	4.0	460	470	4000	7000	<100	120		
F20A1-HC-30	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	18000	23000	<100	30		
F20A1-HC-60	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	10000	16000	<100	60		
F20A1-HC-120	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	6000	10000	<100	120		
F20A1-HG-30	InGaN	Green	Water Clear	3.2	4.0	515	525	20000	25000	<100	30		
F20A1-HG-60	InGaN	Green	Water Clear	3.2	4.0	515	525	12000	18000	<100	60		
F20A1-HG-120	InGaN	Green	Water Clear	3.2	4.0	515	525	8000	12000	<100	120		
F20A1-HY-30	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	12000	16000	<100	30		
F20A1-HY-60	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	8000	12000	<100	60		
F20A1-HY-120	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	4000	7000	<100	120		
F20A1-HR-30	AlGaInP	Red	Water Clear	2.0	2.8	625	635	12000	16000	<100	30		
F20A1-HR-60	AlGaInP	Red	Water Clear	2.0	2.8	625	635	8000	12000	<100	60		
F20A1-HR-120	AlGaInP	Red	Water Clear	2.0	2.8	625	635	4000	7000	<100	120		
F20A1-H850-30	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	50	65	<100	30		
F20A1-H850-60	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	30	45	<100	60		
F20A1-H850-120	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	20	30	<100	120		
F20A1-H880-30	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	50	65	<100	30		
F20A1-H880-60	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	30	45	<100	60		
F20A1-H880-120	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	20	30	<100	120		
F20A1-H940-30	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	50	65	<100	30		
F20A1-H940-60	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	30	45	<100	60		
F20A1-H940-120	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	20	30	<100	120		

*Infrared LED Parameter is P_o (Light Power).

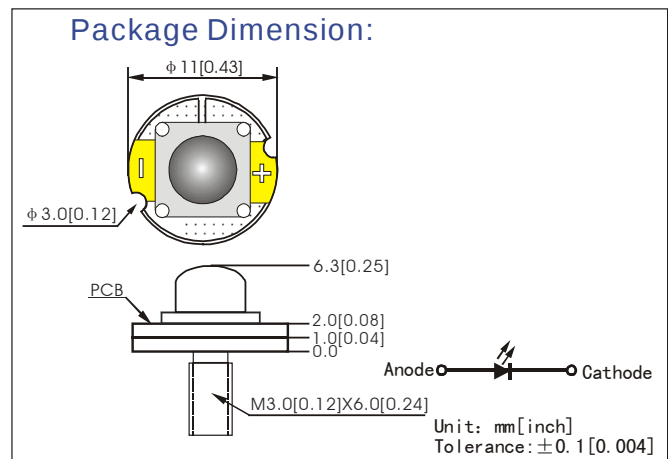
Hexagon High Power LED



Part Number	Chip Material	Emitting Color	Lens Type	Forward Voltage V _F (V)		Dominant Wavelength λ _D (nm)		Luminous Intensity I _v (mcd) or *Light Power P _o (mw)*		Reverse Current I _r (μ A) AT V _R =5V	Viewing Angle 2 θ 1/2 (°)
				Test Condition:I _F =350mA							
				Min.	Max.	Min.	Max.	Min.	Max.		
H11A1-HW-30	InGaN	White	Water Clear	3.2	4.0	—	—	20000	25000	<100	30
H11A1-HW-60	InGaN	White	Water Clear	3.2	4.0	—	—	12000	18000	<100	60
H11A1-HW-120	InGaN	White	Water Clear	3.2	4.0	—	—	8000	12000	<100	120
H11A1-HB-30	InGaN	Blue	Water Clear	3.2	4.0	460	470	12000	16000	<100	30
H11A1-HB-60	InGaN	Blue	Water Clear	3.2	4.0	460	470	8000	12000	<100	60
H11A1-HB-120	InGaN	Blue	Water Clear	3.2	4.0	460	470	4000	7000	<100	120
H11A1-HC-30	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	18000	23000	<100	30
H11A1-HC-60	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	10000	16000	<100	60
H11A1-HC-120	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	6000	10000	<100	120
H11A1-HG-30	InGaN	Green	Water Clear	3.2	4.0	515	525	20000	25000	<100	30
H11A1-HG-60	InGaN	Green	Water Clear	3.2	4.0	515	525	12000	18000	<100	60
H11A1-HG-120	InGaN	Green	Water Clear	3.2	4.0	515	525	8000	12000	<100	120
H11A1-HY-30	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	12000	16000	<100	30
H11A1-HY-60	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	8000	12000	<100	60
H11A1-HY-120	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	4000	7000	<100	120
H11A1-HR-30	AlGaInP	Red	Water Clear	2.0	2.8	625	635	12000	16000	<100	30
H11A1-HR-60	AlGaInP	Red	Water Clear	2.0	2.8	625	635	8000	12000	<100	60
H11A1-HR-120	AlGaInP	Red	Water Clear	2.0	2.8	625	635	4000	7000	<100	120
H11A1-H850-30	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	50	65	<100	30
H11A1-H850-60	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	30	45	<100	60
H11A1-H850-120	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	20	30	<100	120
H11A1-H880-30	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	50	65	<100	30
H11A1-H880-60	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	30	45	<100	60
H11A1-H880-120	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	20	30	<100	120
H11A1-H940-30	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	50	65	<100	30
H11A1-H940-60	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	30	45	<100	60
H11A1-H940-120	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	20	30	<100	120

*Infrared LED Parameter is P_O (Light Power).

Screw High Power LED



Part Number	Chip Material	Emitting Color	Lens Type	Forward Voltage V _F (V)		Dominant Wavelength λ _D (nm)		Luminous Intensity I _v (mcd) or *Light Power P _o (mw)*		Reverse Current I _r (μ A) AT V _r =5V	Viewing Angle 2 θ 1/2 (°)		
				Test Condition:I _F =350mA									
				Min.	Max.	Min.	Max.	Min.	Max.				
M3A1-HW-30	InGaN	White	Water Clear	3.2	4.0	---	---	20000	25000	<100	30		
M3A1-HW-60	InGaN	White	Water Clear	3.2	4.0	---	---	12000	18000	<100	60		
M3A1-HW-120	InGaN	White	Water Clear	3.2	4.0	---	---	8000	12000	<100	120		
M3A1-HB-30	InGaN	Blue	Water Clear	3.2	4.0	460	470	12000	16000	<100	30		
M3A1-HB-60	InGaN	Blue	Water Clear	3.2	4.0	460	470	8000	12000	<100	60		
M3A1-HB-120	InGaN	Blue	Water Clear	3.2	4.0	460	470	4000	7000	<100	120		
M3A1-HC-30	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	18000	23000	<100	30		
M3A1-HC-60	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	10000	16000	<100	60		
M3A1-HC-120	InGaN	BlueGreen	Water Clear	3.2	4.0	500	510	6000	10000	<100	120		
M3A1-HG-30	InGaN	Green	Water Clear	3.2	4.0	515	525	20000	25000	<100	30		
M3A1-HG-60	InGaN	Green	Water Clear	3.2	4.0	515	525	12000	18000	<100	60		
M3A1-HG-120	InGaN	Green	Water Clear	3.2	4.0	515	525	8000	12000	<100	120		
M3A1-HY-30	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	12000	16000	<100	30		
M3A1-HY-60	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	8000	12000	<100	60		
M3A1-HY-120	AlGaInP	Yellow	Water Clear	2.0	2.8	585	595	4000	7000	<100	120		
M3A1-HR-30	AlGaInP	Red	Water Clear	2.0	2.8	625	635	12000	16000	<100	30		
M3A1-HR-60	AlGaInP	Red	Water Clear	2.0	2.8	625	635	8000	12000	<100	60		
M3A1-HR-120	AlGaInP	Red	Water Clear	2.0	2.8	625	635	4000	7000	<100	120		
M3A1-H850-30	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	50	65	<100	30		
M3A1-H850-60	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	30	45	<100	60		
M3A1-H850-120	AlGaAs	Infrared	Water Clear	1.5	2.5	845	855	20	30	<100	120		
M3A1-H880-30	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	50	65	<100	30		
M3A1-H880-60	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	30	45	<100	60		
M3A1-H880-120	AlGaAs	Infrared	Water Clear	1.5	2.5	875	885	20	30	<100	120		
M3A1-H940-30	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	50	65	<100	30		
M3A1-H940-60	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	30	45	<100	60		
M3A1-H940-120	AlGaAs	Infrared	Water Clear	1.5	2.5	935	945	20	30	<100	120		

*Infrared LED Parameter is P_O (Light Power).