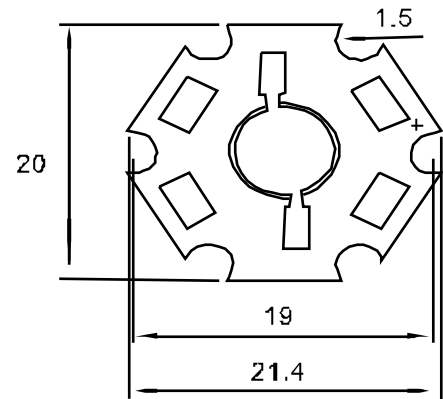


LED Component

| High Power LED lamp | | | | | | | |
|-------------------------------|---------------|-------------------------|-----------|-----|------------------|---------------------|---------|
| 1W Star with Batwing type P/N | Chip | | Lens Type | VF | Flux (lm) @350mA | Viewing Angle 201/2 | Drawing |
| | Emitted Color | λ_p (nm) or CTT | | Typ | Typ. | | |

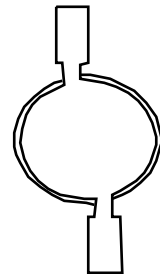
1W Star with Lambertian type

| P/N | Color | λ_p (nm) | Lens Type | VF | Flux (lm) | Viewing Angle |
|----------------------------|------------|------------------|--------------|-----|-----------|---------------|
| BL-H ² 20AUECL | Orange | 630 | Wa. or Clear | 2.2 | 27 | 140 |
| BL-HP20AUYCL | Yellow | 590 | | 2.2 | 25 | |
| BL-HP20APGCL | Pure Green | 525 | | 3.2 | 25 | |
| BL-HP20AUBCL | Blue | 470 | | 3.5 | 15 | |
| BL-HP20AUWCL | White | 6000k | | 3.5 | 30 | |
| BL-H ² 20AUW2CL | Warm White | 3200k | | 3.5 | 25 | |



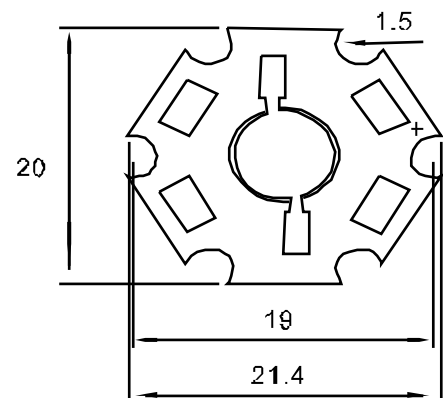
1W Lambertian Emitter

| P/N | Color | λ_p (nm) | Lens Type | VF | Flux (lm) | Viewing Angle |
|---------------|------------|------------------|--------------|-----|-----------|---------------|
| BL-HP20EUECL | Orange | 630 | Wa. or Clear | 2.2 | 27 | 140 |
| BL-HP20EUYCL | Yellow | 590 | | 2.2 | 25 | |
| BL-HP20EPGCL | Pure Green | 525 | | 3.2 | 25 | |
| BL-HP20EUBCL | Blue | 470 | | 3.5 | 15 | |
| BL-HP20EUWCL | White | 6000k | | 3.5 | 30 | |
| BL-HP20EUW2CL | Warm White | 3200k | | 3.5 | 25 | |



1W Star with Batwing type

| P/N | Color | λ_p (nm) | Lens Type | VF | Flux (lm) | Viewing Angle |
|---------------------------|------------|------------------|--------------|-----|-----------|---------------|
| BL-HP20AUECB | Orange | 630 | Wa. or Clear | 2.2 | 25 | 80 |
| BL-HP20AUYCB | Yellow | 590 | | 2.2 | 23 | |
| BL-H ² 20APGCB | Pure Green | 525 | | 3.2 | 23 | |
| BL-HP20AUBCB | Blue | 470 | | 3.5 | 13 | |
| BL-HP20AUWCB | White | 6000k | | 3.5 | 28 | |
| BL-HP20AUW2CB | Warm White | 3200k | | 3.5 | 23 | |



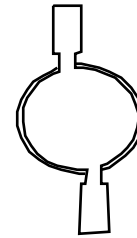
LED Component

High Power LED lamp

| 1W Star with Batwing type P/N | Chip | | Lens Type | VF | | Flux (lm) @350mA | Viewing Angle 201/2 | Drawing |
|-------------------------------|---------------|-------------------------|-----------|-----|------|------------------|---------------------|---------|
| | Emitted Color | λP (nm) or CTT | | Typ | Typ. | | | |

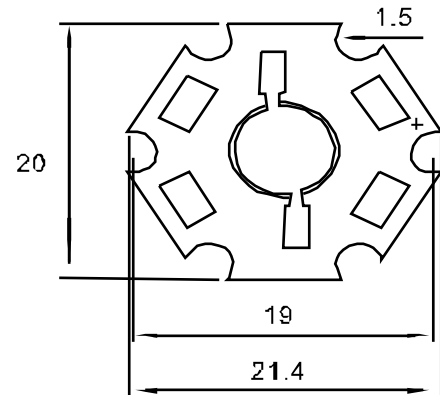
1W Batwing Emitter

| P/N | Emitted Color | λP (nm) or CTT | Lens Type | VF Typ | Flux (lm) Typ. | Viewing Angle 201/2 |
|---------------|---------------|-------------------------|-----------|--------|----------------|---------------------|
| BL-H*20EUECB | Orange | 630 | Water | 2.2 | 26 | 80 |
| BL-H*20EUVCB | Yellow | 590 | | 2.2 | 29 | |
| BL-H*20EUGCB | Pure Green | 525 | Clear | 3.2 | 23 | |
| BL-H*20EUBCB | Blue | 470 | | 3.5 | 13 | |
| BL-H*20EUWCB | White | 6000k | 3.5 | 28 | | |
| BL-H*20EUW2CB | Warm White | 3200k | 3.5 | 23 | | |



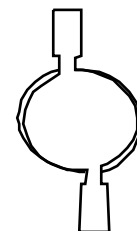
1W Star with Side emitting type

| P/N | Emitted Color | λP (nm) or CTT | Lens Type | VF Typ | Flux (lm) Typ. | Viewing Angle 201/2 |
|---------------|---------------|-------------------------|-----------|--------|----------------|---------------------|
| BL-H*20AUECS | Orange | 630 | Water | 2.2 | 27 | 180 |
| BL-H*20AUVCS | Yellow | 590 | | 2.2 | 25 | |
| BL-H*20AUGCS | Pure Green | 525 | Clear | 3.2 | 25 | |
| BL-H*20AUBCS | Blue | 470 | | 3.5 | 15 | |
| BL-H*20AUWCS | White | 6000k | 3.5 | 30 | | |
| BL-H*20AUW2CS | Warm White | 3200k | 3.5 | 25 | | |



1W Side emitting Emitter

| P/N | Emitted Color | λP (nm) or CTT | Lens Type | VF Typ | Flux (lm) Typ. | Viewing Angle 201/2 |
|---------------|---------------|-------------------------|-----------|--------|----------------|---------------------|
| BL-H*20EUECS | Orange | 630 | Water | 2.2 | 27 | 180 |
| BL-H*20EUVCES | Yellow | 590 | | 2.2 | 25 | |
| BL-H*20EUGCS | Pure Green | 525 | Clear | 3.2 | 25 | |
| BL-H*20EUBCS | Blue | 470 | | 3.5 | 15 | |
| BL-H*20EUWCS | White | 6000k | 3.5 | 30 | | |
| BL-H*20EUW2CS | Warm White | 3200k | 3.5 | 25 | | |

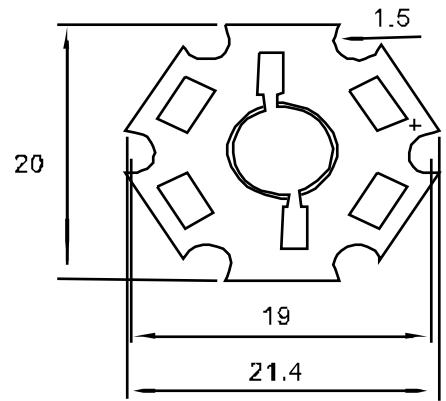


LED Component

| | | | | | | | |
|----------------------------------|---------------|-------------------------|-----------|-----|------------------|---------------------|---------|
| High Power LED lamp | | | | | | | |
| 3W Star with Lambertian type P/N | Chip | | Lens Type | VF | Flux (lm) @350mA | Viewing Angle 201/2 | Drawing |
| | Emitted Color | λ_p (nm) or CTT | | Typ | Typ. | | |

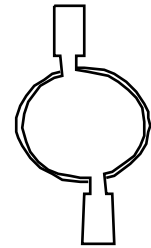
3W Star with Lambertian type

| | | | | | | |
|------------------|------------|-------|-------|-----|----|-----|
| 3L-HP20AUECL-3W | Orange | 630 | Water | 2.2 | 50 | 140 |
| 3L-HP20AUYCL-3W | Yellow | 590 | | 2.2 | 55 | |
| 3L-HP20APGC-3W | Pure Green | 525 | Clear | 3.2 | 55 | |
| 3L-HP20AUBCL-3W | Blue | 470 | | 3.5 | 20 | |
| 3L-HP20AUWCL-3W | White | 6000K | 3.5 | 60 | | |
| 3L-HP20AUW2CL-3W | Warm White | 3200K | 3.5 | 45 | | |



3W Lambertian Emitter

| | | | | | | |
|------------------|------------|-------|-------|-----|----|-----|
| 3L-HP20EUECL-3W | Orange | 630 | Water | 2.2 | 50 | 140 |
| 3L-HP20EUYCL-3W | Yellow | 590 | | 2.2 | 55 | |
| 3L-HP20EPGC-3W | Pure Green | 525 | Clear | 3.2 | 55 | |
| 3L-HP20EUBCL-3W | Blue | 470 | | 3.5 | 20 | |
| 3L-HP20EUWCL-3W | White | 6000K | 3.5 | 60 | | |
| 3L-HP20EUW2CL-3W | Warm White | 3200K | 3.5 | 45 | | |



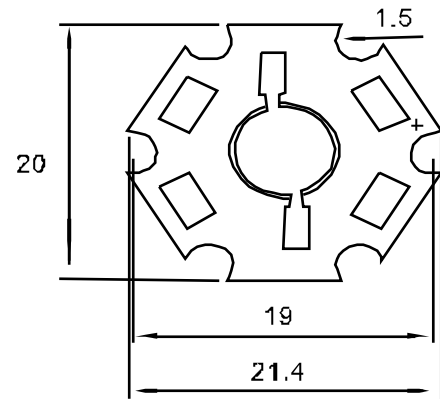
All dimensions are in millimeters (inches)
 Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
 Specifications are subject to change without notice.

LED Component

| High Power LED lamp | | | | | | | |
|----------------------------------|---------------|-------------------------|-----------|-----|------------------|---------------------|---------|
| 5W Star with Lambertian type P/N | Chip | | Lens Type | VF | Flux (lm) @350mA | Viewing Angle 201/2 | Drawing |
| | Emitted Color | λP (nm) or CTT | | Typ | Typ. | | |

5W Star with Lambertian type

| P/N | Color | λP (nm) | Lens Type | VF | Flux (lm) | Viewing Angle |
|------------------|------------|------------------|-----------|----|-----------|---------------|
| 3L-HP20AUECL-5W | Orange | 630 | Water | 66 | 160 | 140 |
| 3L-HP20AUYCL-5W | Yellow | 590 | | 66 | 170 | |
| 3L-HP20APGC-5W | Pure Green | 525 | Clear | 66 | 120 | |
| 3L-HP20AUBCL-5W | Blue | 470 | | 66 | 110 | |
| 3L-HP20AUWCL-5W | White | 3000K | | 66 | 95 | |
| 3L-HP20AUW2CL-5W | Warm White | 3200K | | 66 | 95 | |



5W Lambertian Emitter

| P/N | Color | λP (nm) | Lens Type | VF | Flux (lm) | Viewing Angle |
|------------------|------------|------------------|-----------|----|-----------|---------------|
| 3L-HP20EUECL-5W | Orange | 630 | Water | 66 | 160 | 140 |
| 3L-HP20EUYCL-5W | Yellow | 590 | | 66 | 170 | |
| 3L-HP20EPGC-5W | Pure Green | 525 | Clear | 66 | 120 | |
| 3L-HP20EUBCL-5W | Blue | 470 | | 66 | 110 | |
| 3L-HP20EUWCL-5W | White | 3000K | | 66 | 95 | |
| 3L-HP20EUW2CL-5W | Warm White | 3200K | | 66 | 95 | |

