Features:

Emission color: IngaN AlGaInP

Lens appearance: yellow diffuse

Applicable to all SMT assembly methods.

Compatible with infrared and vapor phase reflow soldering processes.

Compatible with automatic placement equipment.

Excellent thermal performance: low thermal resistance material packaging, suitable for high power drive

High light intensity density: suitable for spotlight and projection design

Multiple color temperatures & high color rendering: 2700K–6500K, supporting CRI > 80/90 options

Durable packaging: anti-sulfurization, anti-UV, and anti-humidity design

Descriptions:

7070 high power package that provides high luminance

from a super robust package to enable cost effective and reliable fixture,7070high power white uses an industry standard high power white surface mount package with a fairly small Light Emitting Surface (LES).

Queendom high power white comes in 70CRI, 80CRI and 90CRI with a wide range of CCTs, and offers hot-color targeting to ensure that the LEDs are within color target at application

conditions of 85°C. Futhermore, with the latest NightScape Technology,

The 7070 package is a large-size LED device designed specifically for high-power lighting. It has a larger light-emitting surface and better thermal management capabilities, making it suitable for harsh environments and long-distance projection lighting needs.

Applications:

Automobile: dashboard, brake lights, turn signals.

Biomedical optics, instrument and equipment testing

Status indicator: consumer electronics and industrial electronics.

Security, infrared monitoring, night vision

Outdoor lighting: road lights, tunnel lights, square lights

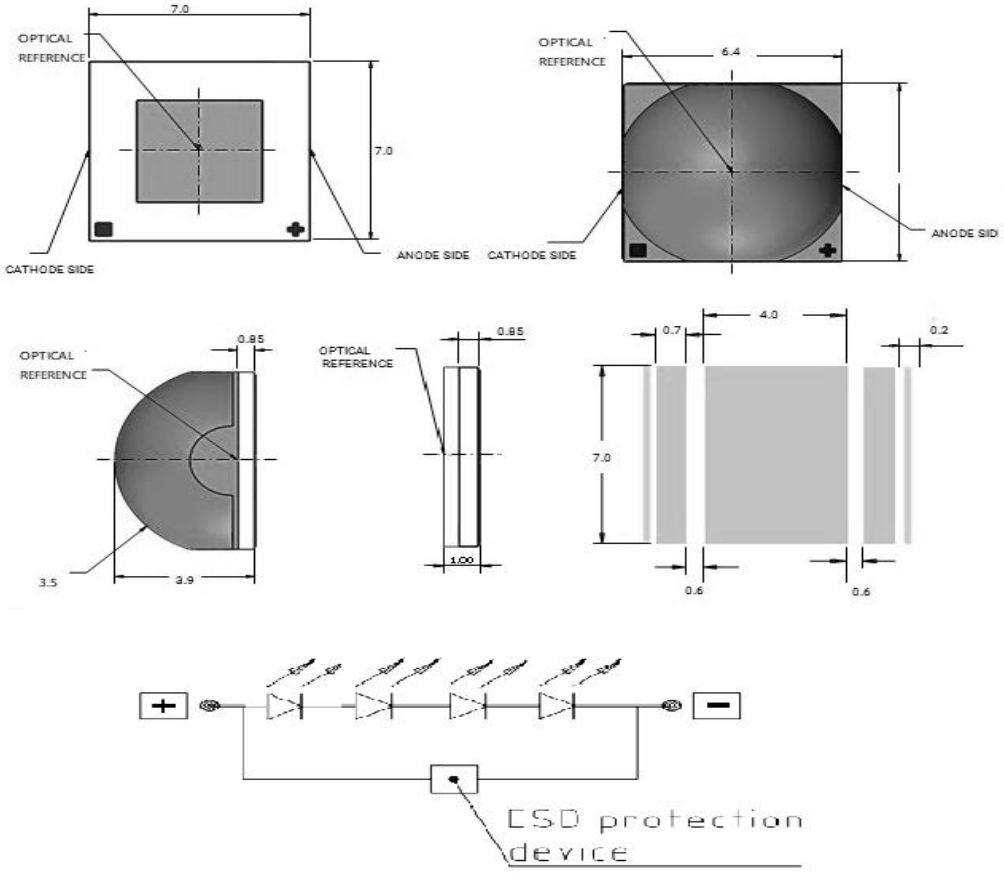
Floodlights: sports lighting, high pole lights, stage lights

Industrial lighting: factory lights, warehouse lighting, high-power ceiling lights

Automotive lighting: high beam lights, engineering vehicles/special vehicles headlights

Plant lighting/medical light sources: can be matched with customized spectrum versions

Package SIZE: Picture 1



Notes 1 :

All dimensions are in millimeters (inches).Tolerance is ± 0.25 mm (.010") unless otherwise noted.Protruded resin under flange is 1.00mm (.039") max.

Absolute Maximum Ratings

Table 1. Absolute maximum ratings for Queendom LEDs.

PARAMETER	maXImum PErFormancE
Parameter PD (mW)	1680 mW
DC Forward Current [1, 2]	700mA HP7070***WF
	1000mA HP7070***WG
	1400mA HP7070***W
Peak Pulsed Forward Current [1, 3]	100mA HP7070***WF
	1200mA HP7070***WG
	1600mA HP7070***W
LED Junction Temperature [1] (DC & Pulse)	125°C
Reverse Voltage (Vreverse)	5
ESD Sensitivity (ANSI/ESDA/JEDEC JS-001-2012)	Class 2
LED Storage Temperature	-40°C to 80°C
Operating Temperature Range	Minus 40°C To plus 80°C
Soldering Temperature	JEDEC 020c 260°C
Allowable Reflow Cycles	3~5 Seconds
ESD Sensitivity	2000V HBM

Notes for Table 2 :

Proper current derating must be observed to maintain the junction temperature below the maximum allowable junction temperature.

Single-color light.

At 0.01ms pulse on time test with a pulse period of 0.1ms.

Performance Characteristics & Product Selection Guide

Product model code corresponding SKU table

Table 2 . Product performance of Queendom Commercial LEDs at specified test conditions, Continued., T_j=25°C .

PRODUCT	RANK	NOMINAL CCT/K	TEST (mA)	PART NUMBER
HP7070WY2WF	HP0301	2700K	700	8541401000HP0301
HP7070WV2WF	HP0302	3000K	700	8541401000HP0302
HP7070WU2WF	HP0303	3500K	700	8541401000HP0303
HP7070WT2WF	HP0304	4000K	700	8541401000HP0304
HP7070WR2WF	HP0305	5000K	700	8541401000HP0305
HP7070WQ2WF	HP0306	5700K	700	8541401000HP0306
HP7070WP2WF	HP0307	6500K	700	8541401000HP0307
HP7070WD2WF	HP0308	7600K	700	8541401000HP0308
HP7070WY2WG	HP0309	2700K	1000	8541401000HP0309
HP7070WV2WG	HP0310	3000K	1000	8541401000HP0310
HP7070WU2WG	HP0311	3500K	1000	8541401000HP0311
HP7070WT2WG	HP0312	4000K	1000	8541401000HP0312
HP7070WR2WG	HP0313	5000K	1000	8541401000HP0313
HP7070WQ2WG	HP0314	5700K	1000	8541401000HP0314
HP7070WP2WG	HP0315	6500K	1000	8541401000HP0315
HP7070WD2WG	HP0316	7600K	1000	8541401000HP0316
HP7070WY8WI	HP0317	2700K	1400	8541401000HP0317
HP7070WV8WI	HP0318	3000K	1400	8541401000HP0318
HP7070WU8WI	HP0319	3500K	1400	8541401000HP0319
HP7070WT8WI	HP0320	4000K	1400	8541401000HP0320
HP7070WR8WI	HP0321	5000K	1400	8541401000HP0321
HP7070WQ8WI	HP0322	5700K	1400	8541401000HP0322
HP7070WP8WI	HP0323	6500K	1400	8541401000HP0323
HP7070WD8WJ	HP0324	7600K	1400	8541401000HP0324

Performance Characteristics& Product Selection Guide

Table 3 . Product performance of Queendom Commercial LEDs at specified test conditions, Continued., T_j=25°C ..

PRODUCT	RANK	NOMINAL	CRI	FLUX (lm)		EFFICACY	TYPICAL	TEST
		CCT/K	Ra	MIN	MAX	(lm/W)	2Θ 1/2	(mA)
HP7070WY2WF	HP0301	2700K	80	190	240	135	120	700
HP7070WV2WF	HP0302	3000K	80	190	240	140	120	700
HP7070WU2WF	HP0303	3500K	80	190	240	143	120	700
HP7070WT2WF	HP0304	4000K	80	190	240	150	120	700
HP7070WR2WF	HP0305	5000K	80	190	240	155	120	700
HP7070WQ2WF	HP0306	5700K	80	190	240	160	120	700
HP7070WP2WF	HP0307	6500K	80	190	240	165	120	700
HP7070WD2WF	HP0308	7600K	80	190	240	130	120	700
HP7070WY2WG	HP0309	2700K	80	210	430	135	120	1000
HP7070WV2WG	HP0310	3000K	80	210	430	140	120	1000
HP7070WU2WG	HP0311	3500K	80	210	430	143	120	1000
HP7070WT2WG	HP0312	4000K	80	210	430	150	120	1000
HP7070WR2WG	HP0313	5000K	80	210	430	155	120	1000
HP7070WQ2WG	HP0314	5700K	80	210	430	160	120	1000
HP7070WP2WG	HP0315	6500K	80	210	430	165	120	1000
HP7070WD2WG	HP0316	7600K	80	210	430	130	120	1000
HP7070WY8WI	HP0317	2700K	80	360	640	135	120	1400
HP7070WV8WI	HP0318	3000K	80	360	640	140	120	1400
HP7070WU8WI	HP0319	3500K	80	360	640	143	120	1400
HP7070WT8WI	HP0320	4000K	80	360	640	150	120	1400
HP7070WR8WI	HP0321	5000K	80	360	640	155	120	1400
HP7070WQ8WI	HP0322	5700K	80	360	640	160	120	1400
HP7070WP8WI	HP0323	6500K	80	360	640	165	120	1400
HP7070WD8WJ	HP0324	7600K	80	360	640	168	120	1400

Electrical and Thermal Characteristics

Table 4 Product performance of Queendom high power white at rated current, T_j=25°C .

PRODUCT	COLOR	TYPICAL SPECTRAL HALF-WIDTH [1] (K)	TYPICAL TEMPERATURE COEFFICIENT OF DOMINANT WAVELENGTH (nm/°C)	TYPICAL VIEWING ANGLE [2]	PART NUMBER
HP7070***LEDs	2700K	50	-2	120°	8541401000HP03
	3000K	100	-2	120°	
	3500K	100	-2	120°	
	4000K	120	-2	120°	
	5000K	120	-2	120°	
	5700K	150	-2	120°	
	6500K	249	-2	120°	
	7600K	300	-2	120°	
	10500K	350	-2	120°	

Notes for Table 3:

1. Spectral half-width is the spectral bandwidth at 50% of the peak intensity.
2. Viewing angle is the off axis angle from the LED centerline where the luminous intensity is ½ of the peak value.

Electrical and Thermal Characteristics

Table5. Product performance of Queendom white at rated current, T_j=25°C .

Product	COLOR	FORWARD VOLTAGE [1] (Vf)			TYPICAL TEMPERATURE COEFFICIENT OF FORWARD VOLTAGE [2] (mV/°C)	TYPICAL THERMAL RESISTANCE—JUNCTION TO SOLDER PAD (°C/W)
		MINIMUM	TYPICAL	MAXIMUM		
HP7070***WF	white	2.80	3.00	4.6	-2.5 ~ -3.0 mV/°C	1.5 ~ 2.0 °C/W
HP7070***WG	white	2.80	3.00	4.6	-3.0 ~ -3.5 mV/°C	1.5 ~ 2.0 °C/W
HP7070***WI	white	2.80	3.00	4.6	-3.5 ~ -4.0 mV/°C	1.5 ~ 2.0 °C/W

Notes for Table 4: continued on next page

Queendom leds maintains a tolerance of ±1nm on dominant wavelength measurements.

Queendom leds maintains a tolerance of ±10% on luminous intensity measurements.

Correlated color temperature is hot targeted at Tj=85°C.

Queendom flux and CRI are based upon mounted package on highly reflective surface at Tj=25°C. Typical CRI is approximately 2 points higher than the minimum CRI specified, but this is not guaranteed.

Queendom maintains a tolerance of ±2 on CRI and ±7% on luminous flux measurements.

特性曲线 Characteristic Curves

光谱功率分布特性 Spectral Power Distribution Characteristic

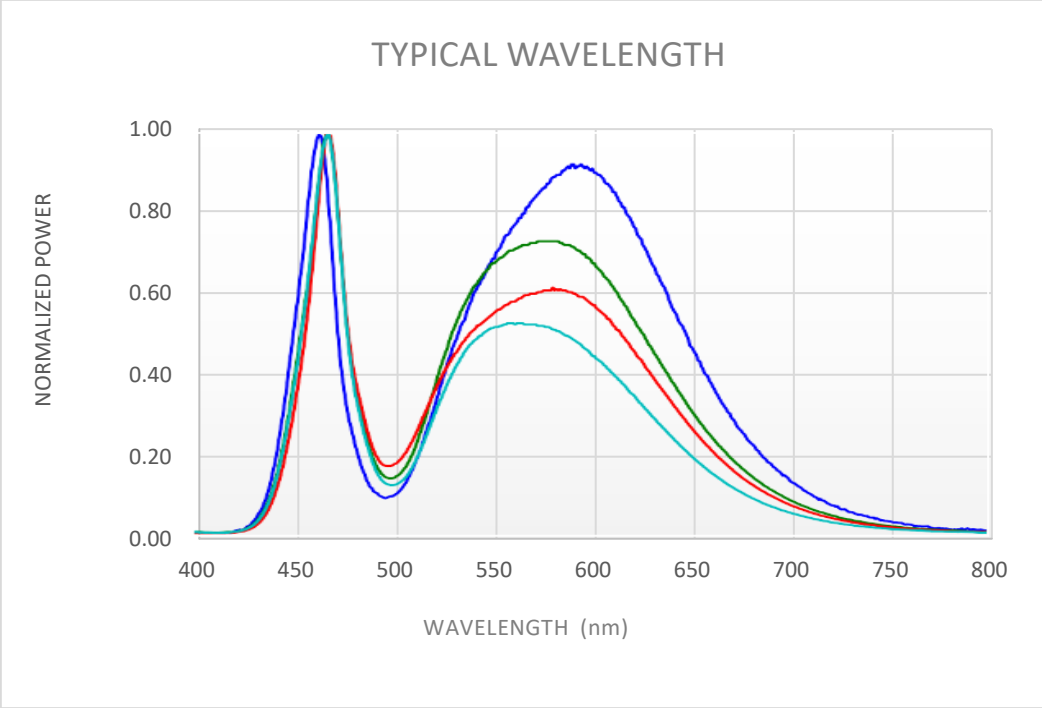


Figure 1. Typical normalized light output vs. junction temperature for at specified test current.Tj=25°C

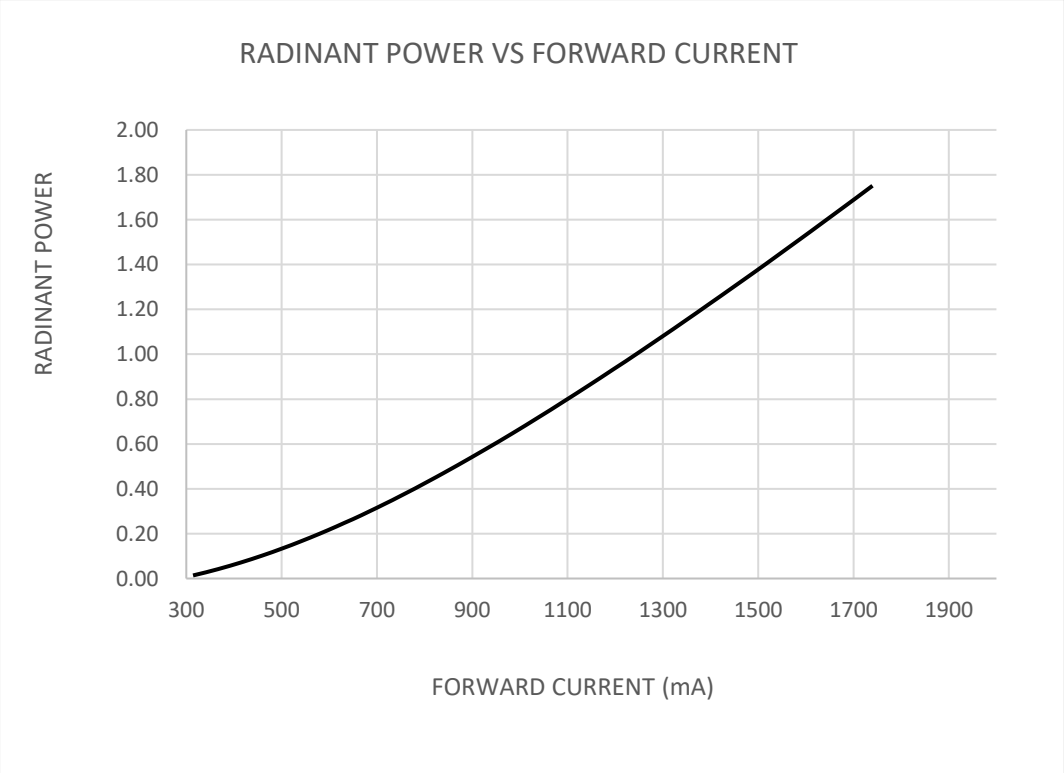


Figure 2 . Typical normalized light output vs . forward current for at Tj =25°C

光输出特性 Light Output Characteristics

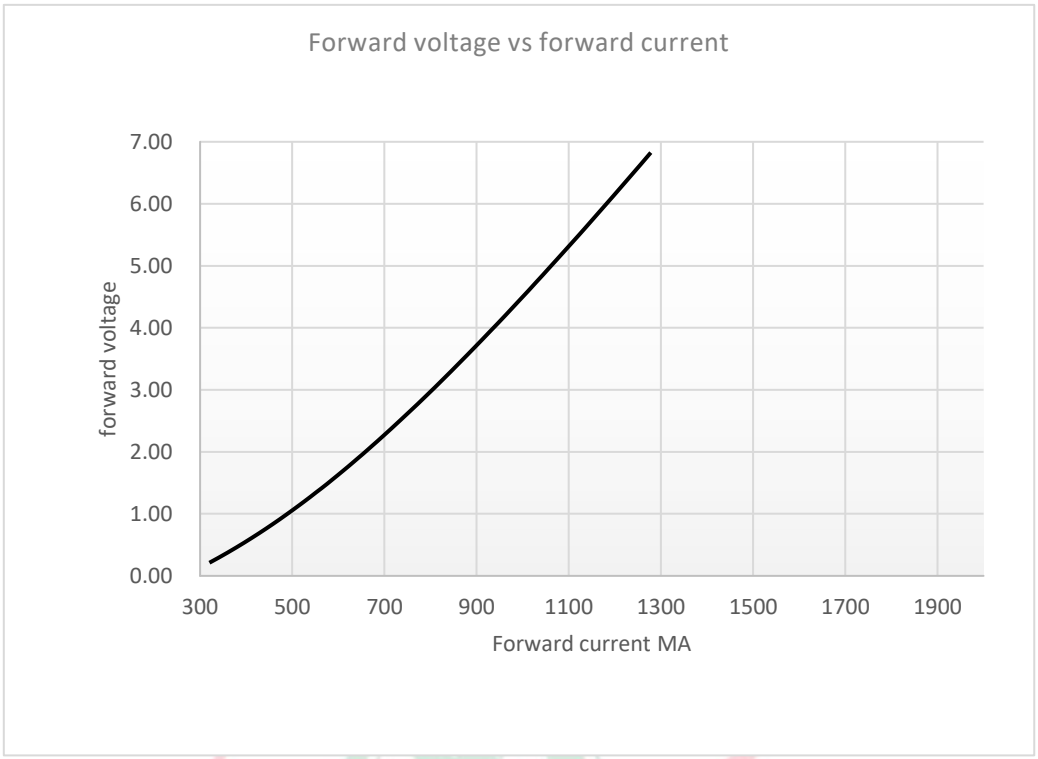


Figure 3. Typical forward current vs. for HP7070**WF/WG ward voltage for R Tj=25°C.

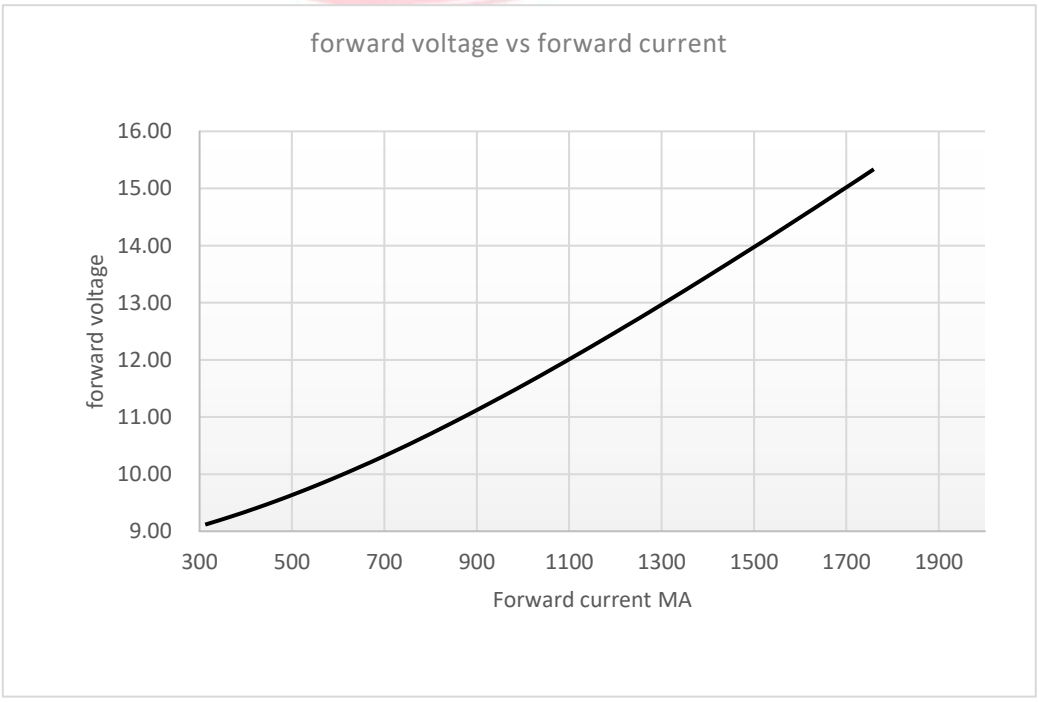


Figure 4. Typical forward current vs. for HP7070**Wi ward voltage for R Tj=25°C.

光输出特性 Light Output Characteristics

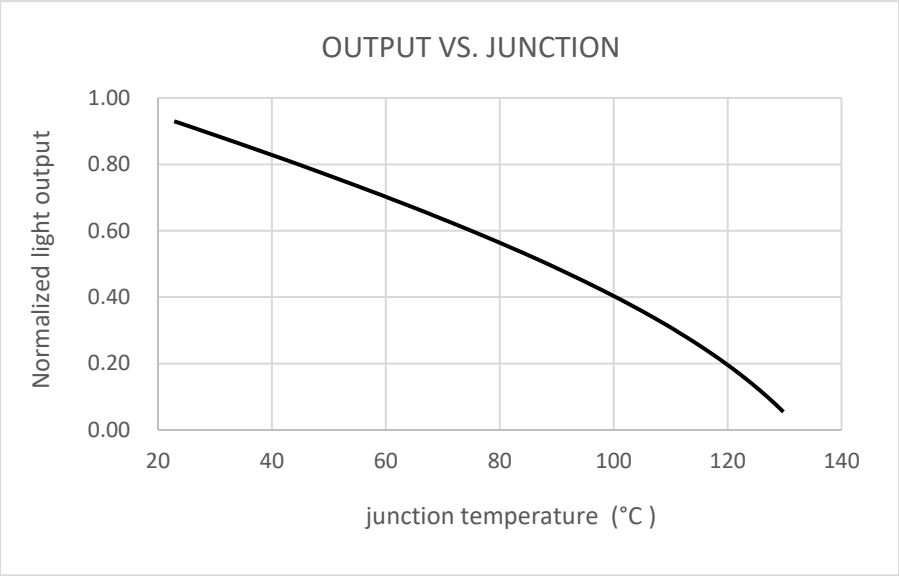
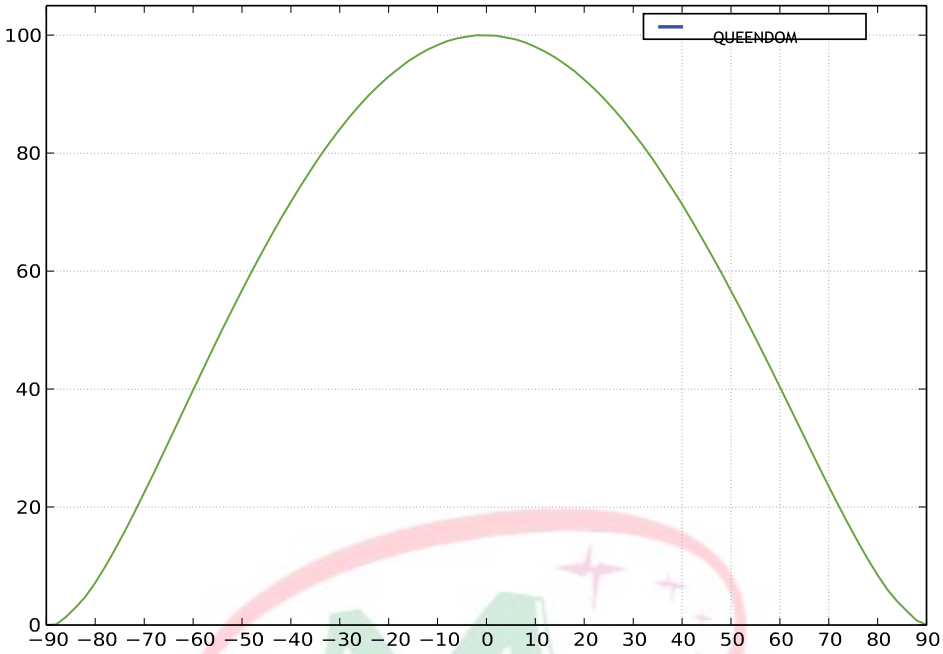


Figure 5. Typical normalized light output vs. junction temperature for at test current.

Radiation Pattern Characteristics



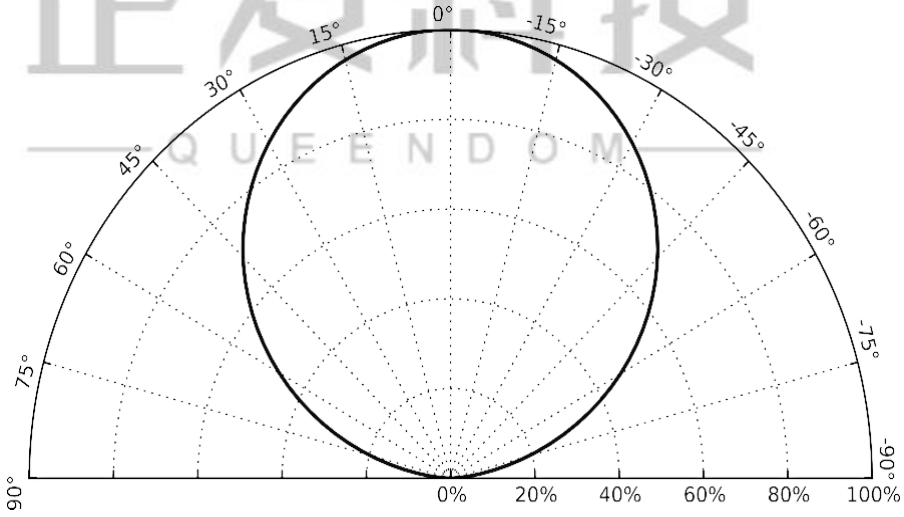


Figure 5. Typical polar radiation pattern for all at test current, Tj Tj=25°C.

Chromaticity Region & Coordinates

Figure 1a. Typical normalized power vs. wavelength for QUEENDOM LEDs, Tj=25°C.

Region	CIE x	CIE y	Region	CIE x	CIE y
Y rank (2200 K)					
Y1	0.4854	0.4022	Y9	0.4974	0.421
	0.4914	0.4116		0.5033	0.4304
	0.4964	0.4116		0.5087	0.4304
	0.4903	0.4022		0.5025	0.421
Y2	0.4903	0.4022	YA	0.5025	0.421
	0.4964	0.4116		0.5087	0.4304
	0.5014	0.4116		0.514	0.4303
	0.4952	0.4023		0.5077	0.421
Y3	0.4952	0.4023	YB	0.5077	0.421
	0.5014	0.4116		0.514	0.4303
	0.5065	0.4116		0.5194	0.4303
	0.5	0.4023		0.5129	0.421
Y4	0.5	0.4023	YC	0.5129	0.421
	0.5065	0.4116		0.5194	0.4303
	0.5115	0.4116		0.5247	0.4303
	0.5049	0.4023		0.5181	0.421
Y5	0.4914	0.4116	YD	0.5033	0.4304
	0.4974	0.421		0.5093	0.4398
	0.5025	0.421		0.5148	0.4398
	0.4964	0.4116		0.5087	0.4304
Y6	0.4964	0.4116	YE	0.5087	0.4304
	0.5025	0.421		0.5148	0.4398
	0.5077	0.421		0.5203	0.4397
	0.5014	0.4116		0.514	0.4303
Y7	0.5014	0.4116	YF	0.514	0.4303
	0.5077	0.421		0.5203	0.4397
	0.5129	0.421		0.5258	0.4397
	0.5065	0.4116		0.5194	0.4303
Y8	0.5065	0.4116	YG	0.5194	0.4303
	0.5129	0.421		0.5258	0.4397
	0.5181	0.421		0.5313	0.4396
	0.5115	0.4116		0.5247	0.4303

Region	CIE x	CIE y	Region	CIE x	CIE y
W rank (2700 K)					
W1	0.4417	0.394	W9	0.4515	0.4128
	0.4472	0.3953		0.4573	0.4141
	0.4522	0.4047		0.4623	0.4235
	0.4466	0.4034		0.4563	0.4222
W2	0.4472	0.3953	WA	0.4573	0.4141
	0.4527	0.3966		0.4631	0.4153
	0.4579	0.4059		0.4683	0.4247
	0.4522	0.4047		0.4623	0.4235
W3	0.4527	0.3966	WB	0.4631	0.4153
	0.4582	0.3978		0.4689	0.4166
	0.4635	0.4072		0.4742	0.426
	0.4579	0.4059		0.4683	0.4247
W4	0.4582	0.3978	WC	0.4689	0.4166
	0.4637	0.3991		0.4747	0.4179
	0.4692	0.4085		0.4802	0.4272
	0.4635	0.4072		0.4742	0.426
W5	0.4466	0.4034	WD	0.4563	0.4222
	0.4522	0.4047		0.4623	0.4235
	0.4573	0.4141		0.4673	0.4329
	0.4515	0.4128		0.4612	0.4316
W6	0.4522	0.4047	WE	0.4623	0.4235
	0.4579	0.4059		0.4683	0.4247
	0.4631	0.4153		0.4735	0.4341
	0.4573	0.4141		0.4673	0.4329
W7	0.4579	0.4059	WF	0.4683	0.4247
	0.4635	0.4072		0.4742	0.426
	0.4689	0.4166		0.4796	0.4354
	0.4631	0.4153		0.4735	0.4341
W8	0.4635	0.4072	WG	0.4742	0.426
	0.4692	0.4085		0.4802	0.4272
	0.4747	0.4179		0.4857	0.4366
	0.4689	0.4166		0.4796	0.4354

Figure 1b. Typical normalized power vs. wavelength for QUEENDOM LEDs, Tj=25°C.

Region	CIE x	CIE y	Region	CIE x	CIE y		Region	CIE x	CIE y	Region	CIE x	CIE y
U rank (3500 K)							T rank (4000 K)					
U1	0.3889	0.369	U9	0.3941	0.3848		T1	0.367	0.3578	T9	0.3702	0.3722
	0.3915	0.3768		0.3968	0.393			0.3726	0.3612		0.3763	0.376
	0.3981	0.38		0.404	0.3966			0.3744	0.3685		0.3782	0.3837
	0.3953	0.372		0.401	0.3882			0.3686	0.3649		0.3719	0.3797
U2	0.3953	0.372	UA	0.401	0.3882		T2	0.3726	0.3612	TA	0.3763	0.376
	0.3981	0.38		0.404	0.3966			0.3783	0.3646		0.3825	0.3798
	0.4048	0.3832		0.4113	0.4001			0.3804	0.3721		0.3847	0.3877
	0.4017	0.3751		0.408	0.3916			0.3744	0.3685		0.3782	0.3837
U3	0.4017	0.3751	UB	0.408	0.3916		T3	0.3783	0.3646	TB	0.3825	0.3798
	0.4048	0.3832		0.4113	0.4001			0.384	0.3681		0.3887	0.3836
	0.4116	0.3865		0.4186	0.4037			0.3863	0.3758		0.3912	0.3917
	0.4082	0.3782		0.415	0.395			0.3804	0.3721		0.3847	0.3877
U4	0.4082	0.3782	UC	0.415	0.395		T4	0.384	0.3681	TC	0.3887	0.3837
	0.4116	0.3865		0.4186	0.4037			0.3898	0.3716		0.395	0.3875
	0.4183	0.3898		0.4259	0.4073			0.3924	0.3794		0.3978	0.3958
	0.4147	0.3814		0.4221	0.3984			0.3863	0.3758		0.3912	0.3917
U5	0.3915	0.3768	UD	0.3968	0.393		T5	0.3686	0.3649	TD	0.3719	0.3797
	0.3941	0.3848		0.3996	0.4015			0.3744	0.3685		0.3782	0.3837
	0.401	0.3882		0.4071	0.4052			0.3763	0.376		0.3802	0.3916
	0.3981	0.38		0.404	0.3966			0.3702	0.3722		0.3736	0.3874
U6	0.3981	0.38	UE	0.404	0.3966		T6	0.3744	0.3685	TE	0.3782	0.3837
	0.401	0.3882		0.4071	0.4052			0.3804	0.3721		0.3847	0.3877
	0.408	0.3916		0.4146	0.4089			0.3825	0.3798		0.3869	0.3958
	0.4048	0.3832		0.4113	0.4001			0.3763	0.376		0.3802	0.3916
U7	0.4048	0.3832	UF	0.4113	0.4001		T7	0.3804	0.3721	TF	0.3847	0.3877
	0.408	0.3916		0.4146	0.4089			0.3863	0.3758		0.3912	0.3917
	0.415	0.395		0.4222	0.4127			0.3887	0.3836		0.3937	0.4001
	0.4116	0.3865		0.4186	0.4037			0.3825	0.3798		0.3869	0.3958
U8	0.4116	0.3865	UG	0.4186	0.4037		T8	0.3863	0.3758	TG	0.3912	0.3917
	0.415	0.395		0.4222	0.4127			0.3924	0.3794		0.3978	0.3958
	0.4221	0.3984		0.4299	0.4165			0.395	0.3875		0.4006	0.4044
	0.4183	0.3898		0.4259	0.4073			0.3887	0.3836		0.3937	0.4001

Figure 1c. Typical normalized power vs. wavelength for QUEENDOM LEDs, Tj=25°C.

Region	CIE x	CIE y	Region	CIE x	CIE y
R rank (5000 K)					
R1	0.3366	0.3369	R9	0.3374	0.3554
	0.3369	0.3431		0.3371	0.3493
	0.3407	0.346		0.3411	0.3522
	0.3403	0.3398		0.3415	0.3587
R2	0.3403	0.3398	RA	0.3415	0.3587
	0.3407	0.346		0.3411	0.3522
	0.3446	0.3491		0.3451	0.3554
	0.344	0.3427		0.3457	0.3621
R3	0.3446	0.3491	RB	0.3451	0.3554
	0.344	0.3427		0.3457	0.3621
	0.3477	0.3458		0.35	0.3655
	0.3485	0.3522		0.3492	0.3587
R4	0.3485	0.3522	RC	0.3492	0.3587
	0.3477	0.3458		0.35	0.3655
	0.3514	0.3487		0.3542	0.369
	0.3524	0.3554		0.3533	0.362
R5	0.3371	0.3493	RD	0.3376	0.3616
	0.3369	0.3431		0.3374	0.3554
	0.3407	0.346		0.3415	0.3587
	0.3411	0.3522		0.342	0.3652
R6	0.3407	0.346	RE	0.3415	0.3587
	0.3411	0.3522		0.342	0.3652
	0.3451	0.3554		0.3463	0.3687
	0.3446	0.3491		0.3457	0.3621
R7	0.3446	0.3491	RF	0.3457	0.3621
	0.3451	0.3554		0.3463	0.3687
	0.3492	0.3587		0.3507	0.3724
	0.3485	0.3522		0.35	0.3655
R8	0.3485	0.3522	RG	0.35	0.3655
	0.3492	0.3587		0.3507	0.3724
	0.3533	0.362		0.3551	0.376
	0.3524	0.3554		0.3542	0.369

Region	CIE x	CIE y	Region	CIE x	CIE y
Q rank (5700 K)					
Q1	0.3218	0.3298	Q9	0.3211	0.3407
	0.3222	0.3243		0.3215	0.3353
	0.3258	0.3275		0.3254	0.3388
	0.3256	0.3331		0.3252	0.3444
Q2	0.3256	0.3331	QA	0.3252	0.3444
	0.3258	0.3275		0.3254	0.3388
	0.3294	0.3306		0.3293	0.3423
	0.3294	0.3364		0.3293	0.3481
Q3	0.3294	0.3364	QB	0.3293	0.3481
	0.3294	0.3306		0.3293	0.3423
	0.333	0.3338		0.3332	0.3458
	0.3331	0.3398		0.3333	0.3518
Q4	0.3331	0.3398	QC	0.3333	0.3518
	0.333	0.3338		0.3332	0.3458
	0.3366	0.3369		0.3371	0.3493
	0.3369	0.3431		0.3374	0.3554
Q1	0.3215	0.3353	QD	0.3207	0.3462
	0.3218	0.3298		0.3211	0.3407
	0.3256	0.3331		0.3252	0.3444
	0.3254	0.3388		0.325	0.3501
Q2	0.3254	0.3388	QE	0.325	0.3501
	0.3256	0.3331		0.3252	0.3444
	0.3294	0.3364		0.3293	0.3481
	0.3293	0.3423		0.3292	0.3539
Q3	0.3293	0.3423	QF	0.3292	0.3539
	0.3294	0.3364		0.3293	0.3481
	0.3331	0.3398		0.3333	0.3518
	0.3332	0.3458		0.3334	0.3578
Q4	0.3332	0.3458	QG	0.3334	0.3578
	0.3331	0.3398		0.3333	0.3518
	0.3369	0.3431		0.3374	0.3554
	0.3371	0.3493		0.3376	0.3616

Figure 1d. Typical normalized power vs. wavelength for QUEENDOM LEDs, Tj=25°C.

Region	CIE x	CIE y	Region	CIE x	CIE y
P rank (6500 K)					
P1	0.3068	0.3113	P9	0.3048	0.3207
	0.3106	0.315		0.3089	0.3249
	0.3098	0.3199		0.308	0.3298
	0.3058	0.316		0.3038	0.3256
P2	0.3106	0.315	PA	0.3089	0.3249
	0.3144	0.3186		0.313	0.329
	0.3137	0.3238		0.3123	0.3341
	0.3098	0.3199		0.308	0.3298
P3	0.3144	0.3186	PB	0.313	0.329
	0.3183	0.3224		0.3172	0.3332
	0.3177	0.3278		0.3166	0.3384
	0.3137	0.3238		0.3123	0.3341
P4	0.3183	0.3224	PC	0.3172	0.3332
	0.3221	0.3261		0.3214	0.3373
	0.3218	0.3317		0.321	0.3427
	0.3177	0.3278		0.3166	0.3384
P5	0.3058	0.316	PD	0.3038	0.3256
	0.3098	0.3199		0.308	0.3298
	0.3089	0.3249		0.3072	0.3348
	0.3048	0.3207		0.3028	0.3304
P6	0.3098	0.3199	PE	0.308	0.3298
	0.3137	0.3238		0.3123	0.3341
	0.313	0.329		0.3115	0.3391
	0.3089	0.3249		0.3072	0.3348
P7	0.3137	0.3238	PF	0.3123	0.3341
	0.3177	0.3278		0.3166	0.3384
	0.3172	0.3332		0.316	0.3436
	0.313	0.329		0.3115	0.3391
P8	0.3177	0.3278	PG	0.3166	0.3384
	0.3218	0.3317		0.321	0.3427
	0.3214	0.3373		0.3206	0.3481
	0.3172	0.3332		0.316	0.3436

Product Bin and Labeling Definitions

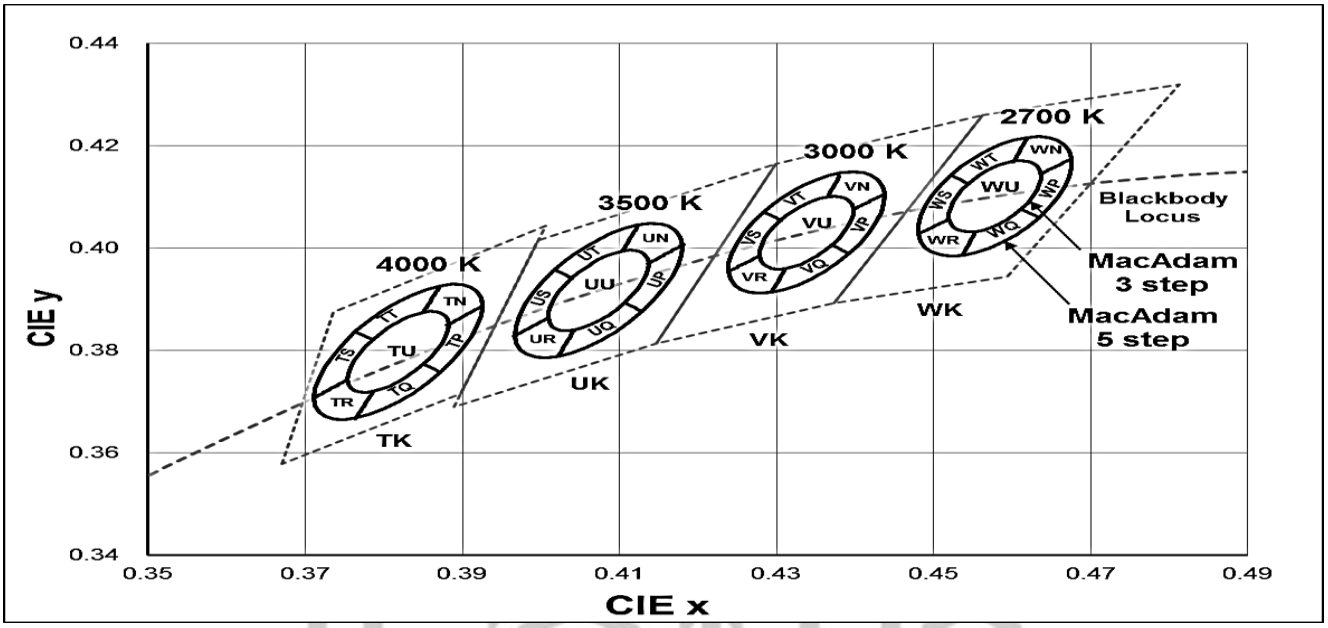
Decoding Product Bin Labeling

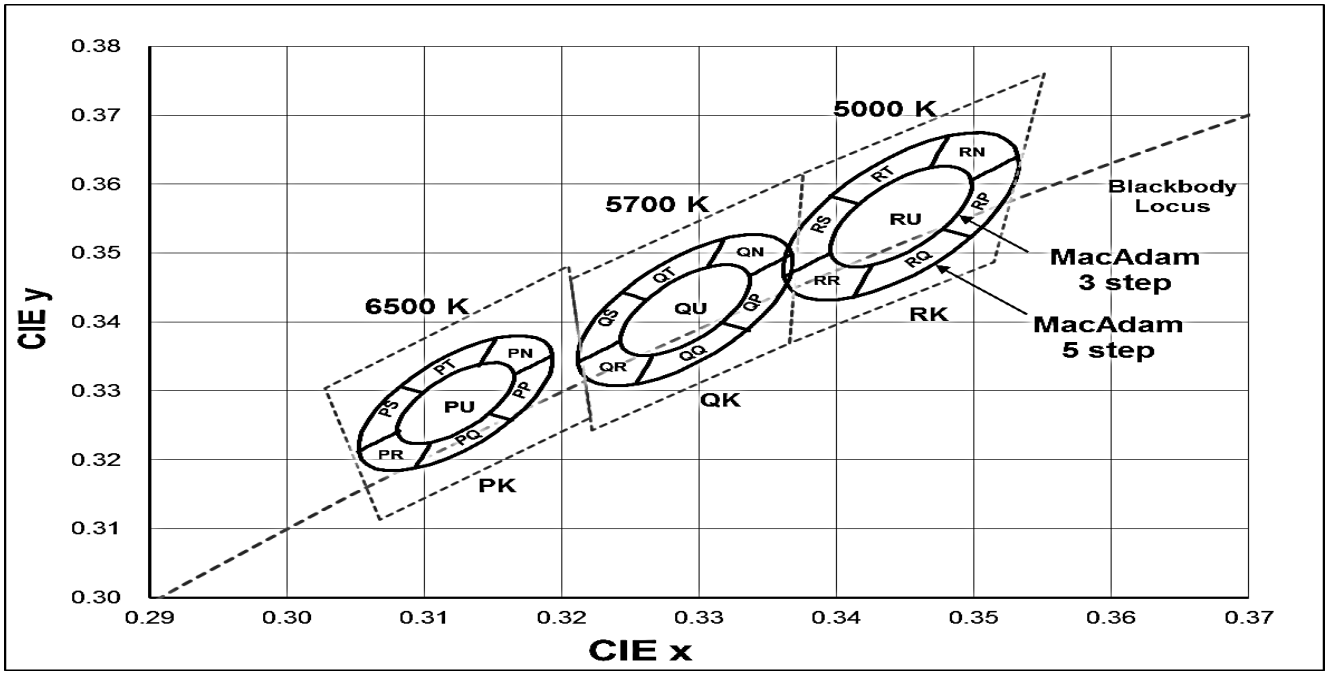
In the manufacturing of semiconductor products, there are variations in performance around the average values given in the technical datasheet. For this reason, Queendom leds bins LED components for luminous flux, intensity, radiometric power, color point, peak wavelength, dominant wavelength and forward voltage.

RANK NOMINAL CCT & COLOR COORDINATES

Chromaticity Region & Coordinates

Table 1a. Electrical and thermal characteristics for Queendom at specified test current, Tj=25°C





Dominant Wavelength Bins

RANK Table 1. Dominant wavelength bins & Product performance of Queendom Commercial LEDs at specified test conditions.

	Region	CIE x	CIE y	Major-axis	Minor-axis	Rotation
3 step	2700	0.4578	0.4101	0.0081	0.0042	53.7
	3000	0.4338	0.403	0.0083	0.0041	53.22
	3500	0.4073	0.3917	0.0093	0.0041	54
	4000	0.3818	0.3797	0.0094	0.004	53.72
	5000	0.3447	0.3553	0.0082	0.0035	59.62
	5700	0.3287	0.3417	0.0075	0.0032	59.1
	6500	0.3123	0.3282	0.0067	0.0029	58.57
5 step	2700	0.4578	0.4101	0.0135	0.007	53.7
	3000	0.4338	0.403	0.0138	0.0068	53.22
	3500	0.4073	0.3917	0.0155	0.0068	54
	4000	0.3818	0.3797	0.0157	0.0067	53.72
	5000	0.3447	0.3553	0.0137	0.0058	59.62
	5700	0.3287	0.3417	0.0125	0.0053	59.1
	6500	0.3123	0.3282	0.0112	0.0048	58.57

Notes:

1. The tolerance of luminous intensity (Iv)is ±15％.
2. The tolerance of dominant wavelength is ±1nm.
3. This specification is preliminary.
4.This specification is a standard specification of our factory, can make in accordance with customer's special requirement.

LUMINOUS FLUX BINS

Table 2.Luminous flux bin definitions for QUEENDOM Color Line at Tj=25°C.

BIN	QUEENDOM FLUX [1] (lm)		RANK FLUX [2] (lm)		TYPICAL FLUX HALF WIDTH
	MINIMUM	MAXIMUM	MINIMUM	MAXIMUM	[3] (lm)
LI	22	24	2	4	4
LJ	24	26	2	4	4
LK	26	28	2	4	4
LL	28	30	2	4	4
LM	30	32	2	4	4
LN	32	34	2	4	4
LO	34	36	2	4	4
LP	36	38	2	4	4
LQ	38	40	2	4	4
LR	45	50	3	5	5
LS	55	60	3	5	5
LT	65	70	3	5	5
LU	75	80	3	5	5
LV	85	90	3	5	5
LW	95	100	3	5	5
LX	110	120	5	10	10
LY	130	140	5	10	10
LZ	150	160	5	10	10
H1	170	180	5	10	10
H2	190	200	5	10	10

TABLE Forward Voltage BINS

Table 3. Electrical and thermal characteristics for Queendom at specified test current, Tj=25°C

NUMBER	FORWARD VOLTAGE [1] (Vf)			RANK WAVELENGTH [2]		TYPICAL VOLTAGE
	MINIMUM	TYPICAL	MAXIMUM	MINIMUM	MAXIMUM	[3]
V1	1	1.2	1.4	0.1	0.2	0.2
V2	1.4	1.6	1.8	0.1	0.2	0.2
V3	1.8	2	2.2	0.1	0.2	0.2
V4	2.2	2.4	2.6	0.1	0.2	0.2
V5	2.6	2.8	3	0.1	0.2	0.2
V6	3	3.2	3.4	0.1	0.2	0.2
V7	3.4	3.6	3.8	0.1	0.2	0.2
V8	3.8	4	4.2	0.1	0.2	0.2
V9	4.2	4.4	4.6	0.1	0.2	0.2
VA	4.6	4.8	5	0.1	0.2	0.2
VB	5	5.2	5.4	0.1	0.2	0.2
VC	5.4	5.6	5.8	0.1	0.2	0.2
VD	5.8	6				
VE	6	7	8	1	2	2
VF	8	9	10	1	2	2
VG	10	11	12	1	2	2
VH	12	13	14	1	2	2
VI	14	15	16	1	2	2
VJ	16	17	18	1	2	2
VK	18	19	20	1	2	2
VL	20	21	22	1	2	2
VM	22	23	24	1	2	2
VN	24	25	26	1	2	2
VO	26	27	28	1	2	2

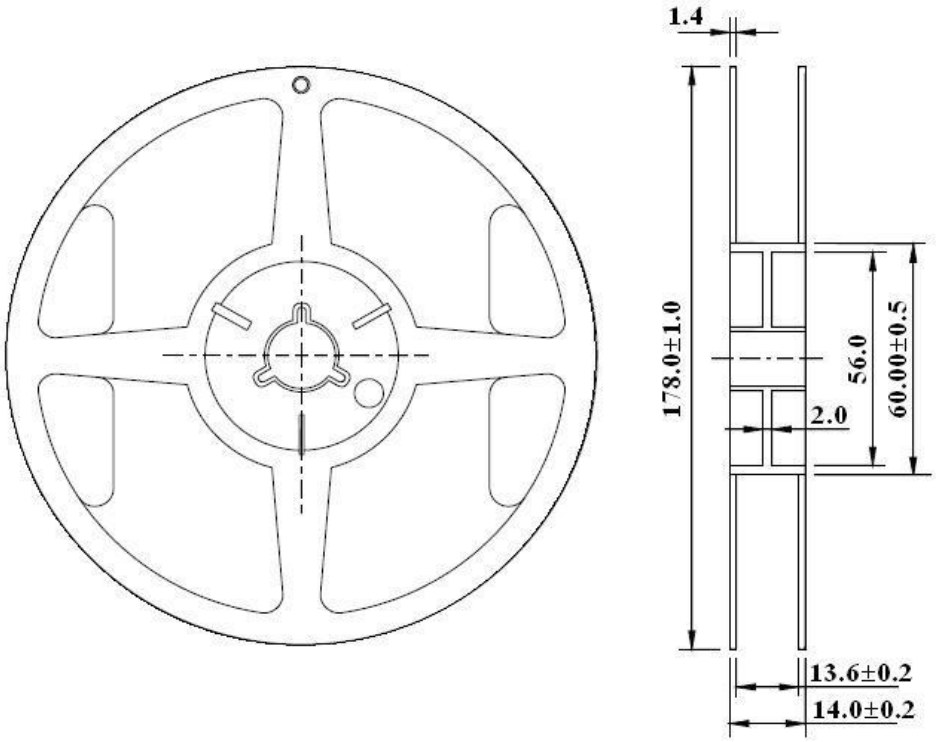
TABLE TYPICAL POWER BINS

Table 4. Electrical and thermal characteristics for Queendom at specified test current, Tj=25°C

RANK NO.	TYPICAL POWER RANK (W) [1]		RANK POWER [2] (W)		TYPICAL POWER HALF WIDTH
	min	max	MINIMUM	MAXIMUM	[3] (W)
WE	1	3	1	3	3
WF	3	6	1	3	3
WG	6	9	1	3	3
WH	9	12	1	3	3
WI	12	15	1	3	3
WJ	15	18	1	3	3
WK	18	21	1	3	3
WL	21	24	1	3	3
WM	24	27	1	3	3
WN	27	30	2	3	3
WO	30	34	2	4	4
WP	34	38	2	4	4
WQ	38	42	2	4	4

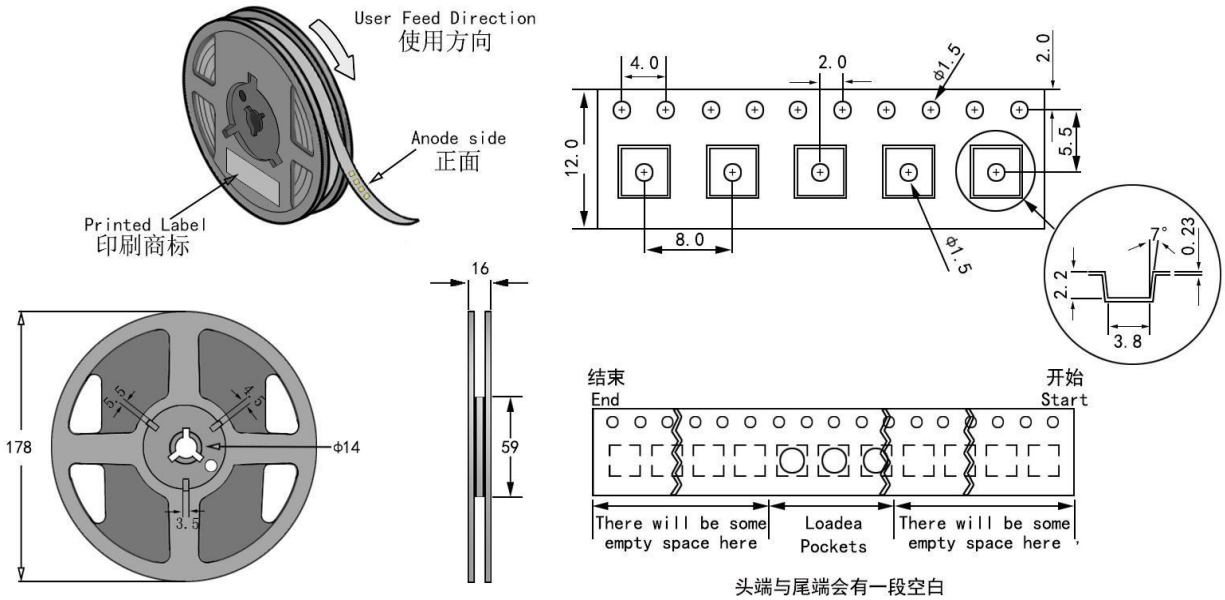
Packaging Information

Reel Dimensions:

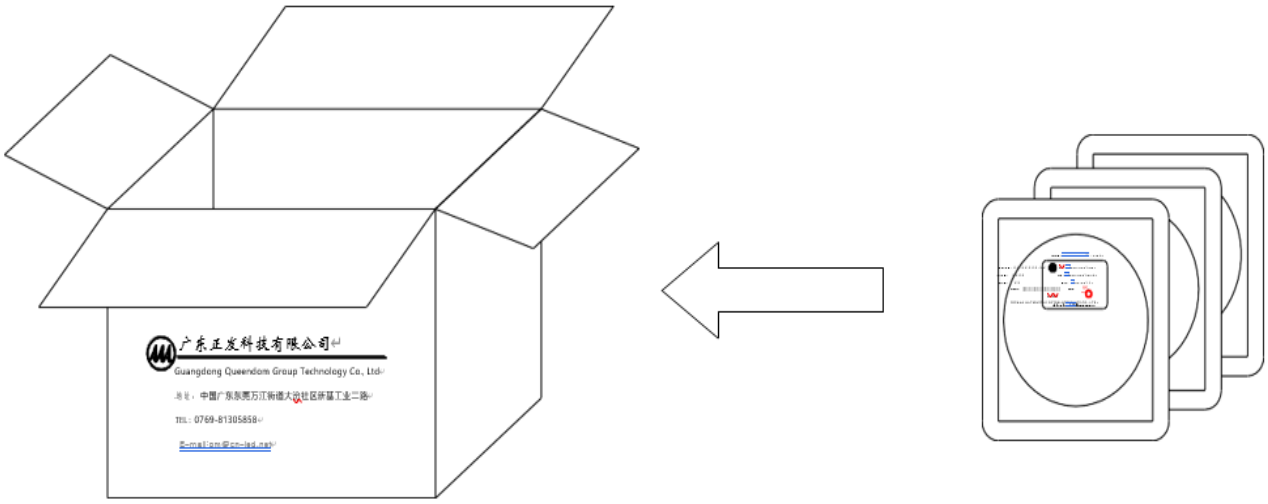


Unit: mm
Tolerance: ±0.25mm

Carrier Tape Dimensions:



Packaging cartons



Information

- With Stopper

Without Stopper

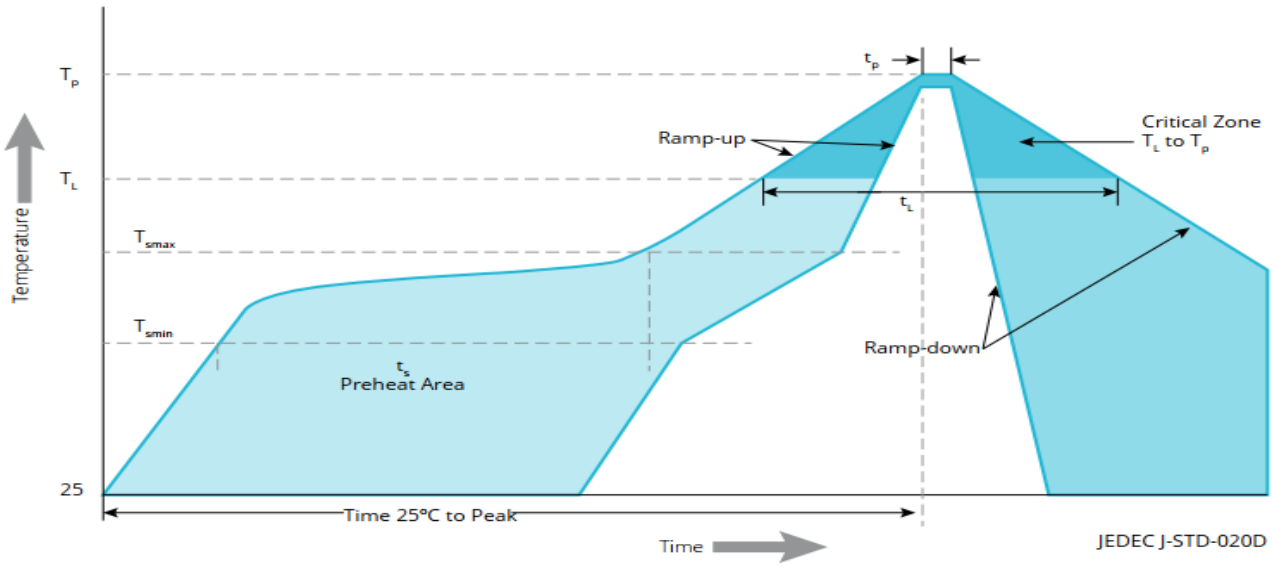
CPN:Customer's Product Number
P/N:Product Number
QTY:Packing Quantity
LOT NO:Lot Number
VF:Forward Voltage Rank
IV:Luminous Intensity Rank
WLD:Dom. Wavelength Rank
BIN:BIN Code
DATE:Date Of Dispatch

Packing Quantity

1. 3000 PCS/1 Bag,
2. 10 Inner Cartons/1 Outside Carton

CAUTIONS

Reflow Soldering Guidelines



Visualization of the acceptable reflow temperature profile as specified

Reflow profile characteristics for Queendom smd.

ProFIle Feature	lead-Free assemBly
Reheat Minimum Temperature (Tsmin)	150°C
Preheat Maximum Temperature (Tsmax)	200°C
Preheat Time (tsmin to tsmax)	60 to 120 seconds
Ramp-Up Rate (TL to Tp)	3°C / second maximum
Liquidus Temperature (TL)	217°C
Time Maintained Above Temperature TL (tL)	60 to 150 seconds
Peak / Classification Temperature (Tp)	260°C
Time Within 5°C of Actual Temperature (tp)	20 to 40 seconds
Ramp-Down Rate (Tp to TL)	6°C / second maximum
Time 25°C to P	8 minutes maximum

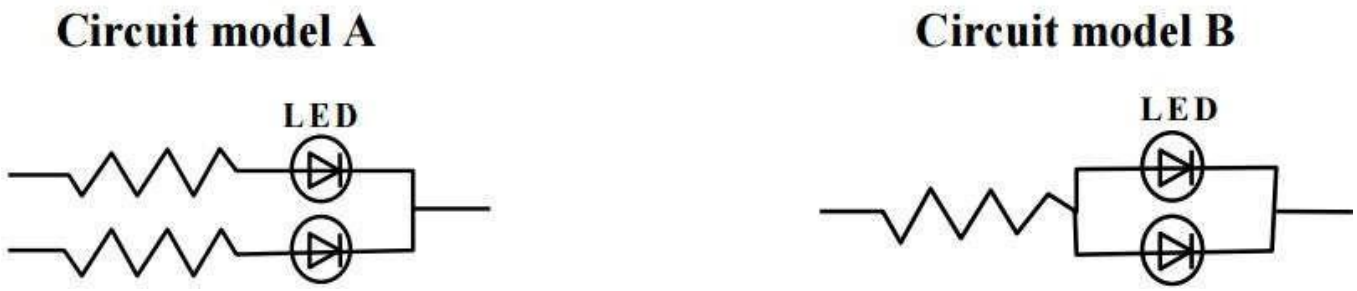
JEDEC Moisture Sensitivity

Moisture sensitivity levels for LEDs Line

leVel	Floor lIFe		soaK requIrements standard	
	tIme	condItIons	tIme	condItIons
1	Unlimited	≤30°C / 85% RH	168 Hours +5 / -0	85°C / 85% RH

Drive Method

An LED is a current-operated device. In order to ensure intensity uniformity on multiple LEDs connected in parallel in an application, it is recommended that a current limiting resistor be incorporated in the drive circuit, in series with each LED as shown in Circuit A below.



Recommended circuit

The brightness of each LED might appear different due to the differences in the I-V characteristics of those LEDs.

Repairing

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used. It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.

ESD (Electrostatic Discharge)

Static Electricity or power surge will damage the LED. Suggestions to prevent ESD damage:

Use a conductive wrist band or anti- electrostatic glove when handling these LEDs.

All devices, equipment, and machinery must be properly grounded.

Work tables, storage racks, etc. should be properly grounded.

Use ion blower to neutralize the static charge which might have built up on surface of the LEDs plastic lens as a result of friction between LEDs during storage and handing.

Others

The information included in this document reflects representative usage scenarios and is intended for technical reference only.

The part number, type, and specifications mentioned in this document are subject to future change and improvement without notice. Before production usage customer should refer to the latest datasheet for the updated specifications.

When using the products referenced in this document, please make sure the product is being operated within the environmental and electrical limits specified in the datasheet. If customer usage exceeds the specified limits, Queendom will not be responsible for any subsequent issues.

The LEDs described here are intended to be used for ordinary electronic equipment (such as office equipment, communication equipment and household applications). Consult Queendom's Sales in advance for information on applications in which exceptional reliability is required, particularly when the failure or malfunction of the LEDs may directly jeopardize life or health, such as in aviation, transportation, traffic control equipment, medical and life support systems and safety devices.

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