



SMD LED CHIPS

QUEENDOM GROUP

SMD 2012 LEDS

PRECISION SMD CHIP LEDs

OVERVIEW

Surface-mount (SMD) 0805/2012 package LEDs
Emitting colors: White, Warm White, Yellow;
Lens appearance: Water Clear / Diffused (optional);
Compatible with reflow soldering process (JEDEC standard);
Tape and reel packaging (standard), bulk packaging (optional);
High luminous intensity matched for uniform light output;
Long lifespan (50,000+ hours), solid-state reliability;
Low power consumption (0.06W typical);
Integrated circuit compatible (low forward voltage);
European compliance (CE certified);
RoHS compliant (lead-free, halogen-free).



FEATURES:

These SMD 0805 (2012 metric) LEDs are miniature surface-mount light sources designed for space-constrained electronic applications requiring compact, efficient illumination.

They feature a 2.0mm × 1.2mm footprint (standard 0805 size) with a low-profile design (1.1mm height), enabling seamless integration into dense PCB layouts.

By utilizing advanced chip-on-board (COB) technology, they deliver consistent color rendering (CRI > 80) and stable performance across a wide temperature range (-40°C to +85°C).

Ideal for automated assembly lines, they support high-speed pick-and-place machinery and comply with IPC/JEDEC J-STD-020 reflow profiles.

APPLICATIONS:

Consumer Electronics: Smartphones, tablets, smartwatches, wireless earbuds (status indicators, backlighting);

Home Appliances: Smart speakers, coffee makers, air purifiers (operation status lights);

Industrial Equipment: Control panels, sensors, IoT devices (signal indication);

Automotive: Interior lighting, dashboard indicators (low-power, vibration-resistant);

Medical Devices: Portable monitors, diagnostic tools (reliable, low-heat emission);

Communication Devices: Routers, modems, network switches (data transmission status lights).



ABSOLUTE MAXIMUM RATINGS

Table 1. Absolute maximum ratings for LEDs.

PARAMETER	WHITE
Parameter PD (mW)	60
DC Forward Current ^[1, 2]	20 mA
Peak Pulsed Forward Current ^[1, 3]	95 mA
LED Junction Temperature ^[1] (DC & Pulse)	115°C
Reverse Voltage (V _{reverse})	5
ESD Sensitivity (ANSI/ESDA/JEDEC JS-001-2012)	Class 1
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 1:

1. Proper current derating must be observed to maintain the junction temperature below the maximum allowable junction temperature.
2. Single-color light.
3. All-color light.
4. At 0.01ms pulse on time test with a pulse period of 0.1ms

Product Selection Guide

Table 2 . Product performance of Queendom LEDs at 20mA, Tj=25°C

Model	Rank Code	Color Type	Test Current	Part Number
Device Model	Rank	CCT/K	(mA)	P/N
S2012YW2WA	SL0414	2200K	20	8541401000SL0414
S2012WW2WA	SL0415	2700K	20	8541401000SL0415
S2012WV2WA	SL0416	3000K	20	8541401000SL0416
S2012WU2WA	SL0417	3500K	20	8541401000SL0417
S2012WT2WA	SL0418	4000K	20	8541401000SL0418
S2012WR2WA	SL0419	5000K	20	8541401000SL0419
S2012WQ2WA	SL0420	5700K	20	8541401000SL0420
S2012WP2WA	SL0421	6500K	20	8541401000SL0421
S2012WD2WA	SL0422	7600K	20	8541401000SL0422
S2012WD2WA	SL0423	10500K	20	8541401000SL0423

Product Electrical Index & TYPICALWAVELENGTH

IF =20 mA; TJ = 25 °C

Table 3 Product performance of Queendom LEDs at 20mA, Tj=25°C

Model	Rank Code	Color Type	CRI	Luminous Flux (mcd)		Forward Voltage VF (V)		Viewing Angle	Test Current
Device Model	Rank	CCT/K	(Ra)	MIN	MAX	MIN	MAX	(2θ½, °)	(mA)
S2012YW2WA	SL0414	2200K	80	300	780	2.7	3.2	120	20
S2012WW2WA	SL0415	2700K	80	300	780	2.7	3.2	120	20
S2012WV2WA	SL0416	3000K	80	300	780	2.7	3.2	120	20
S2012WU2WA	SL0417	3500K	80	300	780	2.7	3.2	120	20
S2012WT2WA	SL0418	4000K	80	300	780	2.7	3.2	120	20
S2012WR2WA	SL0419	5000K	80	300	780	2.7	3.2	120	20
S2012WQ2WA	SL0420	5700K	80	300	780	2.7	3.2	120	20
S2012WP2WA	SL0421	6500K	80	300	780	2.7	3.2	120	20
S2012WD2WA	SL0422	7600K	80	300	780	2.7	3.2	120	20
S2012WD2WA	SL0423	10500K	80	300	780	2.7	3.2	120	20

Notes for Table 2:

1. Main wavelength measurement maintains an error of ±1nm.
2. Luminous flux measurement maintains an error of ±7.5%.

Optical Characteristics

Table 4 Optical characteristics for QUEENDOM SMD CHIP at 20mA, Tj=25°C.

PRODUCT	COLOR	TYPICAL SPECTRAL HALF-WIDTH ^[1] (K)	TYPICAL TEMPERATURE COEFFICIENT OF DOMINANT WAVELENGTH (CCT /°C)	TYPICAL VIEWING ANGLE ^[2]
S2018*2WA	2200K	45	-2.0 ~ -2.5	120°
	2700K	50	-1.8 ~ -2.3	120°
	3000K	100	-1.5 ~ -2.0	120°
	3500K	100	-1.5 ~ -2.0	120°
	4000K	120	-1.2 ~ -1.8	120°
	5000K	120	-1.0 ~ -1.5	120°
	5700K	150	-1.0 ~ -1.5	120°
	6500K	249	-0.6 ~ -1.0	120°
	7600K	300	-0.5 ~ -0.8	120°
	10500K	500	-0.4 ~ -0.7	120°

Notes for Table 2

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.

OPTICAL CHARACTERISTICS



Table 5. Optical characteristics for Queendom LEDs at 20mA, Tj=25°C

Device Model	PEAK COLOR	TYPICAL SPECTRAL HALF- WIDTH [1] (nm)	TYPICAL TEMPERATURE COEFFICIENT OF DOMINANT WAVELENGTH (K/°C)	PART NUMBER
S2018*2WA	WHITE	5	+0.12 ~ +0.25	8541401000SL0414-23

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

Table 6 . Electrical and thermal characteristics for Queendom LEDs at 20mA, Tj=25°C

Device Model	PEAK 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		
S2018*2WA	WHITE	2.8	3.2	3.4	-1.5 ~ -2.0	12 ~ 18

Notes for Table 4:

1. Maintains a tolerance of ±0.1V on forward voltage measurements.
2. Measured between 25°C and 85°C.

CHARACTERISTIC CURVES

SPECTRAL POWER DISTRIBUTION CHARACTERISTIC

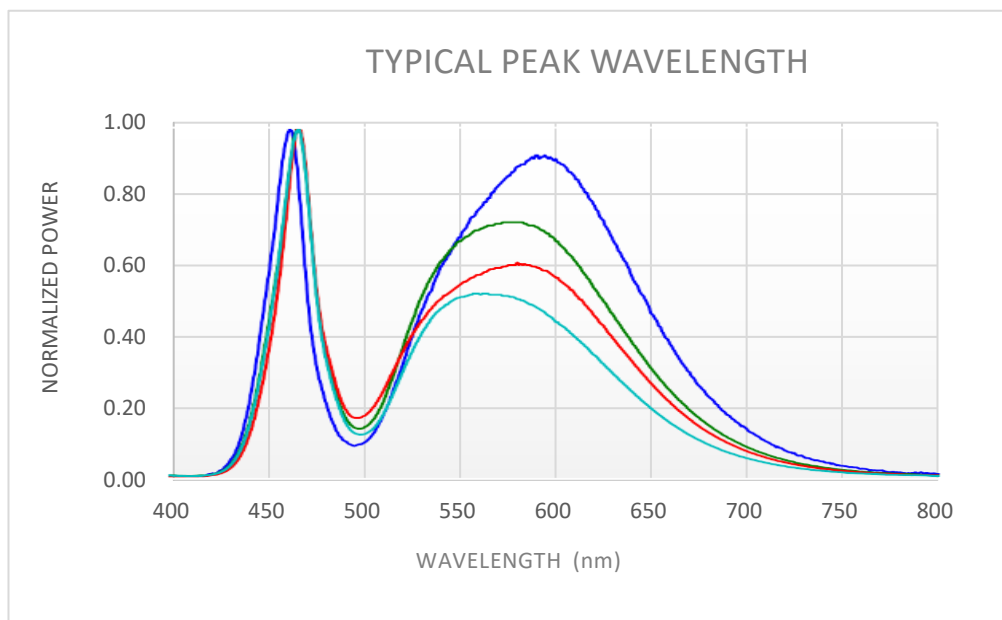


Figure 1. Typical normalized light output vs. junction temperature for at specified test current. $T_j = 25^\circ\text{C}$

LIGHT OUTPUT CHARACTERISTICS

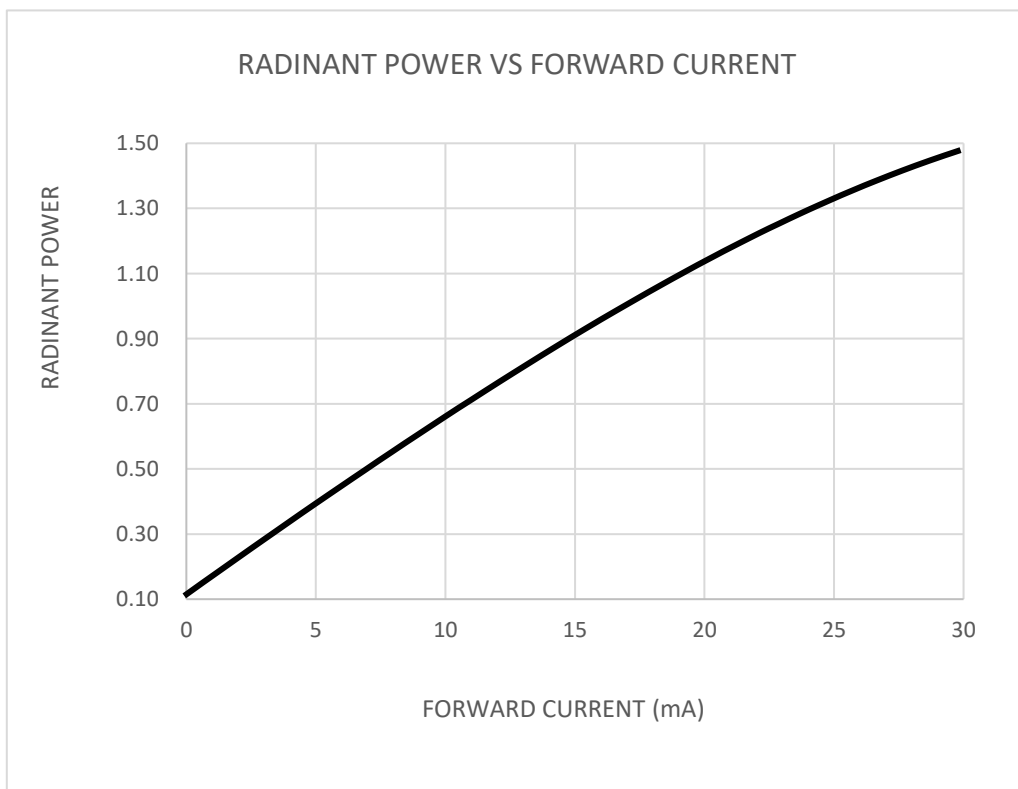


Figure 2 Typical normalized radiant power vs. junction temperature for at $T_j = 25^\circ\text{C}$.

LIGHT OUTPUT CHARACTERISTICS

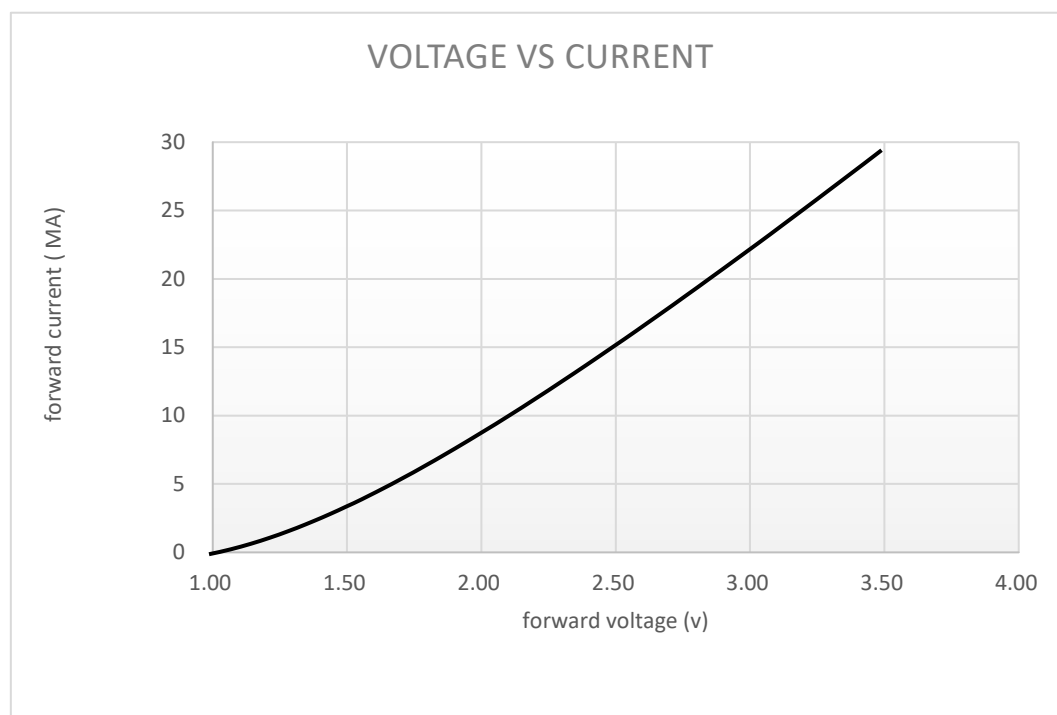


Figure 3. Typical forward current vs. forward voltage for at $T_j=25^{\circ}\text{C}$.

RADIATION PATTERN CHARACTERISTICS

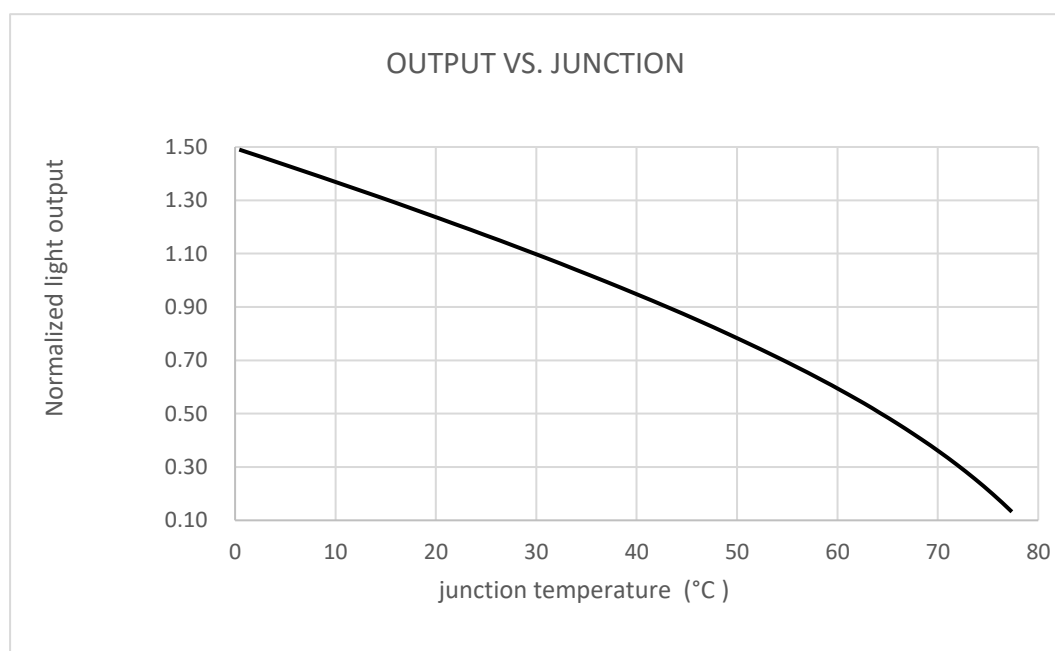
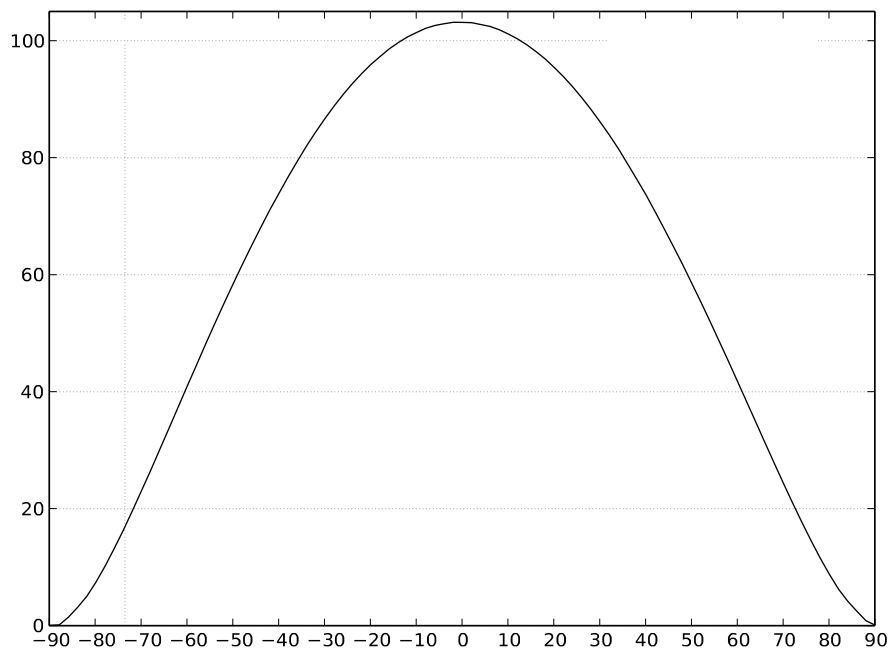


Figure 4. Typical normalized light output vs. junction temperature for at test current.

TYPICAL RADIATION PATTERN



Notes for Figure :

1. Typical viewing angle is 30°.
2. The viewing angle is defined as the off axis angle from the centerline where luminous intensity (Iv) is ½ of the peak value.

TYPICAL RADIATION PATTERN

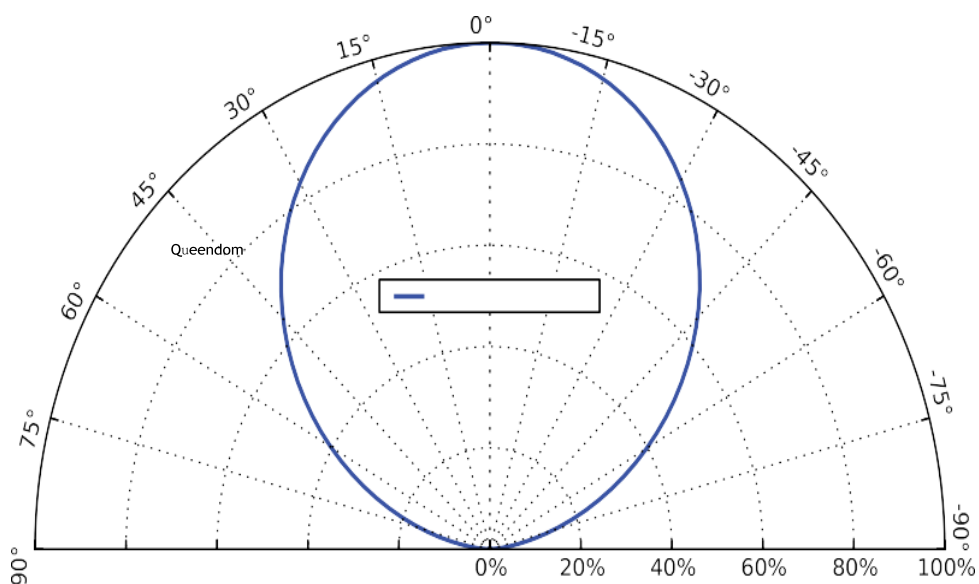
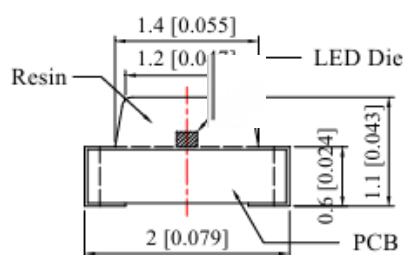
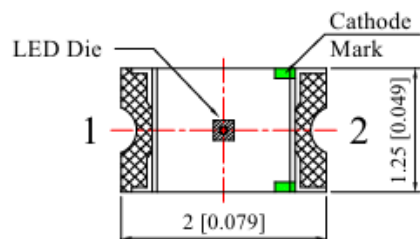
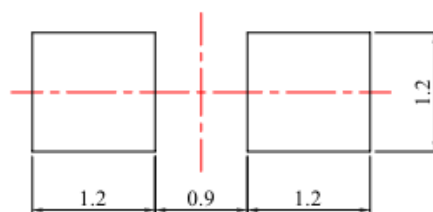
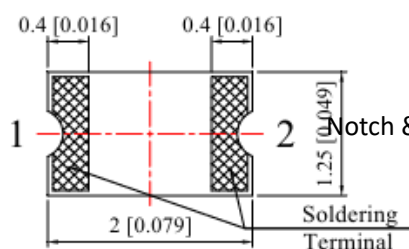


Figure 5. TYPICAL POLAR RADIATION PATTERN AT 20MA, TSP=25°C

DIMENSIONAL DRAWING:



Recommended Soldering Pad Dimensions



Unit: mm
Tolerance: ± 0.10 mm

Notes:

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

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
U rank (3500 K)					
U1	0.3889	0.369	U9	0.3941	0.3848
	0.3915	0.3768		0.3968	0.393
	0.3981	0.38		0.404	0.3966
	0.3953	0.372		0.401	0.3882
U2	0.3953	0.372	UA	0.401	0.3882
	0.3981	0.38		0.404	0.3966
	0.4048	0.3832		0.4113	0.4001
	0.4017	0.3751		0.408	0.3916
U3	0.4017	0.3751	UB	0.408	0.3916
	0.4048	0.3832		0.4113	0.4001
	0.4116	0.3865		0.4186	0.4037
	0.4082	0.3782		0.415	0.395
U4	0.4082	0.3782	UC	0.415	0.395
	0.4116	0.3865		0.4186	0.4037
	0.4183	0.3898		0.4259	0.4073
	0.4147	0.3814		0.4221	0.3984
U5	0.3915	0.3768	UD	0.3968	0.393
	0.3941	0.3848		0.3996	0.4015
	0.401	0.3882		0.4071	0.4052
	0.3981	0.38		0.404	0.3966
U6	0.3981	0.38	UE	0.404	0.3966
	0.401	0.3882		0.4071	0.4052
	0.408	0.3916		0.4146	0.4089
	0.4048	0.3832		0.4113	0.4001
U7	0.4048	0.3832	UF	0.4113	0.4001
	0.408	0.3916		0.4146	0.4089
	0.415	0.395		0.4222	0.4127
	0.4116	0.3865		0.4186	0.4037
U8	0.4116	0.3865	UG	0.4186	0.4037
	0.415	0.395		0.4222	0.4127
	0.4221	0.3984		0.4299	0.4165
	0.4183	0.3898		0.4259	0.4073

Region	CIE x	CIE y	Region	CIE x	CIE y
T rank (4000 K)					
T1	0.367	0.3578	T9	0.3702	0.3722
	0.3726	0.3612		0.3763	0.376
	0.3744	0.3685		0.3782	0.3837
	0.3686	0.3649		0.3719	0.3797
T2	0.3726	0.3612	TA	0.3763	0.376
	0.3783	0.3646		0.3825	0.3798
	0.3804	0.3721		0.3847	0.3877
	0.3744	0.3685		0.3782	0.3837
T3	0.3783	0.3646	TB	0.3825	0.3798
	0.384	0.3681		0.3887	0.3836
	0.3863	0.3758		0.3912	0.3917
	0.3804	0.3721		0.3847	0.3877
T4	0.384	0.3681	TC	0.3887	0.3837
	0.3898	0.3716		0.395	0.3875
	0.3924	0.3794		0.3978	0.3958
	0.3863	0.3758		0.3912	0.3917
T5	0.3686	0.3649	TD	0.3719	0.3797
	0.3744	0.3685		0.3782	0.3837
	0.3763	0.376		0.3802	0.3916
	0.3702	0.3722		0.3736	0.3874
T6	0.3744	0.3685	TE	0.3782	0.3837
	0.3804	0.3721		0.3847	0.3877
	0.3825	0.3798		0.3869	0.3958
	0.3763	0.376		0.3802	0.3916
T7	0.3804	0.3721	TF	0.3847	0.3877
	0.3863	0.3758		0.3912	0.3917
	0.3887	0.3836		0.3937	0.4001
	0.3825	0.3798		0.3869	0.3958
T8	0.3863	0.3758	TG	0.3912	0.3917
	0.3924	0.3794		0.3978	0.3958
	0.395	0.3875		0.4006	0.4044
	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



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 $\pm 15\%$.
2. The tolerance of dominant wavelength is $\pm 1\text{nm}$.
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 1. .Luminous flux bin definitions for QUEENDOM Color Line at Tj=25°C.

BIN	QUEENDOM FLUX [1] (mcd)	
	MINIMUM	MAXIMUM
LF	90	120
LG	120	190
LH	190	300
LI	300	500
LJ	500	780
LK	780	1060
LL	1060	1560

TABLE Forward Voltage BINS

Table 2. Electrical and thermal characteristics for Queendom at specified test current, Tj=25°C

NUMBER	FORWARD VOLTAGE [1] (Vf)		
	MINIMUM	TYPICAL	MAXIMUM
V3	1.8	2	2.2
V4	2.2	2.4	2.6
V5	2.6	2.8	3
V6	3	3.2	3.4
V3	1.8	2	2.2
V4	2.2	2.4	2.6
V5	2.6	2.8	3
V6	3	3.2	3.4

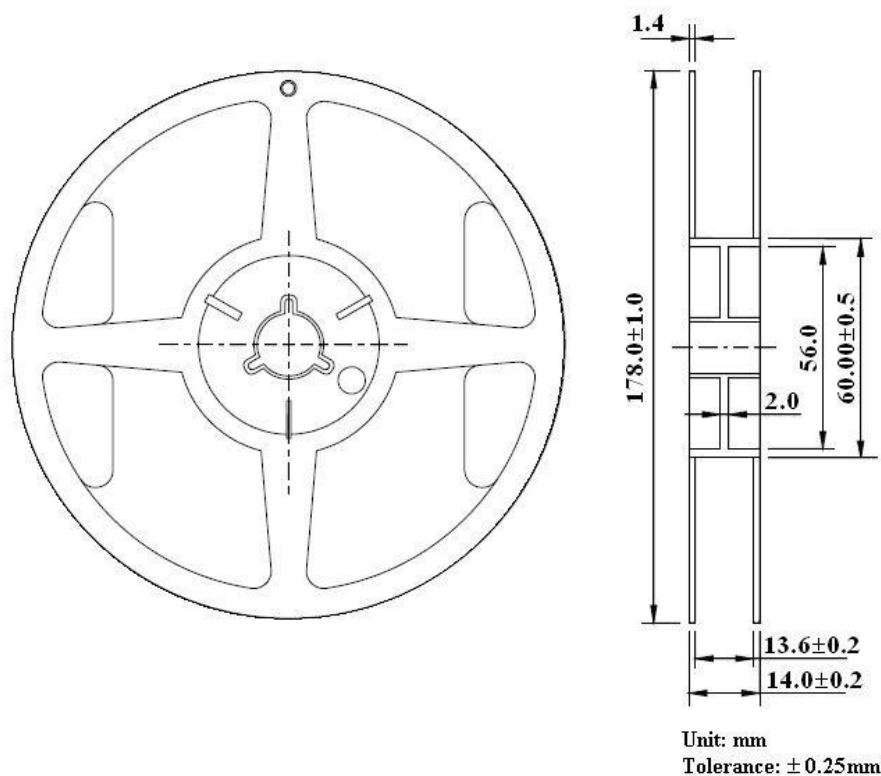
TABLE TYPICAL POWER BINS

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

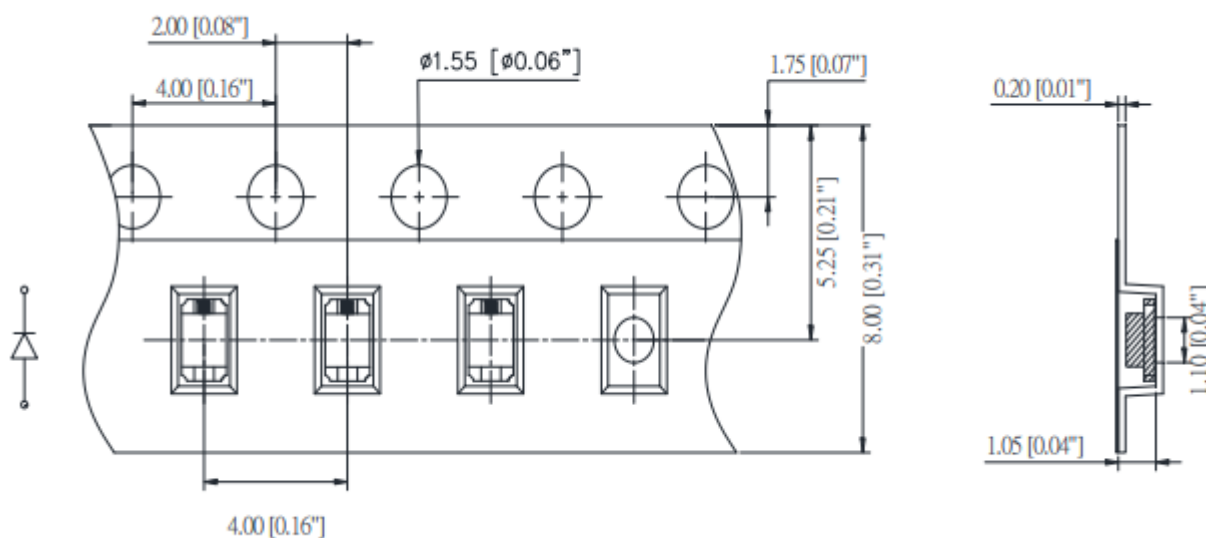
RANK NO.	TYPICAL POWER RANK (W) [1]		RANK POWER [2] (W)		TYPICAL POWER HALF WIDTH
	min	max	MINIMUM	MAXIMUM	[3] (W)
WA	0.06	0.1	0.02	0.1	0.1
WB	0.1	0.2	0.1	0.2	0.2
WC	0.2	0.5	0.2	0.5	0.5
WD	0.5	1	0.2	0.5	0.5
WE	1	3	1	3	3

Packaging Information

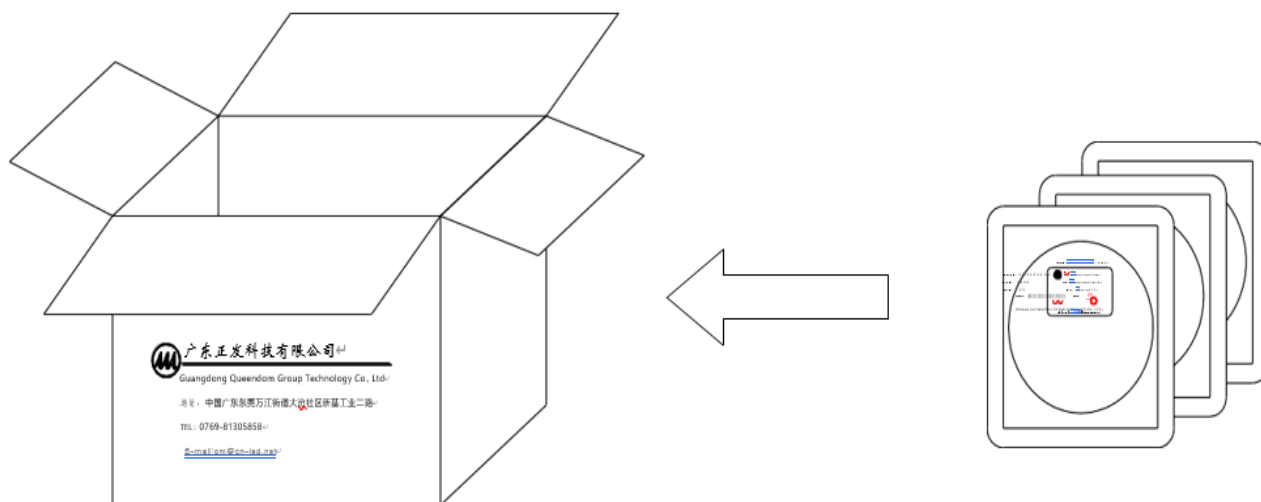
Reel Dimensions:



Carrier Tape Dimensions:



Packaging cartons



Information

- With Stopper

CPN:	
P/N:XXXXXXXXXX	
	VF:XX-XX
QTY:XXX	IV:XX-XX
	WLD:XX-XX
LOT NO:XXXXXXXXXX	BIN:XX-XX
	DATE:XX-XX-XX

Without Stopper

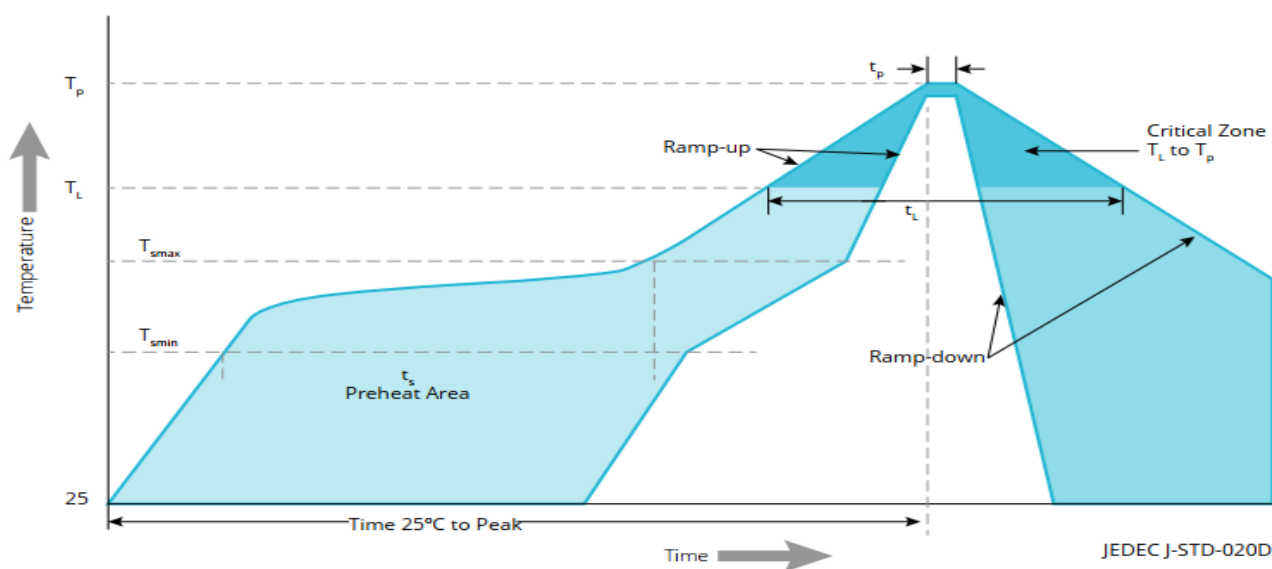
CPN:Customer's Product Number
P/N:Product Number
QTY:Packing Quantity
LOT NO:Lot Number
VF:Forward Voltage Rank
IV:Luminous Intensity Rank
WLD:Dom. Wavelength Rank
BIN:BIN Code
DATE:Date Of Dispatch

Packing Quantity

1. 4000PCS/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 (T _{min})	150°C
Preheat Maximum Temperature (T _{max})	200°C
Preheat Time (t _{min} to t _{max})	60 to 120 seconds
Ramp-Up Rate (T _L to T _p)	3°C / second maximum
Liquidus Temperature (T _L)	217°C
Time Maintained Above Temperature T _L (t _L)	60 to 150 seconds
Peak / Classification Temperature (T _p)	260°C
Time Within 5°C of Actual Temperature (t _p)	20 to 40 seconds
Ramp-Down Rate (T _p to T _L)	6°C / second maximum
Time 25°C to P	8 minutes maximum

JEDEC Moisture Sensitivity

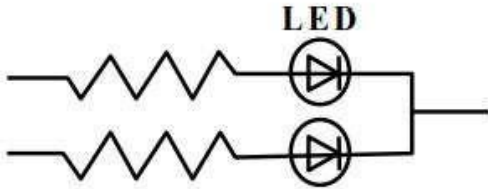
Moisture sensitivity levels for LEDs Line

leVel	Floor II Fe		soak requirements standard	
	tIme	condItions	tIme	condItions
1	Unlimited	≤30°C / 85% RH	168 Hours +5 / -0	85°C / 85% RH

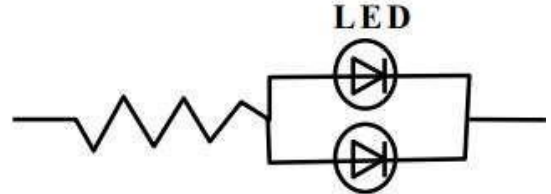
Drive Method

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.

Circuit model A



Circuit model B



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.