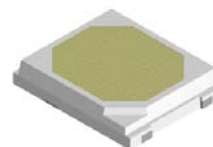


2835 Package SMD White LED

Description

The constructive of this series of LED are different from the PCB type SMD LED. The lead-frame is of metal, reflector is made of thermoplastic and construct into this unique type of SMD LED. The wavelengths and luminous Intensities of this series are grouped under 60mA.

VR AWxxxxP



Applications

- Industrial control systems signal indicator
- Automotive features
- Flat backlight for LCD switch and symbol

RoHS



Electronic Optical Characteristics (at 60mA):

Part Number	Emitted Color	CCT(k)	CRI Min.	ϕ (lm)		View Angle (2 θ 1/2)	VF(V)	
				Min.	Max.		Min.	Max.
VR AW2727P	Warm White	2700	80	20	33	120	2.9	3.6
VR AW3030P		3000	80	22	33	120	2.9	3.6
VR AW3535P		3500	80	22	33	120	2.9	3.6
VR AW4040P	White	4000	80	23	39	120	2.9	3.6
VR AW4545P		4500	80	23	39	120	2.9	3.6
VR AW5050P		5000	80	24	39	120	2.9	3.6
VR AW5757P	Cool White	5700	80	24	39	120	2.9	3.6
VR AW6060P		6000	80	24	39	120	2.9	3.6
VR AW6565P		6500	80	24	39	120	2.9	3.6

Absolute Maximum Ratings (at Ta=25°C)

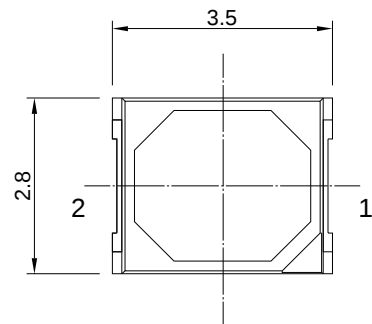
P _D (mW)	I _{FP} (mA)	I _F (mA)	Iron Solder(°C)	I _R (uA)@V _R =5V	Topr(°C)	Tstg(°C)
270	100*	75	350 ± 5 for 3 sec.	50	-40~+85	-40~+100

Note: Please take note the Absolute Maximum Rating values. Any operation beyond the specify ratings in this table will result degradation of LED life-span and may cause LED to fail.

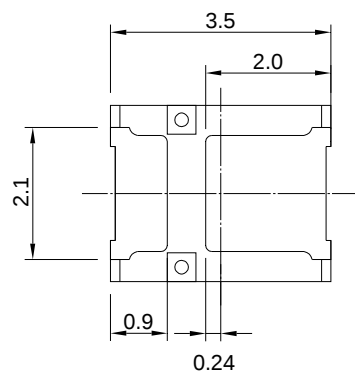
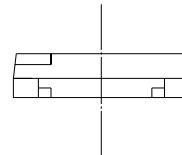
* I_{FP}: Peak Forward Current under 1/10 duty, 1KHz condition

Package Dimension:

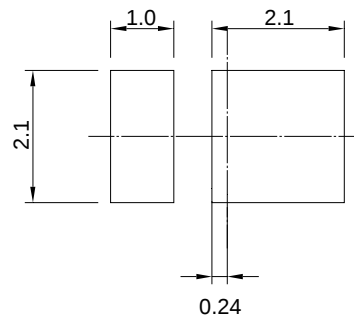
unit:mm



Polarity



Bot. view



Soldering patterns

Notes:

1. All dimensions are millimeters.
2. Tolerance is $\pm 0.2\text{mm}$ unless otherwise specified.
3. Specifications are subject to change without notice.

Color Ranks ($I_F=60\text{mA}$)

2700K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
27K-A	0.4813	0.4319	27K-C	0.4465	0.4071
	0.4687	0.4289		0.4373	0.3893
	0.4621	0.4169		0.4483	0.3919
	0.4667	0.4180		0.4544	0.4030
	0.4627	0.4109		0.4502	0.4020
	0.4700	0.4126		0.4539	0.4088
27K-B	0.4687	0.4289	27K-D	0.4700	0.4126
	0.4562	0.4260		0.4627	0.4109
	0.4465	0.4071		0.4588	0.4041
	0.4539	0.4088		0.4544	0.4030
	0.4576	0.4158		0.4483	0.3919
	0.4621	0.4169		0.4593	0.3944
27K-F	0.4667	0.4180	27K-G	0.4627	0.4109
	0.4576	0.4158		0.4539	0.4088
	0.4539	0.4088		0.4502	0.4020
	0.4627	0.4109		0.4588	0.4041

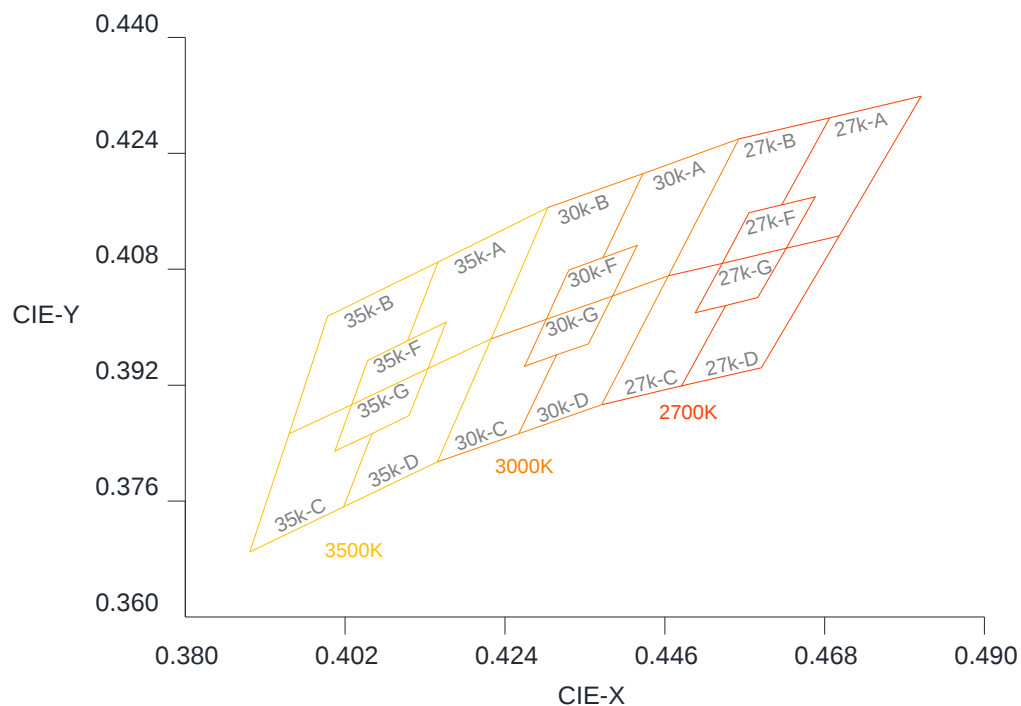
3000K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
30K-A	0.4562	0.4260	30K-C	0.4221	0.3984
	0.4430	0.4212		0.4147	0.3814
	0.4375	0.4096		0.4259	0.3853
	0.4422	0.4113		0.4311	0.3962
	0.4388	0.4043		0.4267	0.3946
	0.4465	0.4071		0.4297	0.4011
30K-B	0.4430	0.4212	30K-D	0.4465	0.4071
	0.4299	0.4165		0.4388	0.4043
	0.4221	0.3984		0.4355	0.3977
	0.4297	0.4011		0.4311	0.3962
	0.4328	0.4079		0.4259	0.3853
	0.4375	0.4096		0.4373	0.3893
30K-F	0.4422	0.4113	30K-G	0.4388	0.4043
	0.4328	0.4079		0.4297	0.4011
	0.4297	0.4011		0.4267	0.3946
	0.4388	0.4043		0.4355	0.3977

3500K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
35K-A	0.4299	0.4165	35K-C	0.3943	0.3853
	0.4148	0.4090		0.3889	0.3690
	0.4106	0.3981		0.4018	0.3752
	0.4159	0.4007		0.4057	0.3853
	0.4134	0.3943		0.4006	0.3829
	0.4221	0.3984		0.4029	0.3893
35K-B	0.4148	0.4090	35K-D	0.4221	0.3984
	0.3996	0.4015		0.4134	0.3943
	0.3943	0.3853		0.4108	0.3878
	0.4029	0.3893		0.4057	0.3853
	0.4051	0.3954		0.4018	0.3752
	0.4106	0.3981		0.4147	0.3814
35K-F	0.4159	0.4007	35K-G	0.4134	0.3943
	0.4051	0.3954		0.4029	0.3893
	0.4029	0.3893		0.4006	0.3829
	0.4134	0.3943		0.4108	0.3878

CIE-1931 Chromaticity Diagram (2700K, 3000K, 3500K)



Measurement uncertainty of the color coordinates: ± 0.005

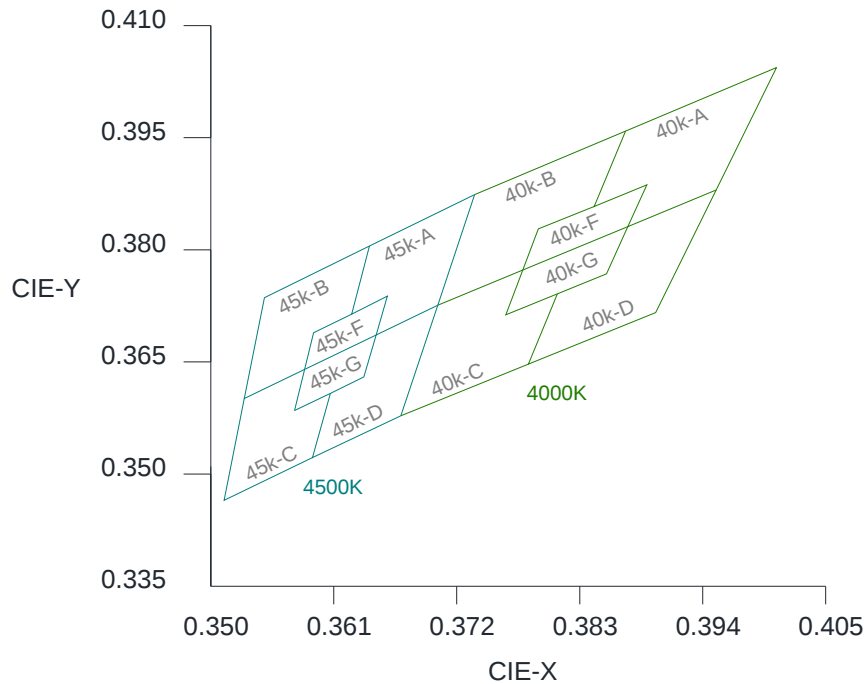
4000K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
40K-A	0.4006	0.4044	40K-C	0.3703	0.3726
	0.3871	0.3959		0.3670	0.3578
	0.3843	0.3858		0.3784	0.3647
	0.3890	0.3887		0.3810	0.3741
	0.3873	0.3831		0.3764	0.3713
	0.3952	0.3880		0.3779	0.3773
40K-B	0.3871	0.3959	40K-D	0.3952	0.3880
	0.3736	0.3874		0.3873	0.3831
	0.3703	0.3726		0.3854	0.3768
	0.3779	0.3773		0.3810	0.3741
	0.3793	0.3828		0.3784	0.3647
	0.3843	0.3858		0.3898	0.3716
40K-F	0.3890	0.3887	40K-G	0.3873	0.3831
	0.3793	0.3828		0.3779	0.3773
	0.3779	0.3773		0.3764	0.3713
	0.3873	0.3831		0.3854	0.3768

4500K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
45K-A	0.3736	0.3874	45K-C	0.3530	0.3601
	0.3642	0.3805		0.3512	0.3465
	0.3626	0.3714		0.3591	0.3522
	0.3658	0.3738		0.3607	0.3608
	0.3648	0.3686		0.3575	0.3585
	0.3703	0.3726		0.3584	0.3640
45K-B	0.3642	0.3805	45K-D	0.3703	0.3726
	0.3548	0.3736		0.3648	0.3686
	0.3530	0.3601		0.3637	0.3630
	0.3584	0.3640		0.3607	0.3608
	0.3592	0.3689		0.3591	0.3522
	0.3626	0.3714		0.3670	0.3578
45K-F	0.3658	0.3738	45K-G	0.3648	0.3686
	0.3592	0.3689		0.3584	0.3640
	0.3584	0.3640		0.3575	0.3585
	0.3648	0.3686		0.3637	0.3630

CIE-1931 Chromaticity Diagram (4000K, 4500K)



Measurement uncertainty of the color coordinates: ± 0.005

5000K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
50K-A	0.3551	0.3760	50K-C	0.3371	0.3493
	0.3464	0.3688		0.3366	0.3369
	0.3456	0.3604		0.3441	0.3428
	0.3487	0.3629		0.3448	0.3507
	0.3482	0.3583		0.3418	0.3483
	0.3533	0.3624		0.3422	0.3533
50K-B	0.3464	0.3688	50K-D	0.3533	0.3624
	0.3376	0.3616		0.3482	0.3583
	0.3371	0.3493		0.3477	0.3530
	0.3422	0.3533		0.3448	0.3507
	0.3425	0.3579		0.3441	0.3428
	0.3456	0.3604		0.3515	0.3487
50K-F	0.3487	0.3629	50K-G	0.3482	0.3583
	0.3425	0.3579		0.3422	0.3533
	0.3422	0.3533		0.3418	0.3483
	0.3482	0.3583		0.3477	0.3530

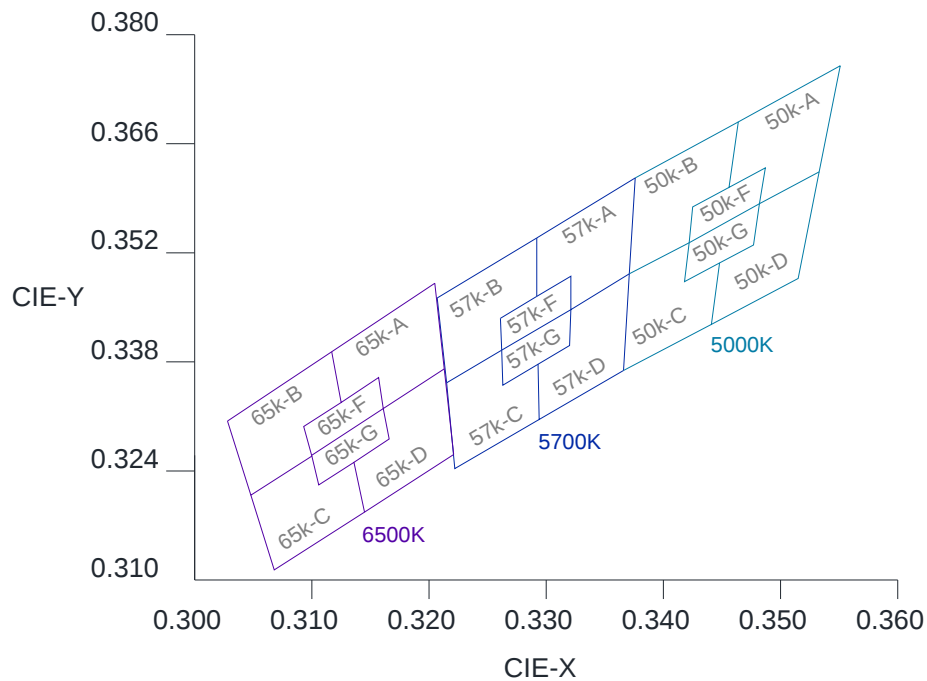
5700K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
57K-A	0.3376	0.3616	57K-C	0.3215	0.3353
	0.3292	0.3539		0.3222	0.3243
	0.3292	0.3464		0.3294	0.3306
	0.3321	0.3490		0.3293	0.3377
	0.3321	0.3447		0.3263	0.3350
	0.3371	0.3493		0.3262	0.3395
57K-B	0.3292	0.3539	57K-D	0.3371	0.3493
	0.3207	0.3462		0.3321	0.3447
	0.3215	0.3353		0.3320	0.3401
	0.3262	0.3395		0.3293	0.3377
	0.3261	0.3436		0.3294	0.3306
	0.3292	0.3464		0.3366	0.3369
57K-F	0.3321	0.3490	57K-G	0.3321	0.3447
	0.3261	0.3436		0.3262	0.3395
	0.3262	0.3395		0.3263	0.3350
	0.3321	0.3447		0.3320	0.3401

6500K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
65K-A	0.3205	0.3481	65K-C	0.3048	0.3209
	0.3117	0.3393		0.3068	0.3113
	0.3125	0.3328		0.3145	0.3187
	0.3157	0.3360		0.3136	0.3251
	0.3161	0.3320		0.3106	0.3222
	0.3213	0.3371		0.3100	0.3259
65K-B	0.3117	0.3393	65K-D	0.3213	0.3371
	0.3028	0.3304		0.3161	0.3320
	0.3048	0.3209		0.3166	0.3281
	0.3100	0.3259		0.3136	0.3251
	0.3093	0.3297		0.3145	0.3187
	0.3125	0.3328		0.3221	0.3261
65K-F	0.3157	0.3360	65K-G	0.3161	0.3320
	0.3093	0.3297		0.3100	0.3259
	0.3100	0.3259		0.3106	0.3222
	0.3161	0.3320		0.3166	0.3281

CIE-1931 Chromaticity Diagram (5000K, 5700K 6500K)

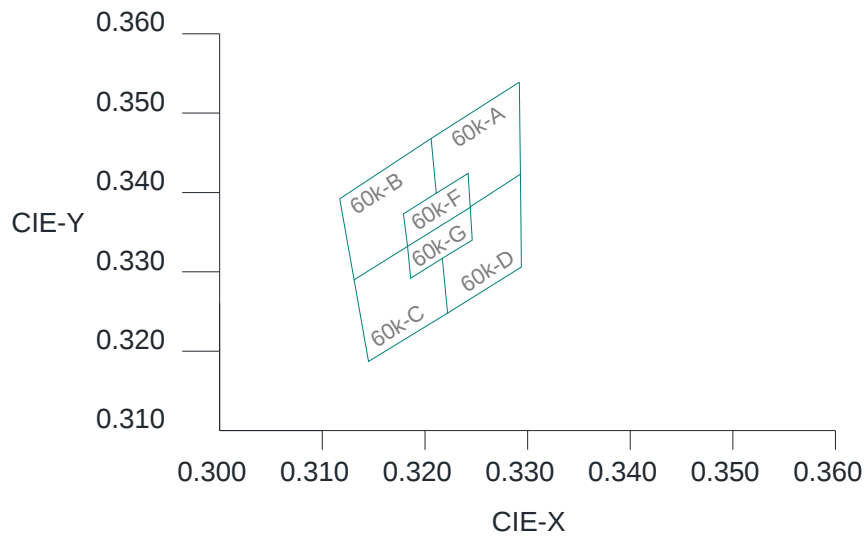


Measurement uncertainty of the color coordinates: ± 0.005

6000K

Rank	CIE x	CIE y	Rank	CIE x	CIE y
60K-A	0.3292	0.3539	60K-C	0.3131	0.3290
	0.3206	0.3468		0.3145	0.3187
	0.3211	0.3399		0.3222	0.3248
	0.3242	0.3424		0.3217	0.3317
	0.3244	0.3382		0.3186	0.3292
	0.3293	0.3423		0.3183	0.3332
60K-B	0.3206	0.3468	60K-D	0.3293	0.3423
	0.3117	0.3392		0.3244	0.3382
	0.3131	0.3290		0.3246	0.3340
	0.3183	0.3332		0.3217	0.3317
	0.3179	0.3373		0.3222	0.3248
	0.3211	0.3399		0.3294	0.3306
60K-F	0.3242	0.3424	60K-G	0.3244	0.3382
	0.3179	0.3373		0.3183	0.3332
	0.3183	0.3332		0.3186	0.3292
	0.3244	0.3382		0.3246	0.3340

CIE-1931 Chromaticity Diagram (6000K)

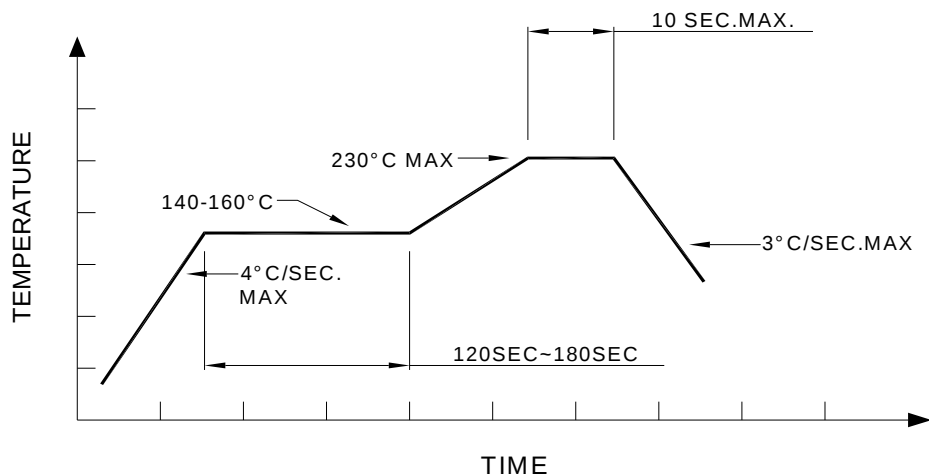


Measurement uncertainty of the color coordinates: ± 0.005

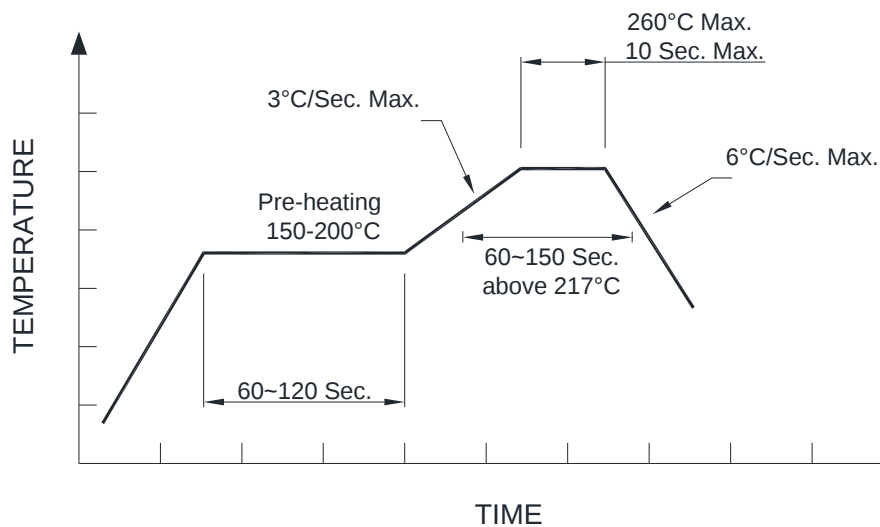
Specification for bin grade @ 60 mA

ϕ (lm)			VF(Volt)		
Code	Min.	Max.	Code	Min.	Max.
M31	20	21	36	2.9	3.0
M4	21	24	37	3.0	3.1
M41	22	24	38	3.1	3.2
M42	23	24	39	3.2	3.3
N3	24	27	40	3.3	3.4
N4	27	33	41	3.4	3.5
P3	33	39	42	3.5	3.6

Recommended re-flow soldering profile:



Recommended Pb-free re-flow soldering profile:



Note:

All the specifications listed in this data sheet are suitable for general electronic equipment, office equipment and communication devices. Kindly consult Sales Representatives for specific reliabilities request, Forward Voltage, Luminous Intensity, Wavelength, Radiant Power or Viewing Angle.