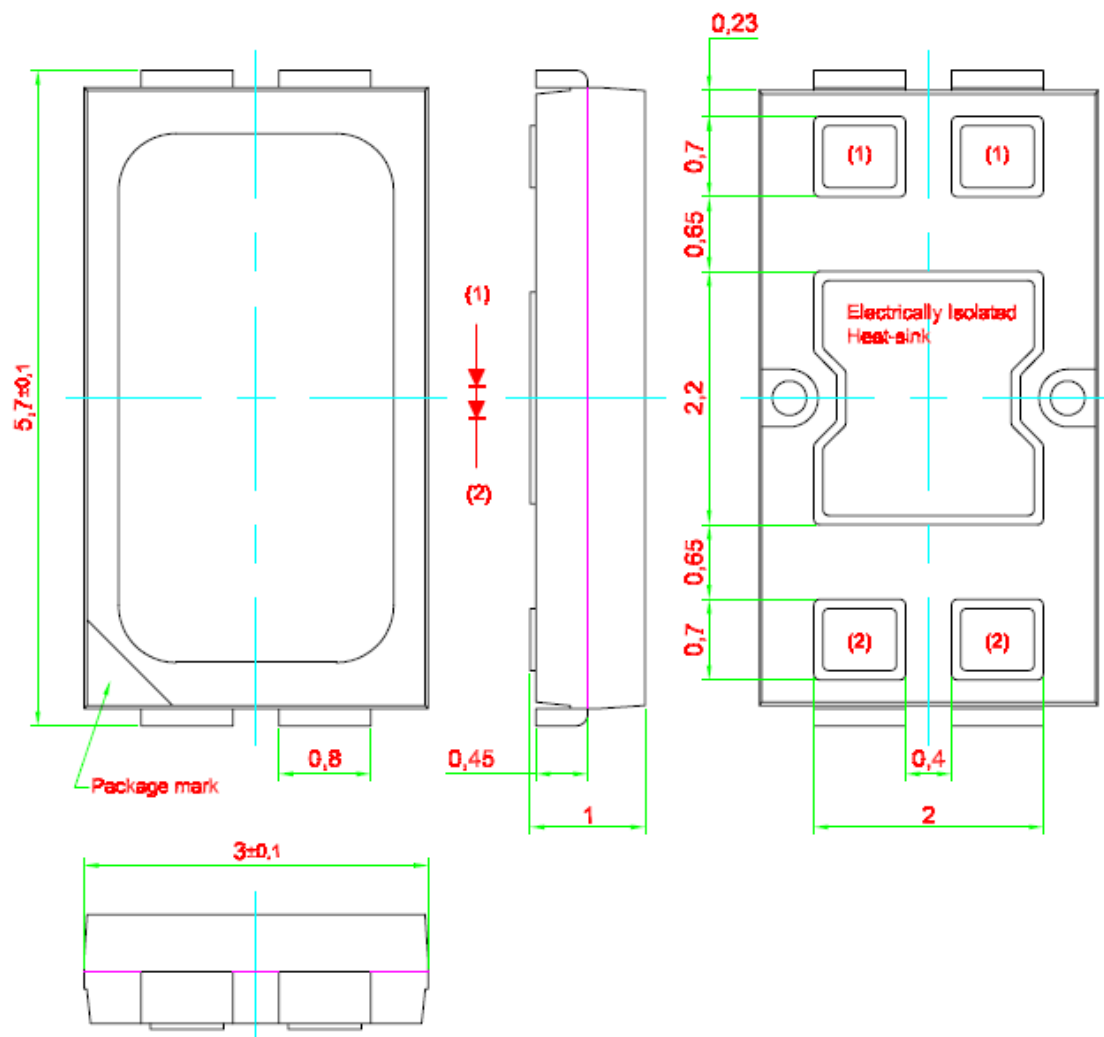


Engineering reference data are not verified. The specifications are subject to change without notice.

Primax5 150 (1W) InGaN Warm White: NTFF-FSG

- Super high brightness surface mount LED.
- Excellent reliability with nitride phosphor system.
- Compact package outline (LxW) of 5.7 x 3.0 mm. Ultra low height profile – 1.0 mm.
- Low thermal resistance.
- Electrical and thermal isolated solder-pad design for better heat management.
- Compatible to IR reflow soldering.

Engineering reference data are not verified. The specifications are subject to change without notice.

Material

	Material
Lead-frame.	Cu Alloy With Ag Plating.
Package.	High Temperature Resistant Plastic, PPA.
Encapsulant	Silicone Resin.
Soldering Leads.	Ag Plating.

Note: This product is Pb free.

Absolute Maximum Ratings

	Maximum Value	Unit
DC forward current	180	mA
Peak pulse current	200	mA
Reverse voltage.	10	V
LED junction temperature.	125	°C
Operating temperature.	-40 ... +100	°C
Storage temperature.	-40 ... +100	°C

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Optical Characteristics at Tj=25°C.

	Luminous Flux @ If=150mA (lm)			Viewing Angle
Part Number	Min	Typ.	Max	
NTFF-FSG-T3U-1	76.5	92.0	113.6	120

	Flux @ If = 150mA (lm)	
Flux Bin	Min	Max
T3	76.5	87.4
U2	87.4	99.4
U3	99.4	113.6

1. Luminous intensity is measured with an accuracy of $\pm 11\%$.
2. Color binning is carried for all units as per the wavelength-binning table. Only one color group is allowed for each reel.
3. Typical CRI of 72.

Electrical Characteristics at Tj=25°C.

	Vf @ If = 150mA		
Part Number	Min. (V)	Typ. (V)	Max.(V)
NTFF-FSG	6.0	6.5	7.2

Forward voltages are tested using a current pulse of 1 ms and has an accuracy of $\pm 0.1V$.

Vf Binning

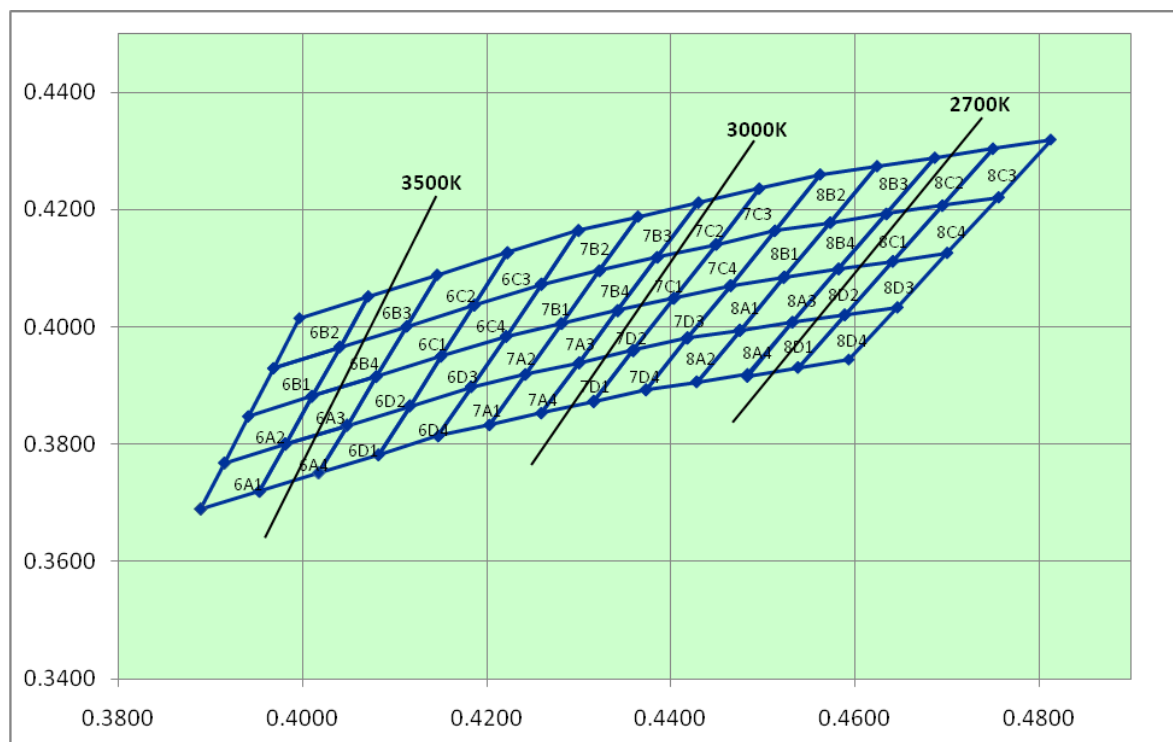
Vf Bin	Forward voltage (V)
V1	6.00 ... 6.20
V2	6.20 ... 6.40
V3	6.40 ... 6.60
V4	6.60 ... 6.80

Vf Bin	Forward voltage (V)
V5	6.80 ... 7.00
V6	7.00 ... 7.20

Forward voltage, Vf is measured with an accuracy of $\pm 0.1 V$.

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Color.



Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

Bin		1	2	3	4
6A1	Cx	0.3889	0.3915	0.3981	0.3953
	Cy	0.3690	0.3768	0.3800	0.3720
6A2	Cx	0.3915	0.3941	0.4010	0.3981
	Cy	0.3768	0.3848	0.3882	0.3800
6A3	Cx	0.3981	0.4010	0.4080	0.4048
	Cy	0.3800	0.3882	0.3916	0.3832
6A4	Cx	0.3953	0.3981	0.4048	0.4017
	Cy	0.3720	0.3800	0.3832	0.3751
6B1	Cx	0.3941	0.3968	0.4040	0.4010
	Cy	0.3848	0.3930	0.3966	0.3882
6B2	Cx	0.3968	0.3996	0.4071	0.4040
	Cy	0.3930	0.4015	0.4052	0.3966
6B3	Cx	0.4040	0.4071	0.4146	0.4113
	Cy	0.3966	0.4052	0.4089	0.4001
6B4	Cx	0.4010	0.4040	0.4113	0.4080
	Cy	0.3882	0.3966	0.4001	0.3916

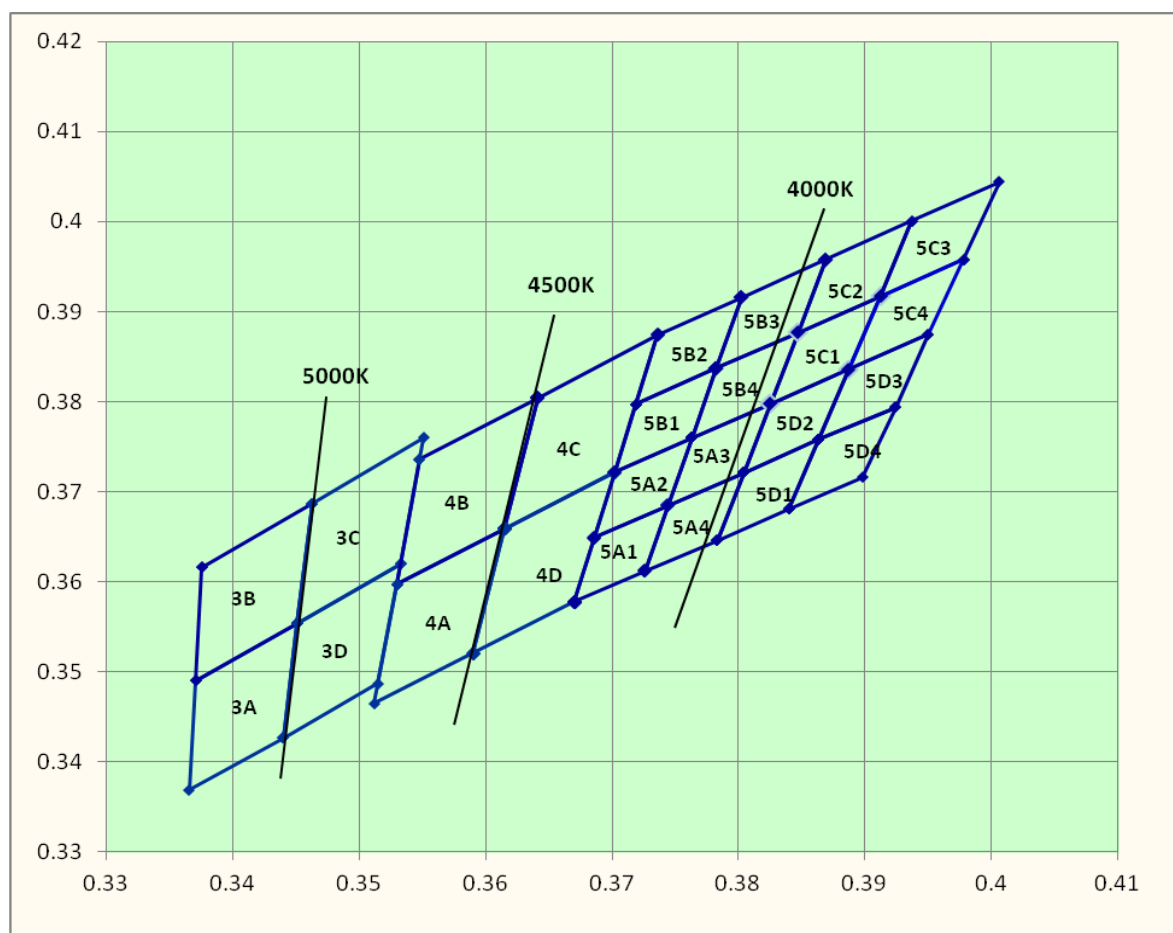
Engineering reference data are not verified. The specifications are subject to change without notice.

6C1	Cx	0.408	0.4113	0.4186	0.415
	Cy	0.3916	0.4001	0.4037	0.395
6C2	Cx	0.4113	0.4146	0.4222	0.4186
	Cy	0.4001	0.4089	0.4127	0.4037
6C3	Cx	0.4186	0.4222	0.4299	0.4259
	Cy	0.4037	0.4127	0.4165	0.4073
6C4	Cx	0.415	0.4186	0.4259	0.4221
	Cy	0.395	0.4037	0.4073	0.3984
6D1	Cx	0.4017	0.4048	0.4116	0.4082
	Cy	0.3751	0.3832	0.3865	0.3782
6D2	Cx	0.4048	0.408	0.415	0.4116
	Cy	0.3832	0.3916	0.395	0.3865
6D3	Cx	0.4116	0.415	0.4221	0.4183
	Cy	0.3865	0.395	0.3984	0.3898
6D4	Cx	0.4082	0.4116	0.4183	0.4147
	Cy	0.3782	0.3865	0.3898	0.3814
7A1	Cx	0.4147	0.4183	0.4242	0.4203
	Cy	0.3814	0.3898	0.3919	0.3833
7A2	Cx	0.4183	0.4221	0.4281	0.4242
	Cy	0.3898	0.3984	0.4006	0.3919
7A3	Cx	0.4242	0.4281	0.4342	0.43
	Cy	0.3919	0.4006	0.4028	0.3939
7A4	Cx	0.4203	0.4242	0.43	0.4259
	Cy	0.3833	0.3919	0.3939	0.3853
7B1	Cx	0.4221	0.4259	0.4322	0.4281
	Cy	0.3984	0.4073	0.4096	0.4006
7B2	Cx	0.4259	0.4299	0.4364	0.4322
	Cy	0.4073	0.4165	0.4188	0.4096
7B3	Cx	0.4322	0.4364	0.443	0.4385
	Cy	0.4096	0.4188	0.4212	0.4119
7B4	Cx	0.4281	0.4322	0.4385	0.4342
	Cy	0.4006	0.4096	0.4119	0.4028
7C1	Cx	0.4342	0.4385	0.4449	0.4403
	Cy	0.4028	0.4119	0.4141	0.4049
7C2	Cx	0.4385	0.443	0.4496	0.4449
	Cy	0.4119	0.4212	0.4236	0.4141
7C3	Cx	0.4449	0.4496	0.4562	0.4513
	Cy	0.4141	0.4236	0.426	0.4164
7C4	Cx	0.4403	0.4449	0.4513	0.4465
	Cy	0.4049	0.4141	0.4164	0.4071

Engineering reference data are not verified. The specifications are subject to change without notice.

7D1	Cx	0.4259	0.43	0.4359	0.4316
	Cy	0.3853	0.3939	0.396	0.3873
7D2	Cx	0.43	0.4342	0.4403	0.4359
	Cy	0.3939	0.4028	0.4049	0.396
7D3	Cx	0.4359	0.4403	0.4465	0.4418
	Cy	0.396	0.4049	0.4071	0.3981
7D4	Cx	0.4316	0.4359	0.4418	0.4373
	Cy	0.3873	0.396	0.3981	0.3893
8A1	Cx	0.4373	0.4418	0.4475	0.4428
	Cy	0.3893	0.3981	0.3994	0.3906
8A2	Cx	0.4418	0.4465	0.4523	0.4475
	Cy	0.3981	0.4071	0.4085	0.3994
8A3	Cx	0.4475	0.4523	0.4582	0.4532
	Cy	0.3994	0.4085	0.4099	0.4008
8A4	Cx	0.4428	0.4475	0.4532	0.4483
	Cy	0.3906	0.3994	0.4008	0.3919
8B1	Cx	0.4465	0.4513	0.4573	0.4523
	Cy	0.4071	0.4164	0.4178	0.4085
8B2	Cx	0.4513	0.4562	0.4624	0.4573
	Cy	0.4164	0.426	0.4274	0.4178
8B3	Cx	0.4573	0.4624	0.4687	0.4634
	Cy	0.4178	0.4274	0.4289	0.4193
8B4	Cx	0.4523	0.4573	0.4634	0.4582
	Cy	0.4085	0.4178	0.4193	0.4099
8C1	Cx	0.4582	0.4634	0.4695	0.4641
	Cy	0.4099	0.4193	0.4207	0.4112
8C2	Cx	0.4634	0.4687	0.475	0.4695
	Cy	0.4193	0.4289	0.4304	0.4207
8C3	Cx	0.4695	0.475	0.4813	0.4756
	Cy	0.4207	0.4304	0.4319	0.4221
8C4	Cx	0.4641	0.4695	0.4756	0.47
	Cy	0.4112	0.4207	0.4221	0.4126
8D1	Cx	0.4483	0.4532	0.4589	0.4538
	Cy	0.3916	0.4008	0.4021	0.3931
8D2	Cx	0.4532	0.4582	0.4641	0.4589
	Cy	0.4008	0.4099	0.4112	0.4021
8D3	Cx	0.4589	0.4641	0.47	0.4646
	Cy	0.4021	0.4112	0.4126	0.4034
8D4	Cx	0.4538	0.4589	0.4646	0.4593
	Cy	0.3931	0.4021	0.4034	0.3944

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Chromaticity coordinate groups are measured with an accuracy of ± 0.01 .

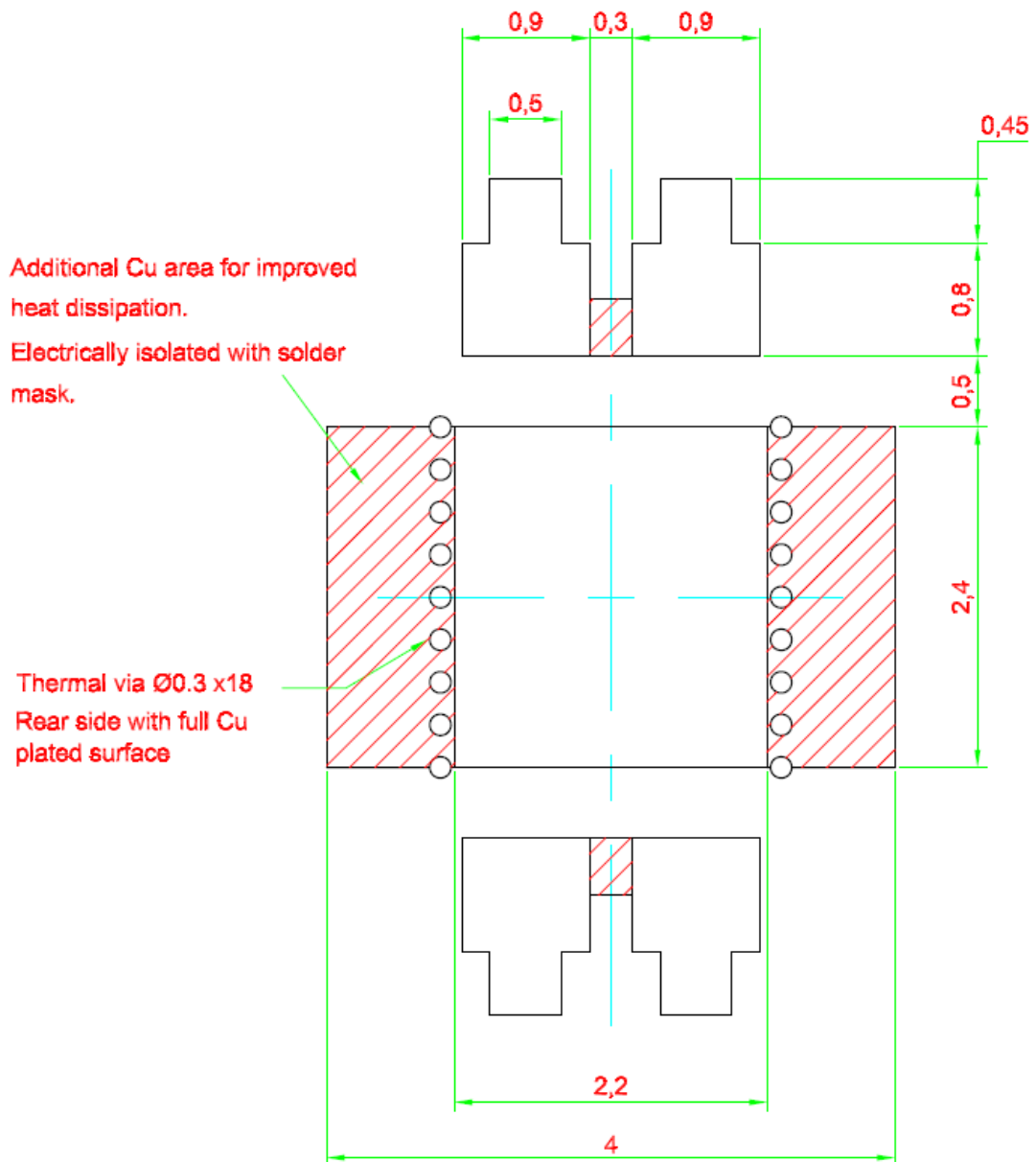
Bin		1	2	3	4
3A	Cx	0.3371	0.3451	0.344	0.3366
	Cy	0.349	0.3554	0.3427	0.3369
3B	Cx	0.3376	0.3463	0.3451	0.3371
	Cy	0.3616	0.3687	0.3554	0.349
3C	Cx	0.3463	0.3551	0.3533	0.3451
	Cy	0.3687	0.376	0.362	0.3554
3D	Cx	0.3451	0.3533	0.3515	0.344
	Cy	0.3554	0.362	0.3487	0.3427
4A	Cx	0.353	0.3615	0.359	0.3512
	Cy	0.3597	0.3659	0.3521	0.3465
4B	Cx	0.3548	0.3641	0.3615	0.353
	Cy	0.3736	0.3804	0.3659	0.3597
4C	Cx	0.3641	0.3736	0.3702	0.3615
	Cy	0.3804	0.3874	0.3722	0.3659
4D	Cx	0.3615	0.3702	0.367	0.359
	Cy	0.3659	0.3722	0.3578	0.3521

Engineering reference data are not verified. The specifications are subject to change without notice.

5A1	Cx	0.367	0.3686	0.3744	0.3726
	Cy	0.3578	0.3649	0.3685	0.3612
5A2	Cx	0.3686	0.3702	0.3763	0.3744
	Cy	0.3649	0.3722	0.376	0.3685
5A3	Cx	0.3744	0.3763	0.3825	0.3804
	Cy	0.3685	0.376	0.3798	0.3721
5A4	Cx	0.3726	0.3744	0.3804	0.3783
	Cy	0.3612	0.3685	0.3721	0.3646
5B1	Cx	0.3702	0.3719	0.3782	0.3763
	Cy	0.3722	0.3797	0.3837	0.376
5B2	Cx	0.3719	0.3736	0.3802	0.3782
	Cy	0.3797	0.3874	0.3916	0.3837
5B3	Cx	0.3782	0.3802	0.3869	0.3847
	Cy	0.3837	0.3916	0.3958	0.3877
5B4	Cx	0.3763	0.3782	0.3847	0.3825
	Cy	0.376	0.3837	0.3877	0.3798
5C1	Cx	0.3825	0.3847	0.3912	0.3887
	Cy	0.3798	0.3877	0.3917	0.3836
5C2	Cx	0.3847	0.3869	0.3937	0.3912
	Cy	0.3877	0.3958	0.4001	0.3917
5C3	Cx	0.3912	0.3937	0.4006	0.3978
	Cy	0.3917	0.4001	0.4044	0.3958
5C4	Cx	0.3887	0.3912	0.3978	0.395
	Cy	0.3836	0.3917	0.3958	0.3875
5D1	Cx	0.3783	0.3804	0.3863	0.384
	Cy	0.3646	0.3721	0.3758	0.3681
5D2	Cx	0.3804	0.3825	0.3887	0.3863
	Cy	0.3721	0.3798	0.3836	0.3758
5D3	Cx	0.3863	0.3887	0.395	0.3924
	Cy	0.3758	0.3836	0.3875	0.3794
5D4	Cx	0.384	0.3863	0.3924	0.3898
	Cy	0.3681	0.3758	0.3794	0.3716

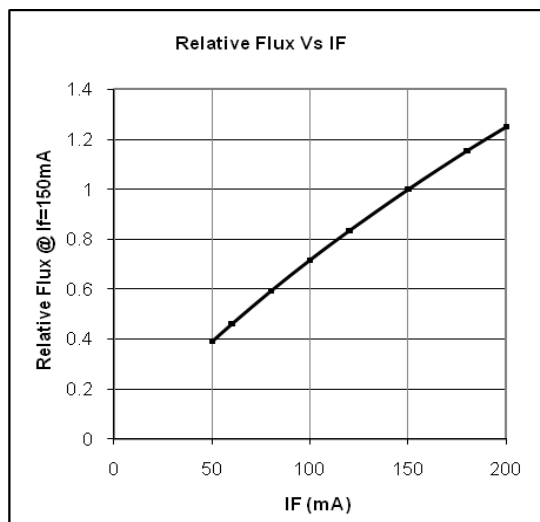
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Solder Pad Design.

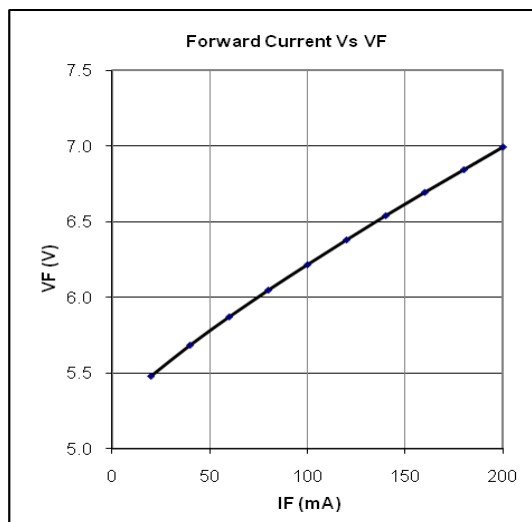


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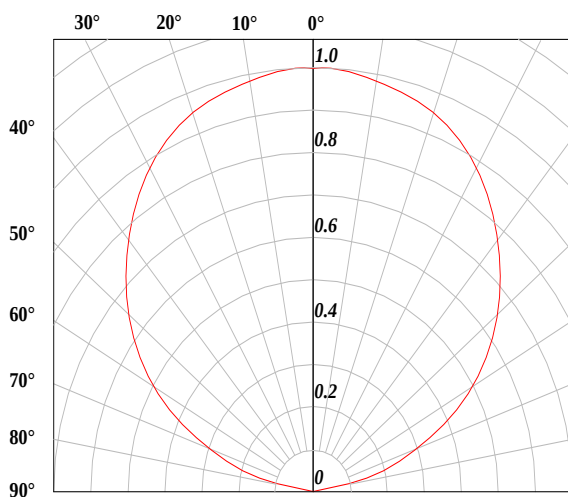
Relative flux vs. forward current



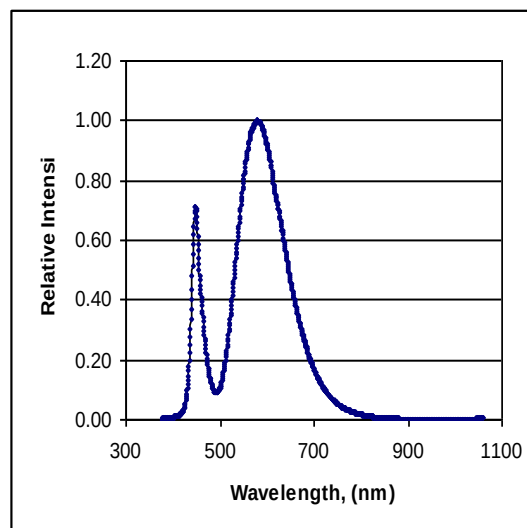
Forward voltage vs. forward current



Radiation pattern.



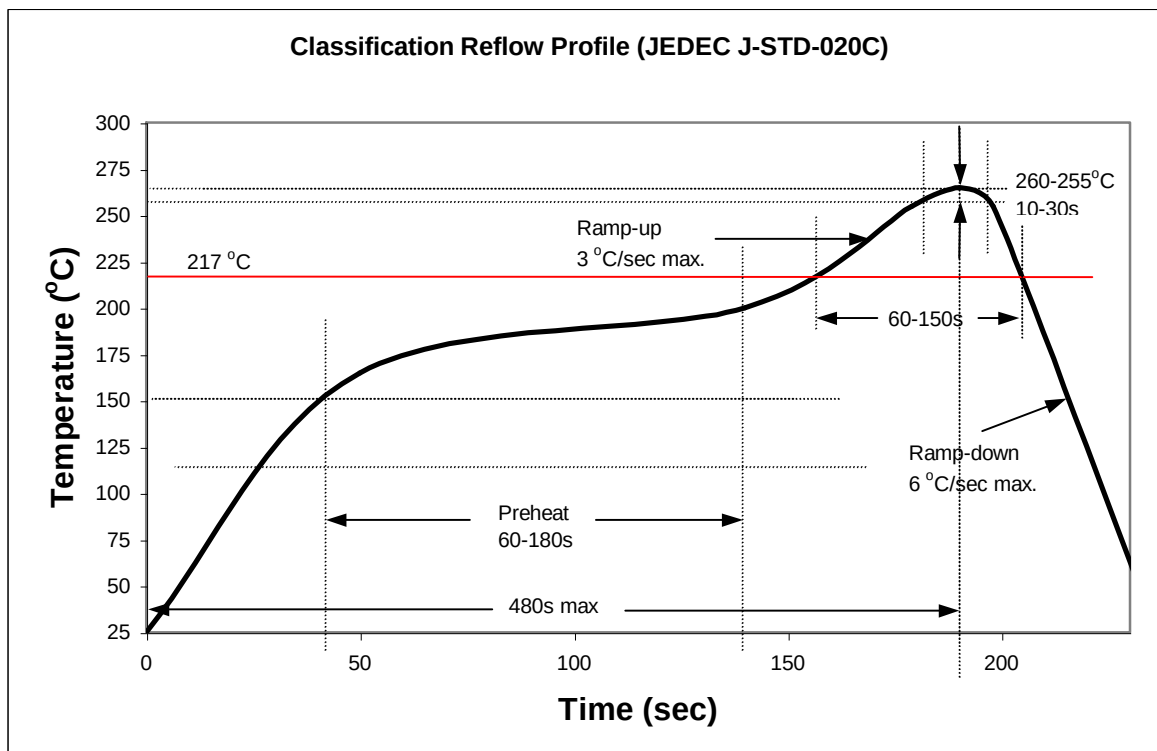
Color Spectrum.



Max current vs. Ambient Temperature

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Recommended Pb Free IR-Reflow Soldering Profile.



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