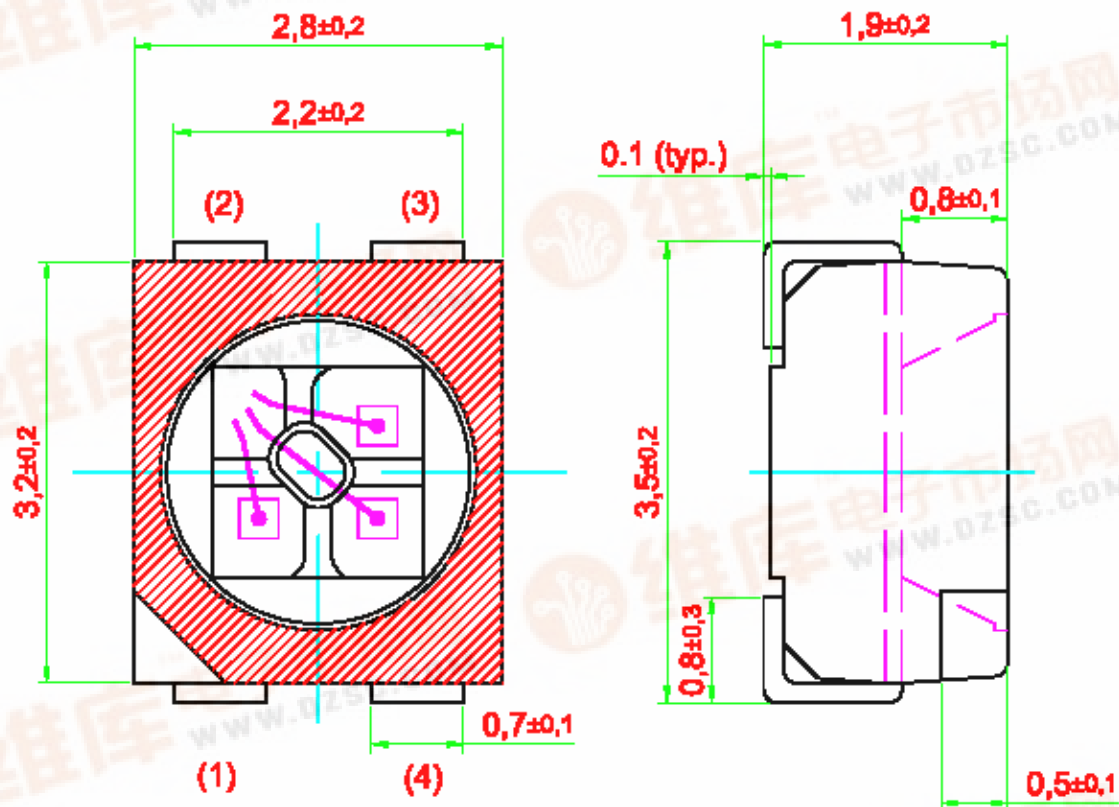




- High brightness tri-color surface mount LED.
- Capable for all video-standards. The RGB-LED chips can be controlled separately.
- 120° viewing angle.
- Small package outline (LxWxH) of 2.8 x 3.2 x 1.9 mm.
- Qualified according to JEDEC moisture sensitivity Level 2.
- Compatible to both IR reflow soldering and TTW soldering.



Part Ordering Number	Color , λ_{dom} (nm)	Luminous Intensity @ $I_f = 20mA$. I_v (mcd)
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	Chip#1	Chip#2	Chip#3	Chip#1	Chip#2	Chip#3

1. Reel comes in a quantity of 1025 and 2050 units per reel.
2. Luminous intensity is measured with an accuracy of $\pm 11\%$.
3. All electrical and optical data are measured at room temperature; $T_a = 25^\circ C$.

Half Group For Luminous Intensity

Only one IV group is allowed for each chip within a reel.

Groupings	Min. (mcd)	Max. (mcd)
N3	35.5	50.5
P3	50.5	71.5
Q3	71.5	100.0
R3	100.0	140.0
S3	140.0	200.0
T3	200.0	285.0



Wavelength Grouping.

If wavelength binning is required, only one wavelength group is allowed for each chip within a reel.

Color	Group	Wavelength distribution (nm)
Red	Full	620 – 630
True Green	Full	521 - 536
	A	521 - 526
	B	526 - 531
	C	531 - 536
Blue	Full	465 - 475
	A	465 - 470
	B	470 - 475

Dominant wavelength is measured with an accuracy of ± 1 nm.

Electrical Characteristics at $T_a = 25^\circ\text{C}$

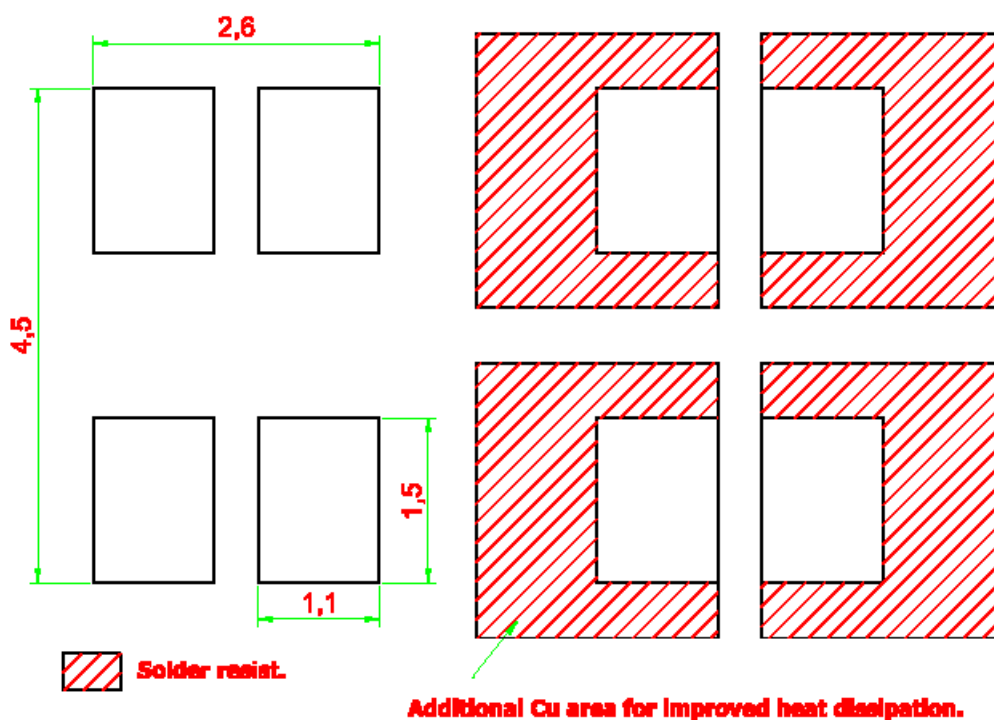
	V_f at $I_f=20\text{mA}$; (V)		Temperature coefficient of V_f ($I_f=20\text{mA}$; $-10^\circ\text{C}<T<100^\circ\text{C}$)
	Typ.	Max	Typ. (mV/K)
Red	1.8	2.45	-2.0
True Green	3.7	4.25	-3.6
Blue	3.6	4.25	-3.1

Optical Characteristics at $T_A = 25^\circ\text{C}$

	Temperature coefficient ($I_f=20\text{mA}$; $-10^\circ\text{C}<T<100^\circ\text{C}$, typ.)		View Angle
	λ_{peak} (nm/K)	$\lambda_{\text{dom.}}$ (nm/K)	(deg.)
Red	0.15	0.05	120
True Green	0.04	0.03	
Blue	0.04	0.02	

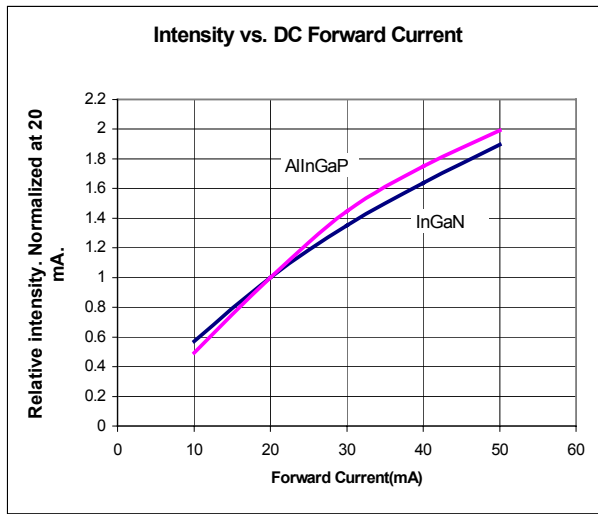
**Absolute Maximum Ratings**

	Maximum Value		Unit
DC forward current.	Red 30	Green, Blue 20	mA
Peak pulse current. ($t_p \leq 10 \mu s$, Duty cycle = 0.005)	Red 1000	Green, Blue 200	mA
Reverse voltage.	Red 12	Green, Blue 5	V
Power consumption.	Red 75	Green, Blue 85	V
Thermal resistance junction/ambient, $R_{th JA}$ 1 chip on 3 chips on	Red 480 770	Green, Blue 530 820	K/W
Thermal resistance junction/solder point, $R_{th JS}$ 1 chip on 3 chips on	Red 260 420	Green, Blue 290 470	K/W
LED junction temperature.	125		°C
Operating temperature.	-40 ... +100		°C
Storage temperature.	-40 ... +100		°C

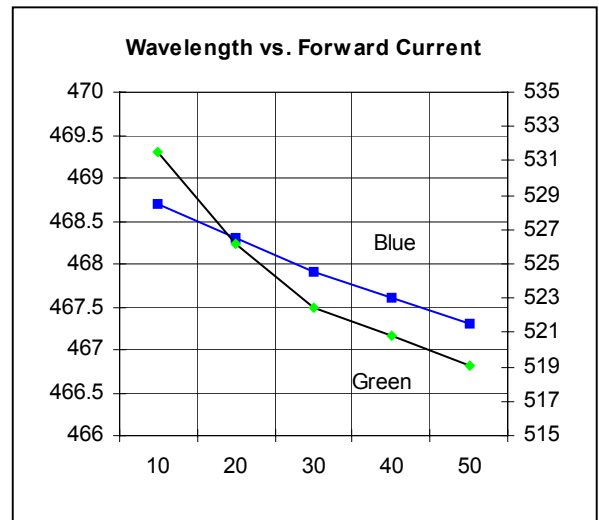
Recommended Solder Pad



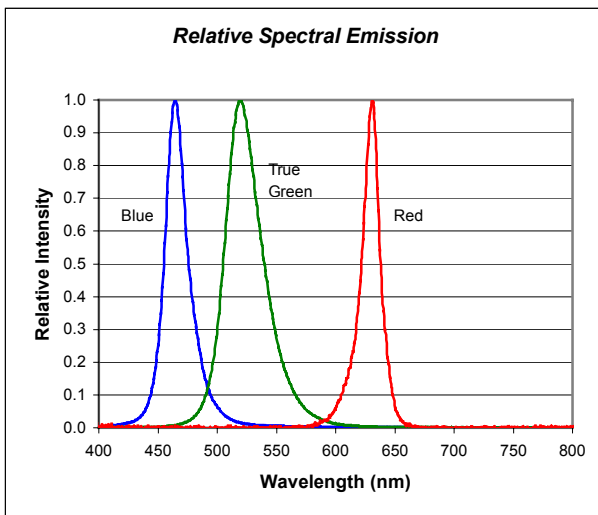
Luminous intensity vs. forward current.



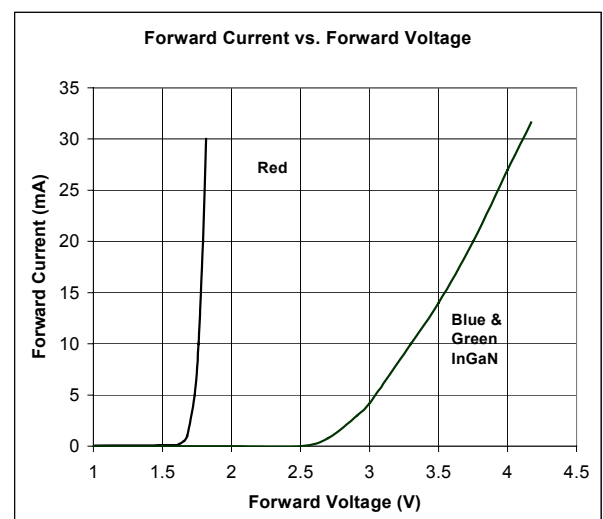
Wavelength vs. forward current.



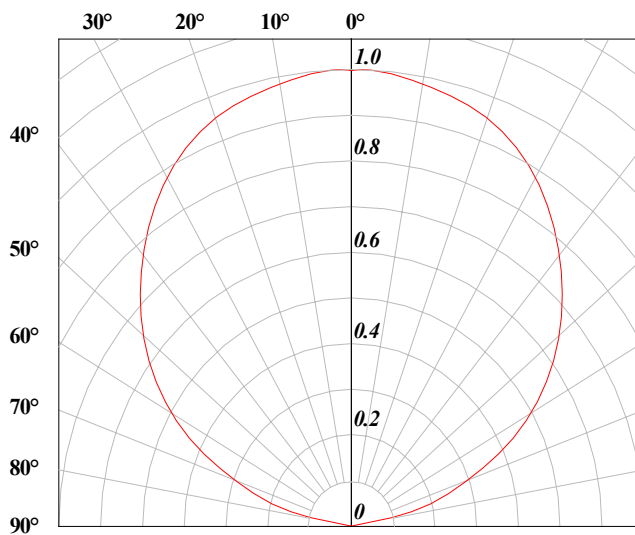
Wavelength Distribution.



Forward current vs. forward voltage.

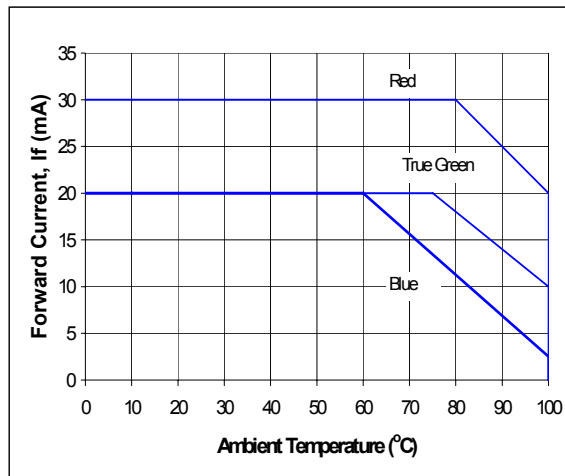


Radiation pattern.

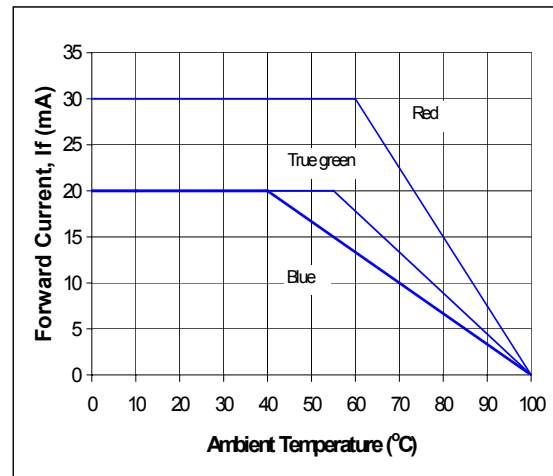




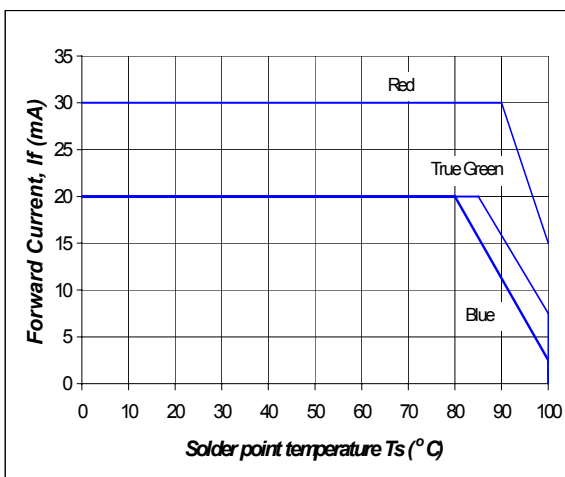
Max forward current vs. temperature (1 chip on)



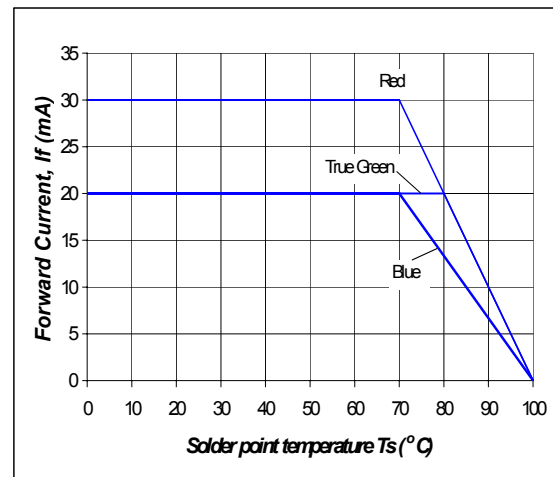
Max forward current vs. temperature (3 chips on)



Max forward current vs. temperature (1 chip on)



Max forward current vs. temperature (3 chips on)

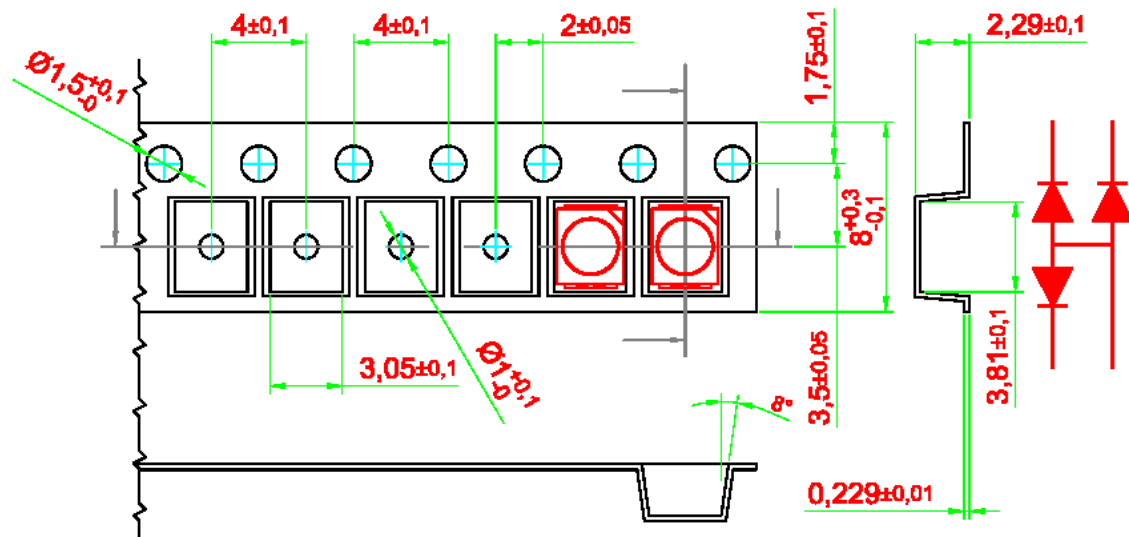




Taping And Orientation.

Reels come in quantity of 1025 or 2050 units.

Reel diameter is 180 mm.

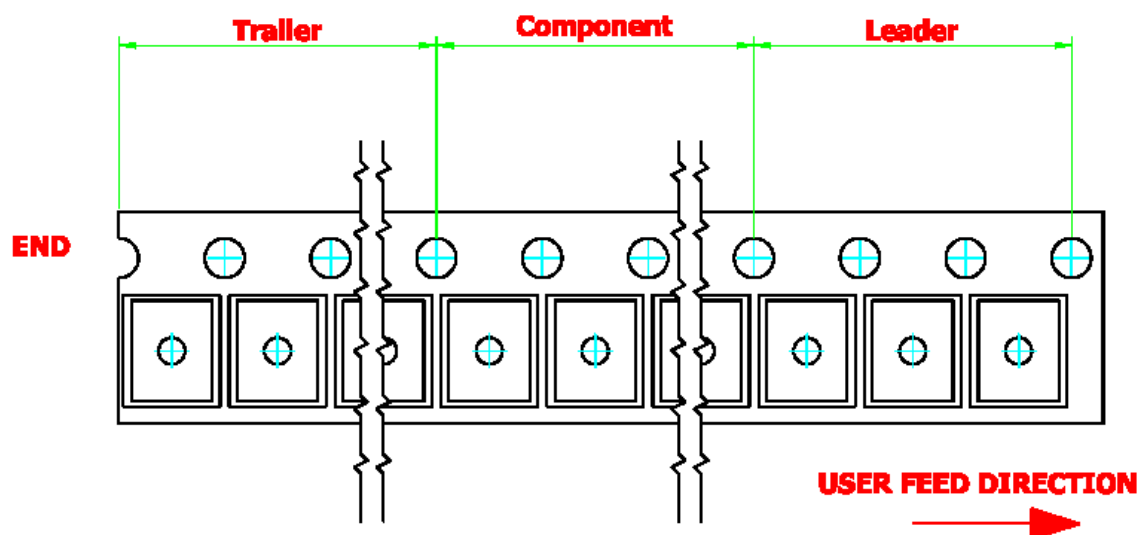


200 mm min. for $\varnothing 180$ reel.

480 mm min. for $\varnothing 180$ reel.

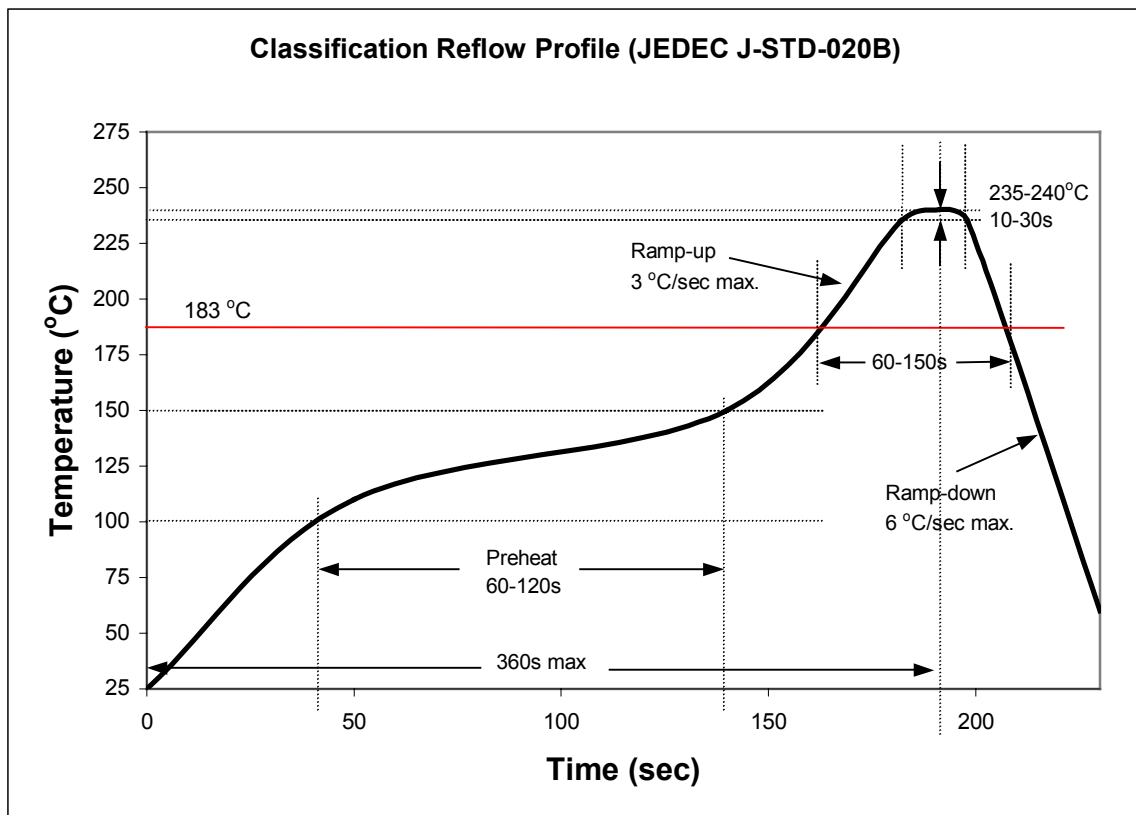
200 mm min. for $\varnothing 330$ reel.

960 mm min. for $\varnothing 330$ reel.





Recommended IR-reflow Soldering Profile.



Recommended Pb Free IR-Reflow Soldering Profile.

