



Technical drawing of the 9000 series vacuum tube. The drawing includes a top view showing a circular base with a diameter of  $\varnothing 7.5 \pm 0.2$  mm. The side view shows a rounded top with a height of  $11.0 \pm 0.2$  mm from the base of the top section. The total height from the base of the top section to the top of the pin array is  $13.5^{+0.4}_{-0.1}$  mm. The pin array has a total height of  $15.5 \pm 1$  mm. The pins are arranged in a 9-pin configuration with a pitch of 0.5 mm. The pins are labeled 1, 2, and 3, corresponding to the cathode (red), anode (common), and cathode (green) respectively. The drawing also shows a 2.54 mm dimension for the distance between the pins.

1. Cathode (Red)
2. Anode (Common)
3. Cathode (Green)

Characteristics	Symbol	Rating	Unit
Forward Current	$I_F$	40	mA
Reverse Voltage	$V_R$	4	V
Power Dissipation	$P_D$	120	mW
Operating Temperature Range	$T_{Opr}$	-30 to 85	°C
Storage Temperature Range	$T_{Stg}$	-40 to 100	°C

Characteristics	Color	Symbol	Test Condition	Minimum	Typical	Maximum	Unit
Forward Voltage	Red	$V_F$	$I_F = 20\text{ mA}$	—	1.85	2.2	V
	Green			—	2.15	2.8	
Reverse Current	Red	$I_R$	$V_R = 4\text{ V}$	—	—	100	$\mu\text{A}$
	Green			—	—	5	
Luminous Intensity	Red	$I_V$	$I_F = 20\text{ mA}$	180	500	—	mcd
	Green			100	150	—	
Peak Emission Wavelength	Red	$I_P$	$I_F = 20\text{ mA}$	—	660	—	nm
	Green			—	567	—	
Spectral Line Half Width	Red	$\Delta\lambda$	$I_F = 20\text{ mA}$	—	30	—	nm
	Green			—	25	—	
Dominant Wavelength	Red	$\lambda_d$	$I_F = 20\text{ mA}$	—	640	—	nm
	Green			—	563	—	
Full Viewing Angle	Red	$\theta$	$I_F = 20\text{ mA}$	—	36	—	degree
	Green			—	36	—	

1. Soldering temperature: 260°C max  
Soldering time: 3 sec. max  
Soldering portion of lead: up to 2 mm from the body of the device
2. The lead can be formed up to 5 mm from the body of the device without forming stress.  
Soldering should be performed after the lead forming.

