

TCO09URU

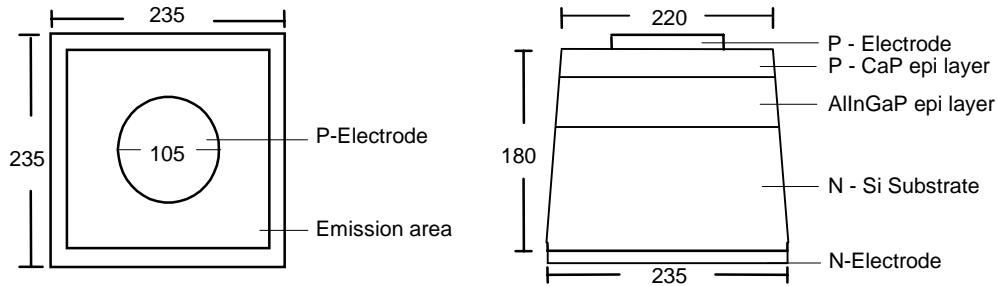
❖ Features:

- AllnGaP/Si Ultrabright LED Chips
- MOVPE EPI Wafer
- High light output at four sides results high total light output and good brightness uniformity
- High reliability

❖ Typical Applications:

- Automotive Signal Lamps: Stop/Tail Lights
- Traffic signs
- Highway Signs
- Special Decorations
- Full Color Outdoor Moving Signs

❖ Outline Dimensions:



❖ Physical Structure:

Chip dimensions		Chip size	9.25 mil x 9.25 mil	235 μm x 235 μm
		Thickness	7 mil	180 μm
		Emission Area	8.7 mil	220 μm
		Bonding pad	4.1 mil	105 μm
Electrode	Top	N (cathode)	Gold alloy (Alluminum optional)	
	Backside	P (anode)	Gold alloy	

❖ Electro-Optical Characteristics:

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 20\text{mA}$	-	2.10	2.50	V
Reverse Voltage	V_R	$I_R = 10\mu\text{A}$	5	-	-	V
Wavelength	λ_P	$I_F = 20\text{mA}$	-	638	-	nm
	λ_D		621	626	631	nm
Spectral Bandwidth	$\Delta\lambda$	$I_F = 20\text{mA}$	-	20	-	nm
Luminous Intensity	I_V	E	150	-	-	mcd
		G	170	-	-	
		J	200	-	-	
		M	230	-	-	

RED