



NICOMATIC is certified  
 ISO9001:2008 / EN9100:2009

# ULTRA-THIN LEDs 0.5mm



## FEATURES

Values Ta = 25°C  
 Absolute Maximum Ratings

### Current rating

Reverse voltage (VR)	5V
Forward current (IF)	25 mA
Operating temperature (Topr)	-40°C to +85°C
Storage temperature (Tst)	-40 +90°C
Soldering temperature (Tsol)	260°C on 5 seconds
Electrostatic Discharge (ESD)	150 V (white/blue) 2000 V (other colors)
Power Dissipation (Pd)	60 mW
Peak Forward Current (1/10 @ 1KHz) (IF)	160 mA
VF and Iv (mcd) @20mA	see table



## ADVANTAGES

0.5mm high!

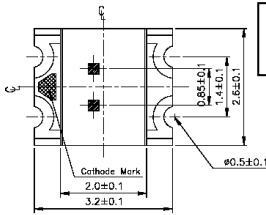
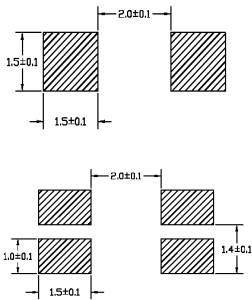
Easy to place size vs. other packagings:  
 Overall size: 3.2 x 1.6 x 0.5mm (1206)  
 Size Bicolor: 3.2 x 2.5 x 0.5 mm (1210)

Reduce spacer thickness and/or eliminate  
 embossing (cost reduction!)

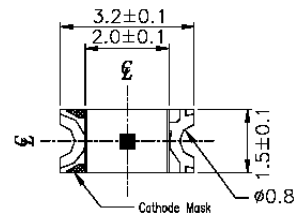
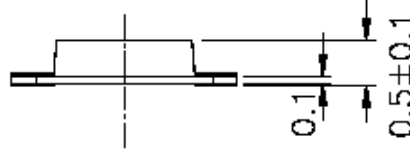
Market standard 8mm tape & reel for  
 automated pick & place machines  
 (reel of 2 000 LEDs)

Available from stock

Can be run at lower current levels



Bicolor LED note: Cathode Mark on Left  
 1st colour listed on top



Part Number (packed by 2k)	Lens	Lighting Colour	VF			Die Material	Wave- Length (nm)		Iv (mcd) @20 mA			Viewing Angle
			IF (mA)	Typ (V)	Max. (V)		Max.	Typ.	IF (mA)	Min. (mcd)	Typ. (mcd)	
ZUR55W-05	Water clear	Red	20	2.0	2.4	AlGaInP	632	624	20	14	37	140
ZUO55W-05	Water clear	Orange	20	2.0	2.4	AlGaInP	611	605	20	11	30	140
ZUY55W-05	Water clear	Yellow	20	2.0	2.4	AlGaInP	591	589	20	14	38	140
ZMG55W-05	Water clear	Green	20	2.0	2.4	AlGaInP	575	573	20	9	14	140
ZUB55W-05	Water clear	Blue	25	3.5	4.3	InGaN	-	470	20	2.6	7	140
ZPW55D-05	Yellow diffused	White	25	-	3.15	InGaN	-	-	-	45	112	140
BURMG57W-05	Water clear	Red Green	-	-	-	AlGaInP	-	624 573	-	14 9	37 14	130
BUYMG57W-05	Water clear	Yellow Green	-	-	-	AlGaInP	-	589 573	-	14 9	38 14	130
BURUY57W-05	Water clear	Red Yellow	-	-	-	AlGaInP	-	624 605	-	14 14	37 38	130

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## Technical Features

Absolute Maximum Ratings (Ta=25°C) Red, Yellow, Green, Orange				Absolute Maximum Ratings (Ta=25°C) Blue / White			
Parameter	Symbol	Rating	Unit	Parameter	Symbol	Rating	Unit
Reverse Voltage	V <sub>R</sub>	5	V	Reverse Voltage	V <sub>R</sub>	5	V
Forward Current	I <sub>F</sub>	25	mA	Forward Current	I <sub>F</sub>	25	mA
Operating Temperature	Topr	-40 ~ +85	°C	Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C	Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	260 for 5 seconds	°C	Soldering Temperature	Tsol	260 for 5 seconds	°C
Electrostatic Discharge	ESD	2000	V	Electrostatic Discharge	ESD	150	V
Power Dissipation	Pd	110	mW	Power Dissipation	Pd	110	mW
Peak Forward Current (Duty 1/10 @ 1KHz)	I <sub>F</sub>	100	mA	Peak Forward Current (Duty 1/10 @ 1KHz)	I <sub>F</sub>	100	mA

## Electro-Optical Characteristics (Ta=25°C)

ZUR55W-05 RED							ZUO55W-05 ORANGE						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition	Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	-----	2	-----	mcd	I <sub>F</sub> =2mA	Luminous Intensity	I <sub>v</sub>	-----	2	-----	mcd	I <sub>F</sub> =2mA
		14	37		mcd	I <sub>F</sub> =20mA			11	30		mcd	I <sub>F</sub> =20mA
Viewing Angle	2θ 1/2	-----	140	-----	deg	I <sub>F</sub> =20mA	Viewing Angle	2θ 1/2	-----	140	-----	deg	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	-----	632	-----	nm	I <sub>F</sub> =20mA	Peak Wavelength	λ <sub>p</sub>	-----	611	-----	nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>	-----	624	-----	nm	I <sub>F</sub> =20mA	Dominant Wavelength	λ <sub>d</sub>	-----	605	-----	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	I <sub>F</sub> =20mA	Spectrum Radiation Bandwidth	Δλ	-----	17	-----	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	-----	2.0	2.4	V	I <sub>F</sub> =20mA	Forward Voltage	V <sub>F</sub>	-----	2.0	2.4	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-----	-----	10	μA	V <sub>R</sub> =5V	Reverse Current	I <sub>R</sub>	-----	-----	10	μA	V <sub>R</sub> =5V

ZUB55W-05 BLUE							ZPW55D-05 WHITE						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition	Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	2.6	7	-----	mcd	I <sub>F</sub> =20mA	Luminous Intensity	I <sub>v</sub>	28.5	---	72.0	mcd	I <sub>F</sub> =5mA
Viewing Angle	2θ 1/2	-----	140	-----	deg	I <sub>F</sub> =20mA	Viewing Angle	2θ 1/2	-----	140	-----	deg	I <sub>F</sub> =5mA
Peak Wavelength	λ <sub>p</sub>	-----	468	-----	nm	I <sub>F</sub> =20mA	Peak Wavelength	λ <sub>p</sub>	-----	---	-----	---	---
Dominant Wavelength	λ <sub>d</sub>	-----	470	-----	nm	I <sub>F</sub> =20mA	Dominant Wavelength	λ <sub>d</sub>	-----	---	-----	---	---
Spectrum Radiation Bandwidth	Δλ	-----	25	-----	nm	I <sub>F</sub> =20mA	Spectrum Radiation Bandwidth	Δλ	-----	---	-----	---	---
Forward Voltage	V <sub>F</sub>	-----	3.5	4.3	V	I <sub>F</sub> =20mA	Forward Voltage	V <sub>F</sub>	2.70	---	3.15	V	I <sub>F</sub> =5mA
Reverse Current	I <sub>R</sub>	-----	-----	50	μA	V <sub>R</sub> =5V	Reverse Current	I <sub>R</sub>	-----	-----	50	μA	V <sub>R</sub> =5V

ZUY55W-05 YELLOW							ZMG55W-05 GREEN						
Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition	Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I <sub>v</sub>	-----	2	-----	mcd	I <sub>F</sub> =2mA	Luminous Intensity	I <sub>v</sub>	-----	1	-----	mcd	I <sub>F</sub> =2mA
		14	38		mcd	I <sub>F</sub> =20mA			9	14		mcd	I <sub>F</sub> =20mA
Viewing Angle	2θ 1/2	-----	140	-----	deg	I <sub>F</sub> =20mA	Viewing Angle	2θ 1/2	-----	140	-----	deg	I <sub>F</sub> =20mA
Peak Wavelength	λ <sub>p</sub>	-----	591	-----	nm	I <sub>F</sub> =20mA	Peak Wavelength	λ <sub>p</sub>	-----	575	-----	nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>	-----	589	-----	nm	I <sub>F</sub> =20mA	Dominant Wavelength	λ <sub>d</sub>	-----	573	-----	nm	I <sub>F</sub> =20mA
Spectrum Radiation Bandwidth	Δλ	-----	15	-----	nm	I <sub>F</sub> =20mA	Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	I <sub>F</sub> =20mA
Forward Voltage	V <sub>F</sub>	-----	2.0	2.4	V	I <sub>F</sub> =20mA	Forward Voltage	V <sub>F</sub>	-----	2.0	2.4	V	I <sub>F</sub> =20mA
Reverse Current	I <sub>R</sub>	-----	-----	10	μA	V <sub>R</sub> =5V	Reverse Current	I <sub>R</sub>	-----	-----	10	μA	V <sub>R</sub> =5V