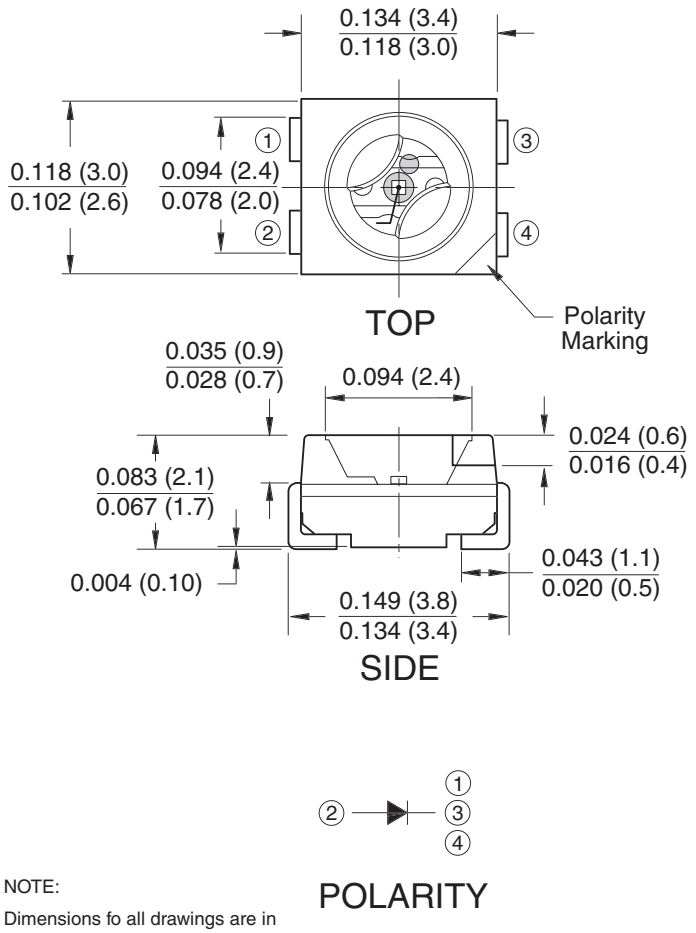
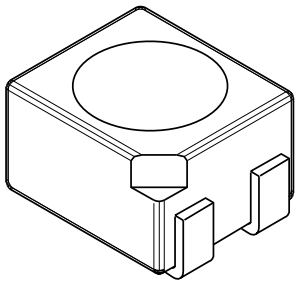
SURFACE MOUNT LED LAMP
POWER PLCC-4 QTLP673C

QTLP673C-O Yellow-Orange
QTLP673C-Y Yellow
QTLP673C-E Orange
QTLP673C-R Red
QTLP673C-IB Blue
QTLP673C-IC Cyan
QTLP673C-IG True Green

PACKAGE DIMENSIONS



NOTE:
Dimensions fo all drawings are in



APPLICATIONS

- Automotive interior lighting
- Status indication for consumer electronics and office equipment
- Information display lighting

DESCRIPTION

This ultra bright high current surface mount LED is designed with flat top and sides for the ease of pick-and-place by automatic placement equipment. It is compatible with both IR reflow and TTW (Through-the-Wave) soldering. These LEDs are ideal for back-lighting and optical coupling into light pipes.

FEATURES

- Small package dimensions of 3.2(L) x 2.8(W) x 1.8(H) mm
- AlInGaP technology for -Y, -O, -R, and -E
- InGaN technology for -IB, -IC, and -IG
- Wide viewing angle of 120°
- Water clear optics
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

QTLP673C-O Yellow-Orange **QTLP673C-Y** Yellow **QTLP673C-E** Orange
QTLP673C-R Red **QTLP673C-IB** Blue **QTLP673C-IC** Cyan
QTLP673C-IG True Green

ABSOLUTE MAXIMUM RATINGS (T_A =25°C Unless otherwise specified)

Parameter	Symbol	QTLP673C-Y/-E/-O/-R	Units
Continuous Forward Current	I_F	70	mA
Peak Forward Current (f = 100 KHz, Duty Factor = 1/10)	I_{FM}	100	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	180	mW
Junction Temperature	T_J	125	°C
Operating Temperature	T_{OPR}	-40 to +100	°C
Storage Temperature	T_{STG}	-40 to +100	°C
Lead Soldering Time	T_{SOL}	260 for 5 sec	°C

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Part Number	Symbol	QTLP673C				Condition
		-Y	-E	-O	-R	
Luminous Intensity (mcd)	I_V	T1: 285-355	T1: 285-355	T1: 285-355	T1: 285-355	I_F = 50mA
		T2: 355-450	T2: 355-450	T2: 355-450	T2: 355-450	
		U1: 450-560	U1: 450-560	U1: 450-560	U1: 450-560	
		U2: 560-715	U2: 560-715	U2: 560-715	U2: 560-715	
Forward Voltage (V) 51	V_F	2.0-2.3	2.0-2.3	2.0-2.3	2.0-2.3	I_F = 50mA
52		2.3-2.6	2.3-2.6	2.3-2.6	2.3-2.6	
Dominant Wavelength (nm)	λ_D	W: 582-585	W: 610-615	W: 600-603	—	I_F = 50mA
		X: 585-588	X: 615-621	X: 603-606	—	
		Y: 588-591	—	Y: 606-609	—	
		Z: 591-594	—	Z: 609-612	—	
		—	—	—	Full: 620-630	
Viewing Angle (°)	$2\Theta^1/_2$	120	120	120	120	I_F = 50mA

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ABSOLUTE MAXIMUM RATINGS (T_A =25°C Unless otherwise specified)

Parameter	Symbol	QTLP673C-IG/IC/IB	Units
Continuous Forward Current	I_F	30	mA
Peak Forward Current (f = 100 KHz, Duty Factor = 1/10)	I_{FM}	200	mA
Reverse Voltage	V_R	5	V
Power Dissipation	P_D	135	mW
Junction Temperature	T_J	125	°C
Operating Temperature	T_{OPR}	-40 to +100	°C
Storage Temperature	T_{STG}	-40 to +100	°C
Lead Soldering Time	T_{SOL}	260 for 5 sec	°C

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

Part Number	Symbol	QTLP673C			Condition
		-IG	-IB	-IC	
Luminous Intensity (mcd)	I_V	T1: 285-355	Q2: 90-112.5	T1: 285-355	I_F = 30mA
		T2: 355-450	R1: 112.5-140	T2: 355-450	
		U1: 450-560	R2: 140-180	U1: 450-560	
		U2: 560-715	S1: 180-224	U2: 560-715	
		V1: 715-900	S2: 280-355	V1: 715-900	
		V2: 900-1125		V2: 900-1125	
Forward Voltage (V) Typ	V_F	3.9	3.9	3.9	I_F = 30mA
Max		4.55	4.55	4.55	
Dominant Wavelength (nm)	λ_D	W: 520-524	W: 464-468	W: 499-503	I_F = 30mA
		X: 524-528	X: 468-472	X: 503-507	
		Y: 528-532	Y: 472-476	Y: 507-511	
		Z: 532-536	Z: 476-480	—	
		—	—	—	
Viewing Angle (°)	$2\Theta^1/_2$	120	120	120	I_F = 30mA

Tolerance for Luminous Intesity (I_V): ±11%
Tolerance for V_F: ±0.1V
Tolerance for λ_D: ±1nm

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TYPICAL PERFORMANCE CURVES QTLP673C-O/-R/-Y/-E

Fig. 1 Forward Current (mA) vs. Forward Voltage

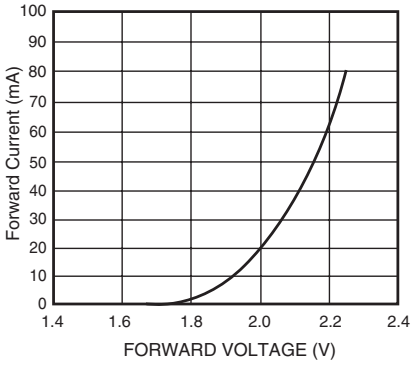


Fig. 2 Relative Luminuous Intensity vs. Forward Current

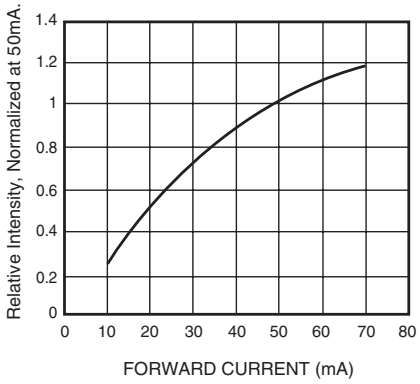


Fig. 3 Relative Intensity vs. Peak Wavelength

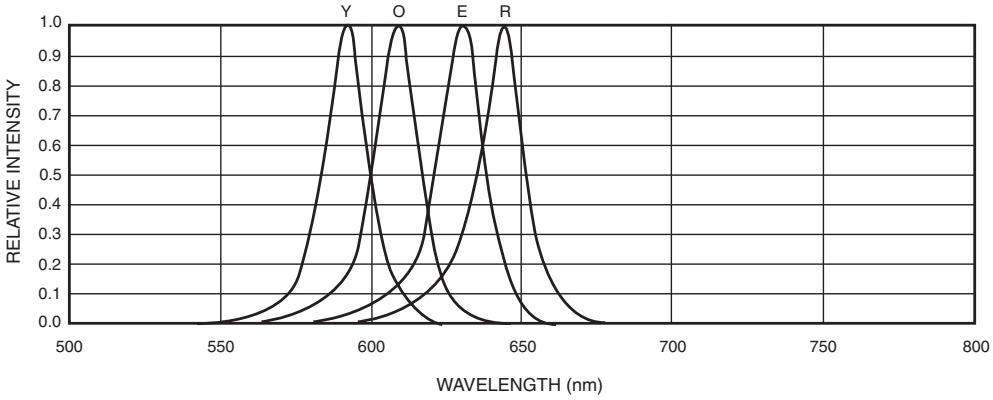


Fig. 4 Radiation Diagram

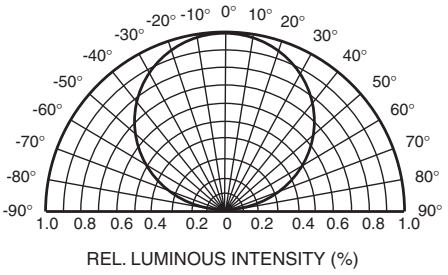
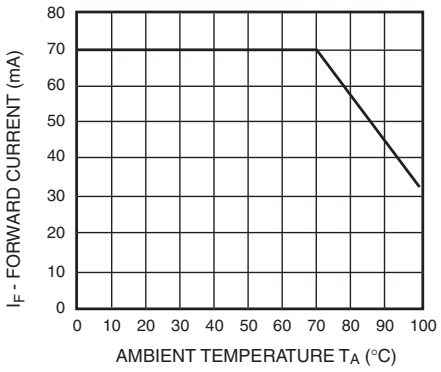


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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TYPICAL PERFORMANCE CURVES QTLP673C-IC/-IB/-IG

Fig. 1 Forward Current (mA) vs. Forward Voltage

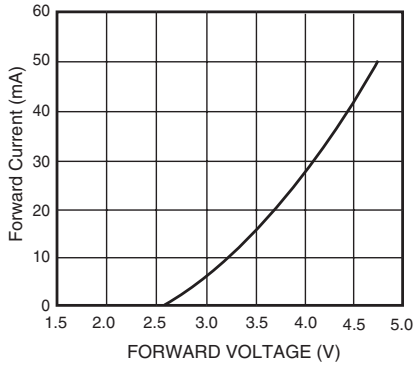


Fig. 2 Relative Luminuous Intensity vs. Forward Current

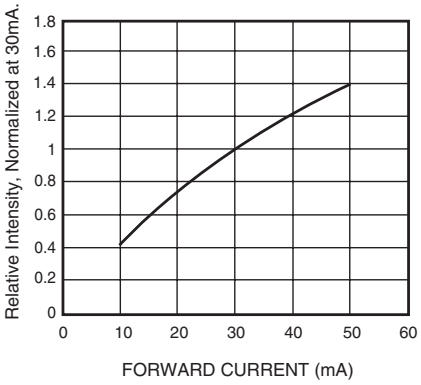


Fig. 3 Relative Intensity vs. Peak Wavelength

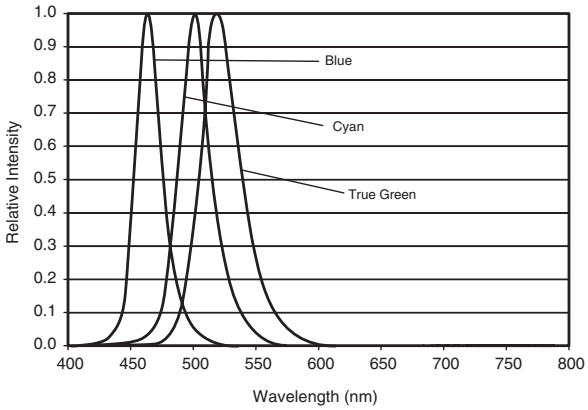


Fig. 4 Radiation Diagram

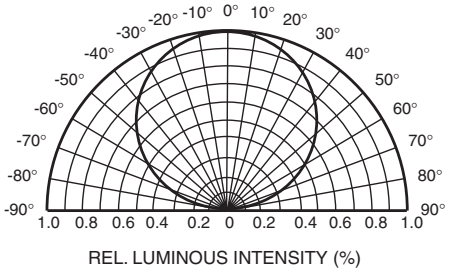
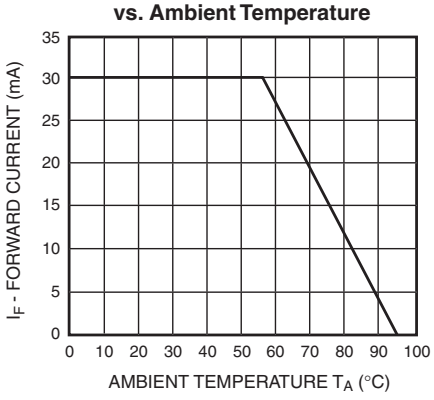


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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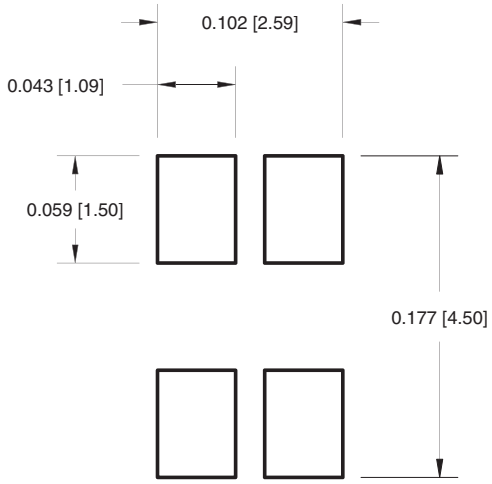
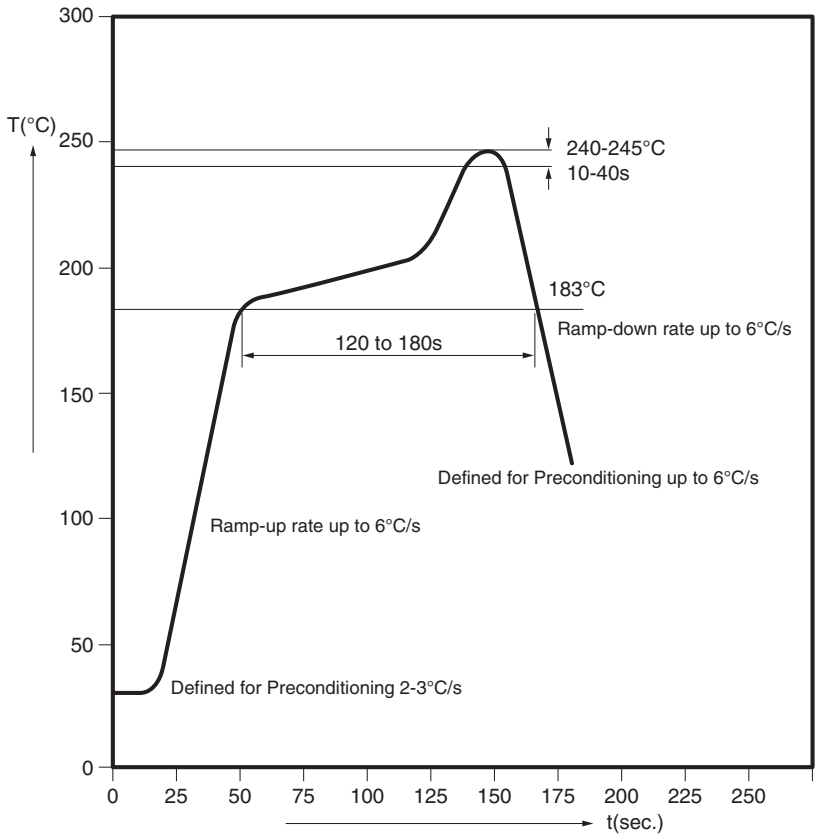
RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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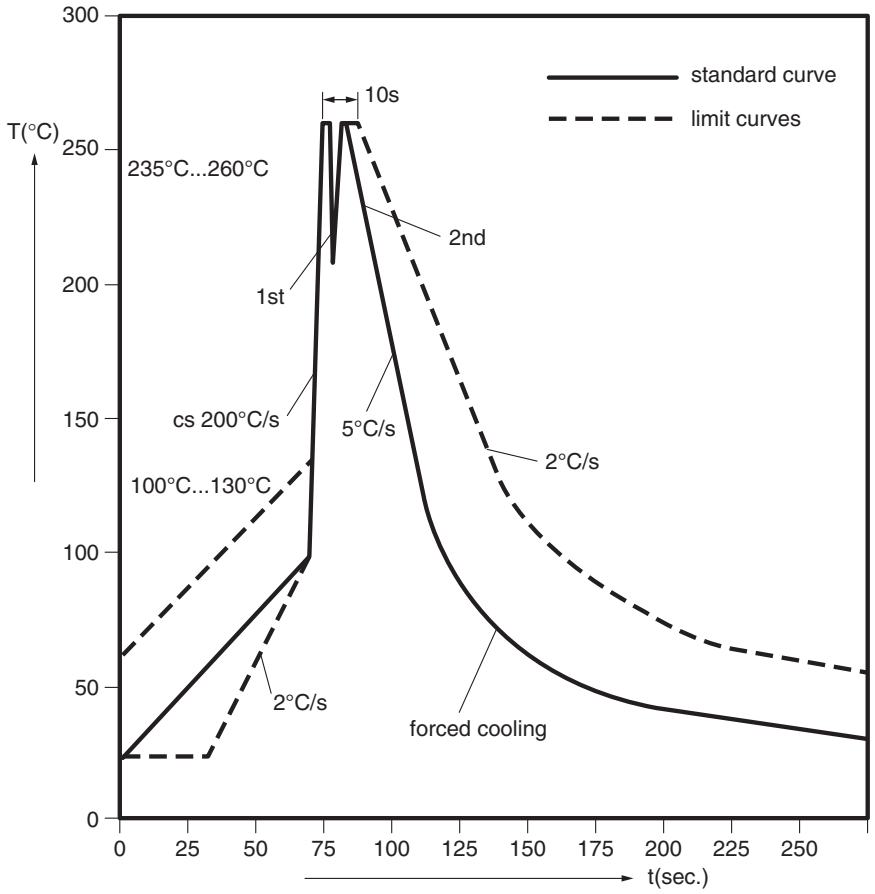
RECOMMENDED TTW REFLOW SOLDERING PROFILE



ORDERING INFORMATION

Orderable Part Number	Color	Package
QTLP673C-OTR	Yellow-Orange	Power PLCC-4
QTLP673C-RTR	Red	Power PLCC-4
QTLP673C-IGTR	True Green	Power PLCC-4
QTLP673C-YTR	Yellow	Power PLCC-4
QTLP673C-IBTR	Blue	Power PLCC-4
QTLP673C-ETR	Orange	Power PLCC-4
QTLP673C-ICTR	Cyan	Power PLCC-4

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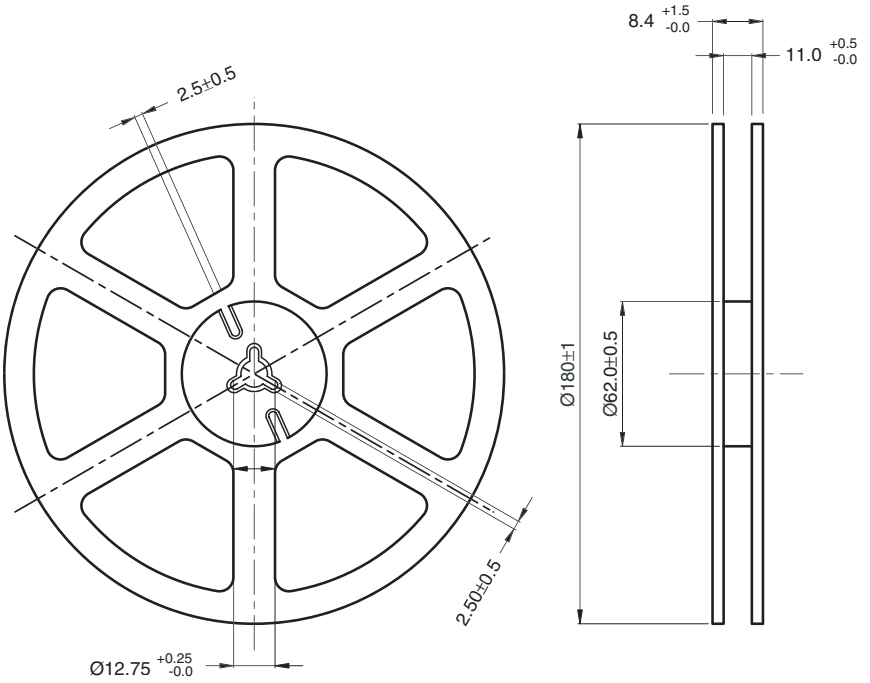
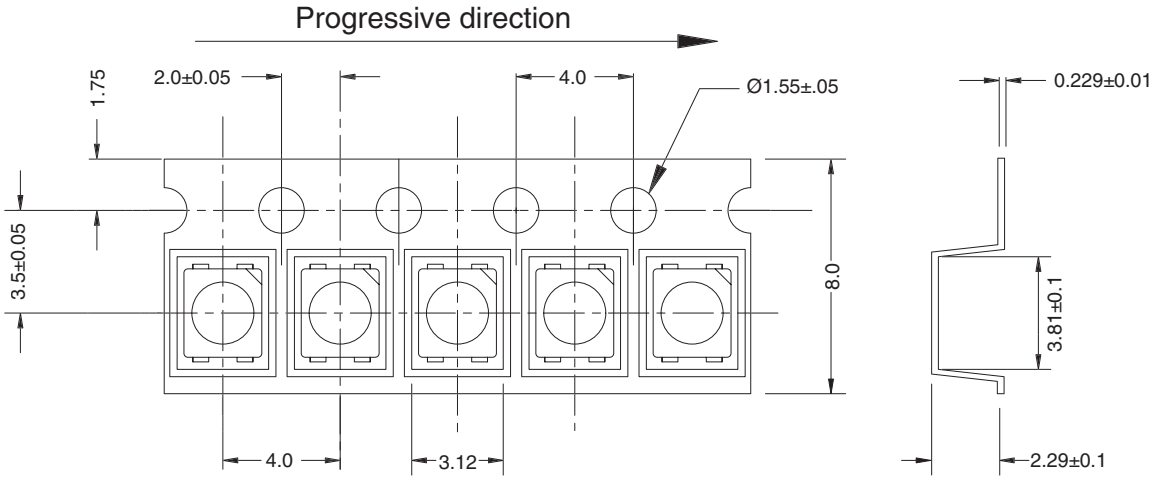
TAPE AND REEL DIMENSIONS





Dimensional tolerance is ± 0.1mm unless otherwise specified

Angle: ± 0.5

Unit: mm