

СВЕТОДИОД ARL-2835DW-L80

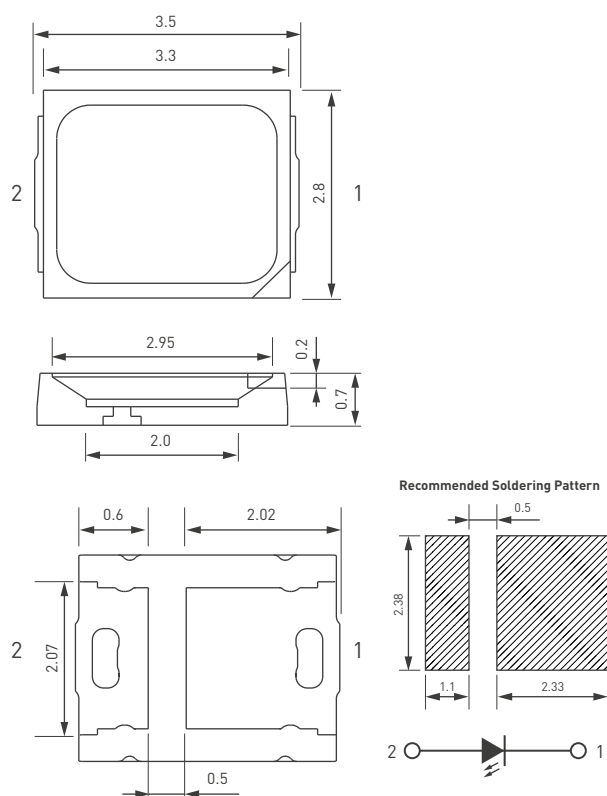
ОПИСАНИЕ И ПРИМЕНЕНИЕ

Чип-светодиоды ARL белого цвета свечения выполнены в корпусе SMD 2835 (3.5×2.8×0.8 мм). Светодиоды ARL имеют широкий спектр применений: осветительные приборы, декоративная подсветка архитектурных объектов, интерьерная подсветка.

ОСОБЕННОСТИ

- Индекс цветопередачи: CRI80
- Цветовая температура: 4000 K
- Номинальный рабочий ток: 60 mA
- Эффективность: не менее 125 лм/Вт
- Световой поток: 25 лм
- Диаграмма направленности: 120°
- Тепловое сопротивление: до 70 К/Вт

РАЗМЕР



Все указанные размеры имеют допуск ±0.1 мм.



ПАРАМЕТРЫ

Артикул	021542
Модель	ARL-2835DW-L80 Day White (D489W)

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Parameter	Symbol	Rating	Units
Power Dissipation	P _D	306	mW
Forward Current	I _F	90	mA
Peak Forward Current ¹	I _{FP}	150	mA
Reverse Voltage	V _R	5	V
Electrostatic Discharge (HBM)	ESD	1000	V
Operating Temperature	T _{opr}	-40... +85	°C
Storage Temperature	T _{stg}	-40... +100	°C
Junction Temperature	T _j	115	°C

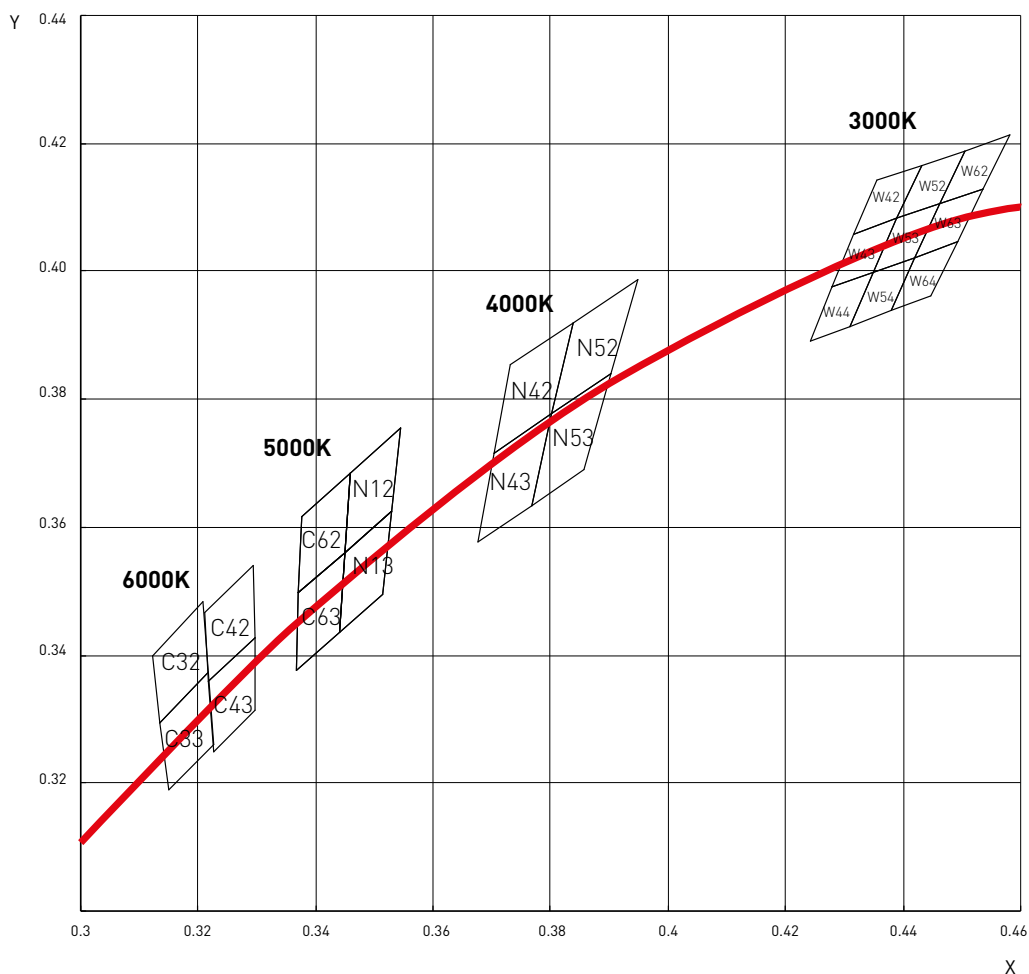
¹ 1/10 Duty cycle, 0.1ms pulse width.

ELECTRICAL/OPTICAL CHARACTERISTICS (T_A=25°C)

Parameter	Sym.	Min	Typ	Max	Units	Test Condit.
Forward Voltage	V _F	2.8	-	3.4	V	IF=60mA
Viewing Angel	2θ _{1/2}	-	120	-	deg	IF=60mA
Color Rendering Index	R _a	80	-	-		IF=60mA
Reverse Current	I _R	-	-	10	μA	VR=5V
Thermal Resistance	R _{thj-s}	-	50	-	°C/W	IF=60mA

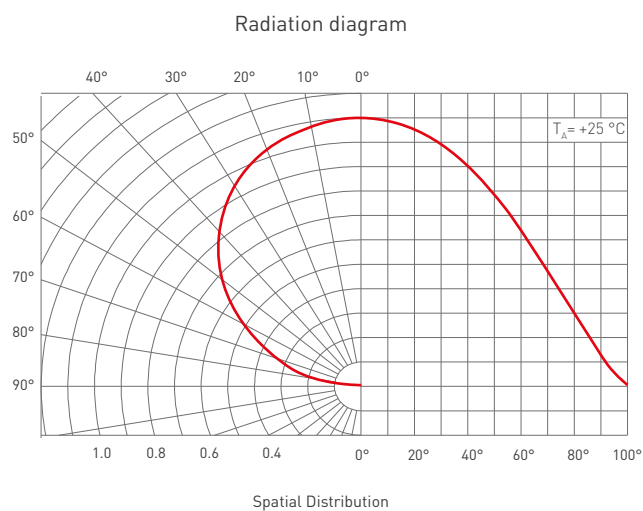
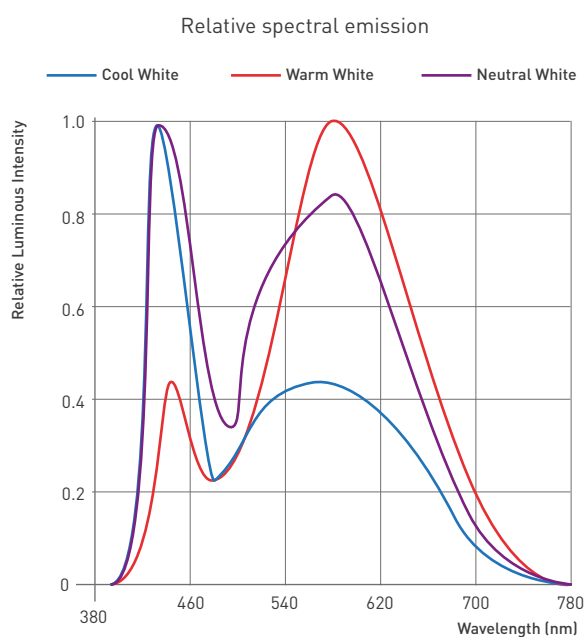
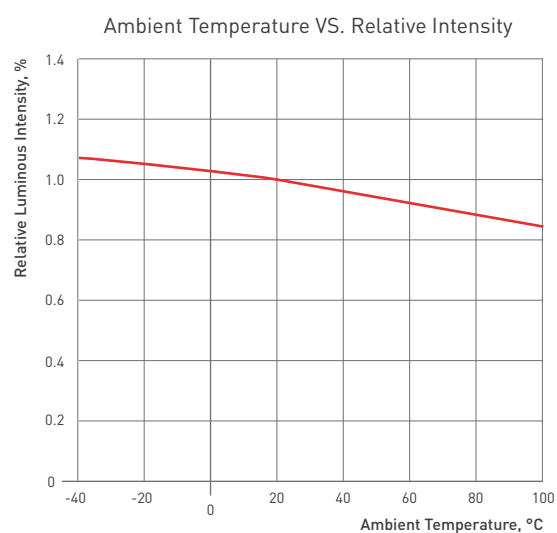
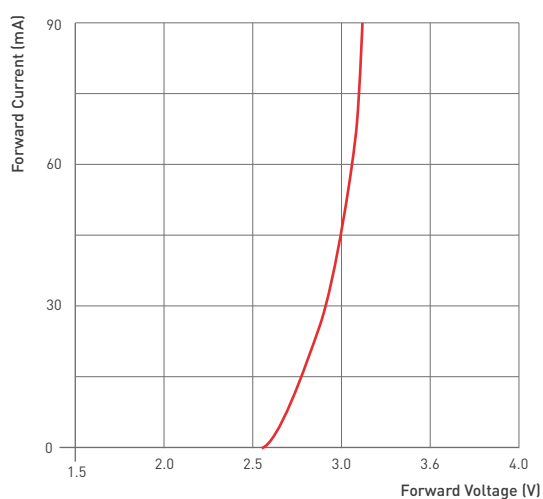
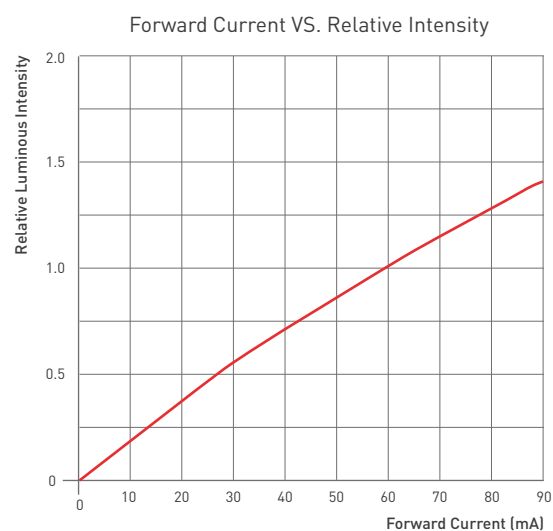
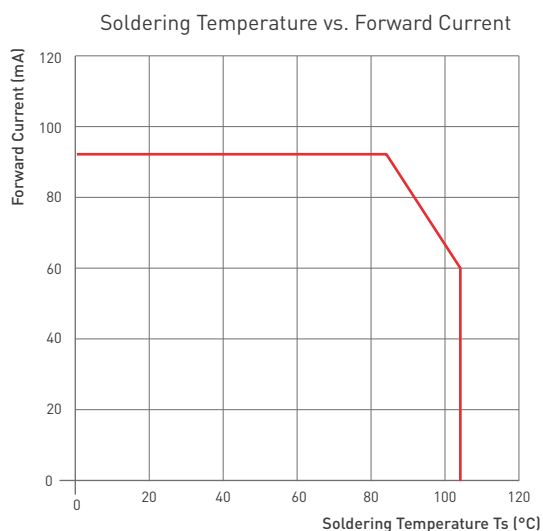
ГРУППИРОВКА ПО ЦВЕТОВОЙ ТЕМПЕРАТУРЕ (BIN)

Группировка по цветовой температуре (BIN) не выходит за пределы двух шагов МакАдама.



CCT Group	BIN code	CIE_x	CIE_y	BIN code	CIE_x	CIE_y
4000K	N42 4000-4250K	0.3731	0.3853	N52 3800-4000K	0.3839	0.3920
		0.3839	0.3920		0.3947	0.3987
		0.3803	0.3777		0.3903	0.3839
		0.3703	0.3716		0.3803	0.3777
	N43 4000-4250K	0.3703	0.3716	N53 3800-4000K	0.3803	0.3777
		0.3803	0.3777		0.3903	0.3839
		0.3767	0.3634		0.3858	0.3690
		0.3675	0.3578		0.3767	0.3634

ТИПОВЫЕ ЗАВИСИМОСТИ ЭЛЕКТРООПТИЧЕСКИХ ХАРАКТЕРИСТИК



RELIABILITY TEST ITEMS AND CONDITIONS

Test Items	Ref. Standard	Test Condition	Time	Quantity	Ac/Re
Reflow	JESD22-B106	Temp: 260 °C max T=10 sec	3 times	22 Pcs	0/1
Temperature Cycle	JESD22-A104	100±5 °C 30 min ↑↓ 5 min -40 ±5 °C 30 min	100 Cycles	22 Pcs	0/1
High Temperature Storage	JESD22-A103	Temp: 100 ±5 °C	1000 Hrs	22 Pcs	0/1
Low Temperature Storage	JESD22-A119	Temp: -40 ±5 °C	1000 Hrs	22 Pcs	0/1
Life Test	JESD22-A108	Ta=25 ±5 °C IF=60 mA	1000 Hrs	22 Pcs	0/1
High Temperature High Humidity Life Test	JESD22-A101	85 ±5 °C/ 85%RH IF=40 mA	1000 Hrs	22 Pcs	0/1

FAILURE CRITERIA

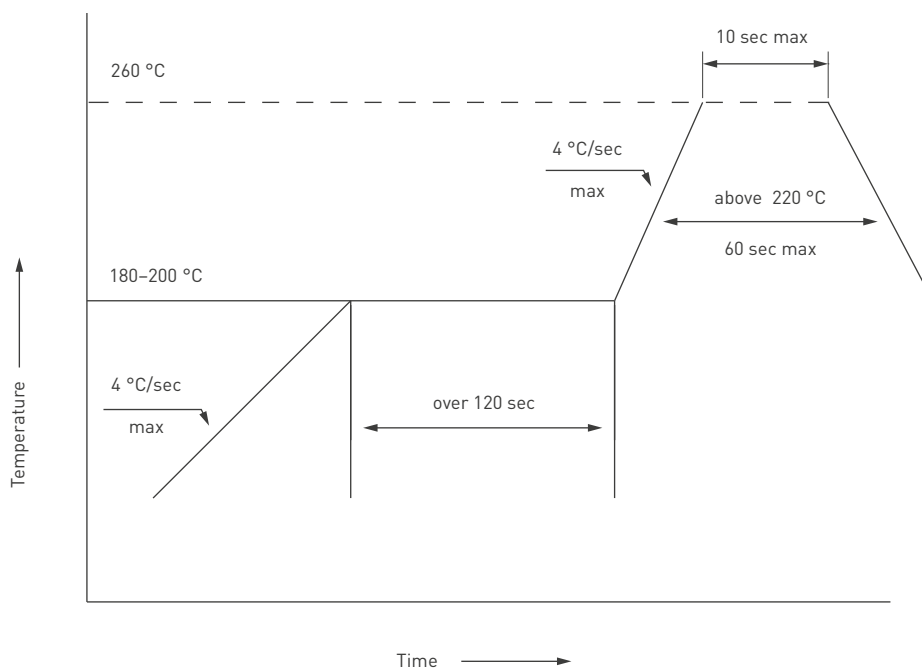
Test Items	Symbol	Test Condition	Failure Criteria	
			Min	Max
Forward Voltage	V_F	IF=60 mA	-	U.S.L*}x1.1
Reverse Current	I_V	VR=5 V	-	U.S.L*}x2.
Luminous Flux	L_m	IF=60 mA	L.S.L*}x0.7	

U.S.L: Upper Specification Limit

L.S.L: Lower Specification Limit

* The technical information shown in the data sheets is limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.

SMT REFLOW SOLDERING INSTRUCTIONS



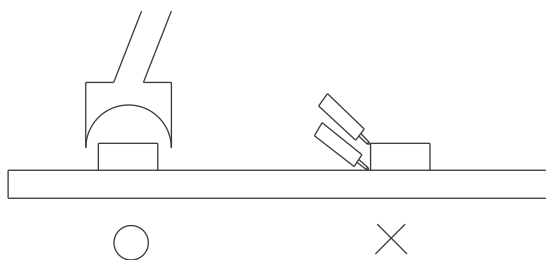
1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating

SOLDERING IRON

1. When hand soldering, keep the temperature of iron below less 300° less than 3 seconds.
2. The hand solder should be done only one times.

REPAIRING

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed in advance whether the characteristics of LEDs will or will not be damaged by repairing.



CAUTIONS

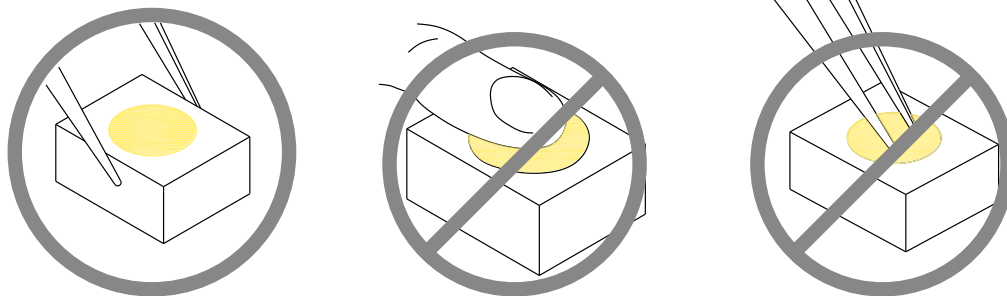
The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs.

Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper.

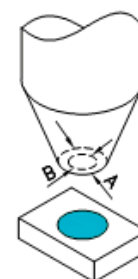
HANDLING PRECAUTIONS

Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more prone to damage by external mechanical force. As a result, special handling precautions must be observed during assembling using silicone encapsulated LED products, failure to comply might leads to damage and premature failure of the LED.

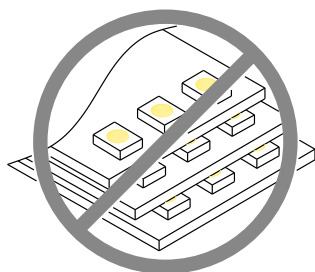
1. Handle the component along the side surface by using forceps or appropriate tools; do not directly touch or handle the silicone lens surface, it may damage the internal circuitry.



2. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production.



3. Do not stack together assembled PCBs containing LEDs. Impact may scratch the silicone lens or damage the internal circuitry.

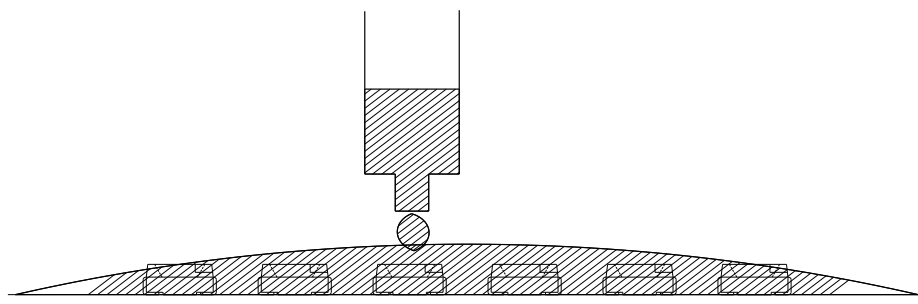


4. Not suitable to operate in acidic environment, $\text{PH} < 7$.



5. LED operating environment and sulfur element composition cannot be over 100PPM in the LED mating usage material.

6. When we need to use external glue for LED application products, please make sure that the external glue matches the LED packaging glue. Additionally, as most of LED packaging glue is silica gel, and it has strong Oxygen permeability as well as strong moisture permeability; in order to prevent external material from getting into the inside of LED, which may cause the malfunction of LED, the single content of Bromine element is required to be less than 900PPM, the single content of Chlorine element is required to be less than 900PPM, the total content of Bromine element and Chlorine element in the external glue of the application products is required to be less than 1500PPM.

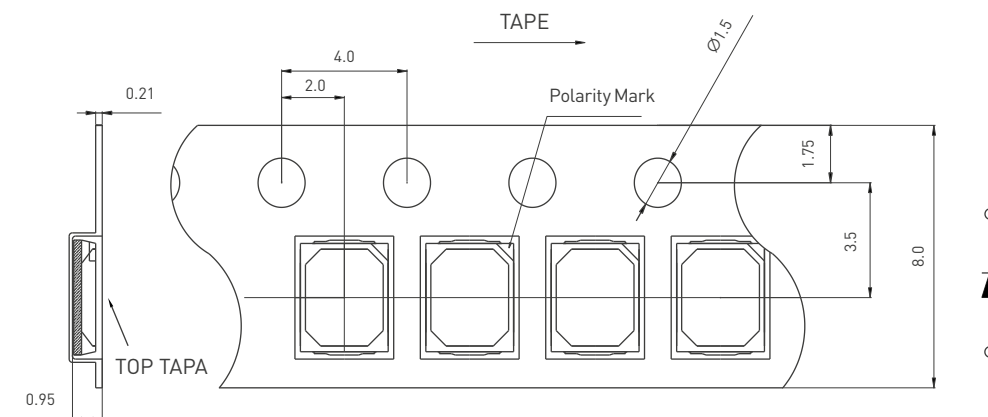


7. Other points for attention, please refer to our LED user manual.

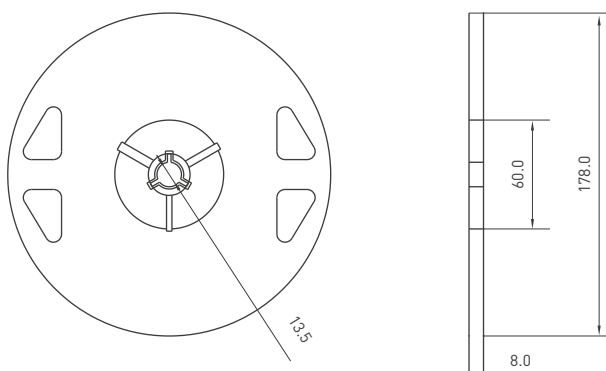
PACKAGING

TAPE SPECIFICATIONS

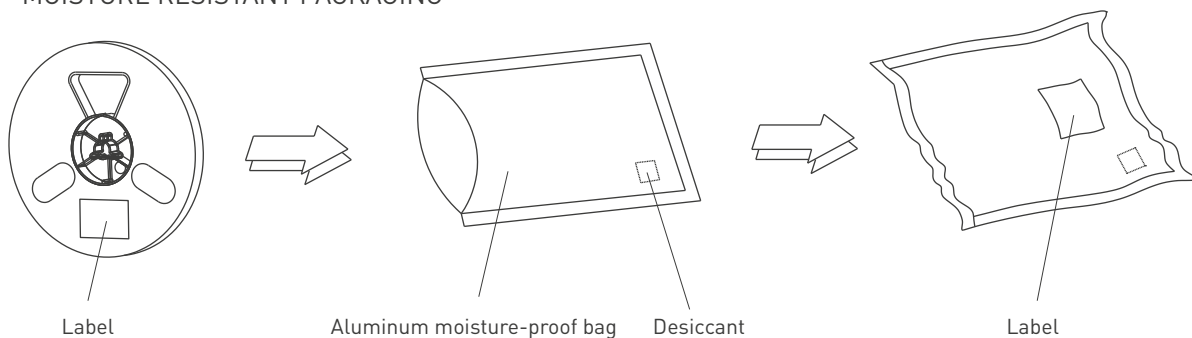
(Units: mm)



REEL DIMENSIONS



MOISTURE RESISTANT PACKAGING



Note: The tolerances unless mentioned is ± 0.1 mm
Unit: mm