# Bi-Color Chip LEDs with Reflector 1210 <3.0×2.5 t=1.3mm> Standard and High Brightness Type





# SML-02\* Series

	Emitting Color	Part No.	Blue	Green(Yellowish Green)	Red		
	Material	rait No.	InGaN on SiC	GaP	GaAsP on GaP	AlGaInP on GaAs	
	Package Size(mm)						
302		SML-020MVT		0	0		
	3025(1210) 3.0×2.5(t=1.3)	SML022BUT	0			0	

note) "-" will be taken out for emitting color B/E series.

## ■Absolute Maximum Ratings (Ta=25°C)

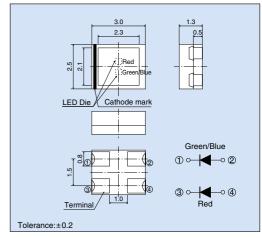
Part No.	Emitting color	Power dissipation Pp (mW)	Forward forward current lF (mA)		Reverse voltage V <sub>R</sub> (V)	Operating temperature Topr (°C)	Storage temperature T <sub>stg</sub> (°C)	
SML-020MVT	Green (Yellowish Green)	60	25	60*1	4	-30 to +85	-40 to +85	
SML022BUT	Blue Red	120 75	30	80 <sup>*2</sup>	5	-30 10 +65	-40 to +100	

<sup>\*1:</sup> Duty ≤ 1/5, pulse width ≤ 1 ms. \*2: Duty ≤ 1/10, 1kHz.

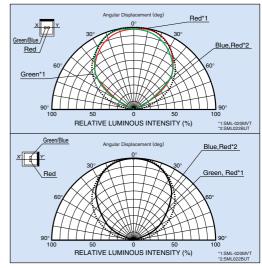
## ■Electrical Optical Characteristics (Ta=25°C)

Part No.	Resin Color	volt	ward age /F	cur	rerse rent	Lig Dominant λD	jht wa Peak l		,	Brightness Iv			
		Typ.	IF (mA)	Max. (μA)	VR (V)	Typ. (nm)	Typ. (nm)	Typ. (nm)	lF (mA)	Min. (mcd)	Typ. (mcd)	IF (mA)	
	Transparent	2.2			4	—	570	40		9.0	20		
	Colorless	2.0	20	100	4	_	650	40	00	3.6	6.3	00	
SML022BUT	Transparent	3.2	20	100	5	470	_	_	20	56	140	20	
SIVILUZZBUT	Colorless	2.0			3	624	_	_		90	220		

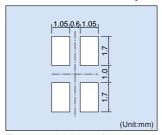
#### ■Dimensions (Unit:mm)



# ■ Directivity (Typ.)

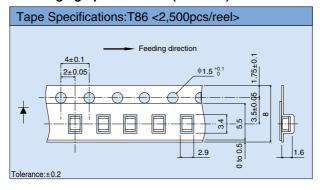


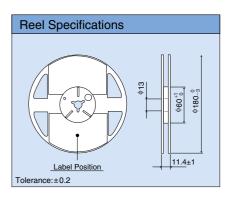
#### ■ Recommended Pad Layout



The recommended thickness of the screen mask for soldering is between 100 and 150µm. The hole size of the screen mask should be same as the recommended land pattern or smaller.

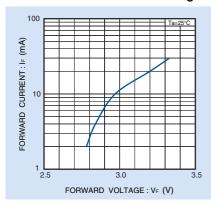
# ■ Packaging Specifications (Unit:mm)

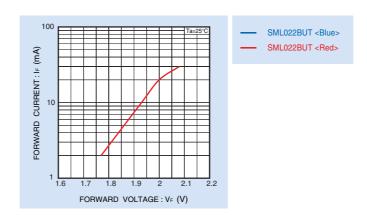




#### **■**Electrical Characteristic Curves

#### **Forward Current - Forward Voltage**





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# Relative Luminous Intensity - Case Temperature

-20-10 0 10 20 30 40 50 60 70 80

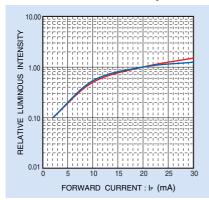
CASE TEMPERATURE : Tc (°C)

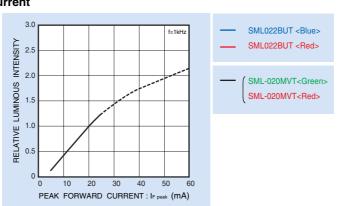
SML022BUT <Blue>

SML022BUT <Red>

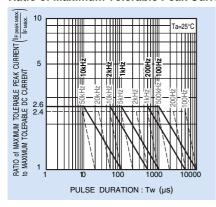
SML-020MVT<Red>
SML-020MVT<Green>

#### **Relative Luminous Intensity - Forward Current**





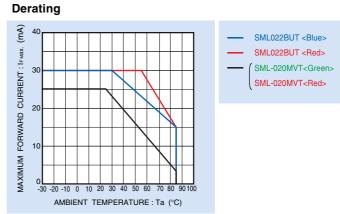
#### **Ratio of Maximum Tolerable Peak Current - Pulse Duration**





SML-020MVT<Red>

SML-020MVT<Green>



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