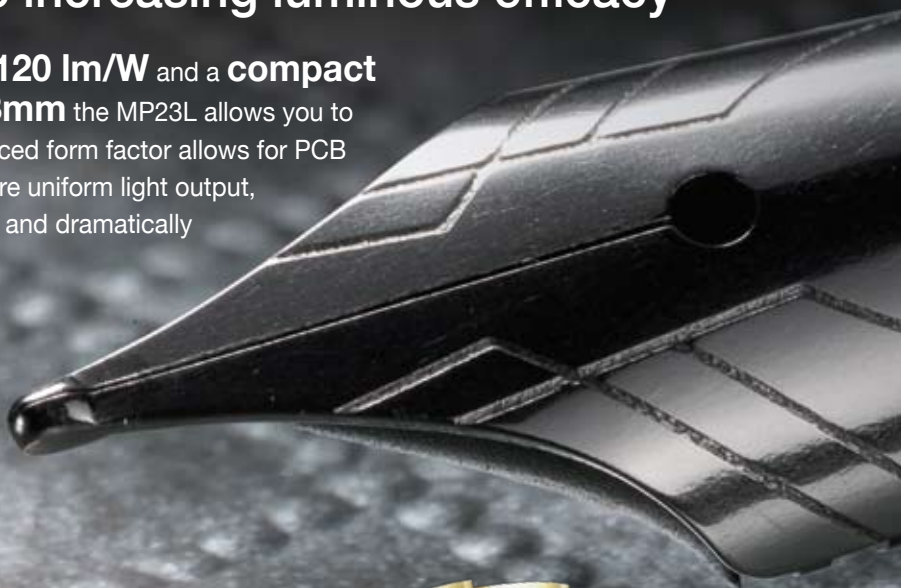
Samsung LED Lighting

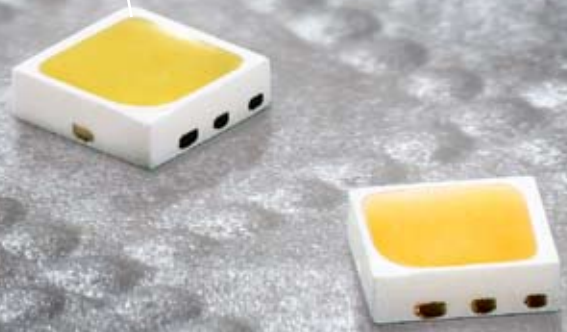
www.samsungLED.com

Great Things Come in Small Packages

Reduce system cost while increasing luminous efficacy

With a luminous efficacy of **120 lm/W** and a **compact size of 2.3mm x 2.3mm** the MP23L allows you to do more with less! The reduced form factor allows for PCB optimization-resulting in more uniform light output, reduced overall system cost and dramatically improved heat dissipation.





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MP23L

What is LM80?

IES LM-80-2008, is the industry standard that defines the method for testing LED Packages to determine their lumen depreciation characteristics. This test data now enables LED luminaire and lamp manufacturers to satisfy ENERGY STAR® lumen maintenance requirements and lessens the qualification time for ENERGY STAR.

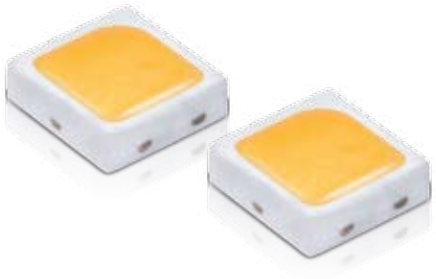
SAMSUNG LED

MP23L

I SPMWHT221MD5

2.3 mm

SAMSUNG LED



Absolute Maximum Ratings

Ts = 25℃

Item	I_F (mA)	I_{FP} (mA)	T_{Stg} (℃)	T_{Opr} (℃)
Value	150	300	-40 ~ 100	-30 ~ 85

Electrical Characteristics

Ts = 25℃

Item	Symbol	Condition	Rank	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F =65mA	W0	2.8	-	3.3	V
Reverse Voltage	V_R	I_F = 5mA	-	0.7	-	1.2	
Color Rendering	R_a	I_F = 65mA	5	80	-	-	

Chromaticity Coordinate

Color Rank	CCT	CCx				CCy			
P	6500K	0.3093	0.3231	0.3196	0.3005	0.2993	0.3120	0.3602	0.3415
Q	5700K	0.3231	0.3361	0.3381	0.3196	0.3120	0.3245	0.3762	0.3602
R	5000K	0.3361	0.3495	0.3571	0.3381	0.3245	0.3339	0.3907	0.3762
S	4500K	0.3495	0.3640	0.3771	0.3571	0.3339	0.3440	0.4034	0.3907
T	4000K	0.3670	0.3898	0.4006	0.3736	0.3578	0.3716	0.4044	0.3874
U	3500K	0.3889	0.4147	0.4299	0.3996	0.3690	0.3814	0.4165	0.4015
V	3000K	0.4147	0.4373	0.4562	0.4299	0.3814	0.3893	0.4260	0.4165
W	2700K	0.4373	0.4593	0.4813	0.4562	0.3893	0.3944	0.4319	0.4260

Product List

Ts = 25℃

Part Number	Dimension (mm)	Intensity Rank	Luminous Flux			Condition	CRI	Viewing Angle
			Min(lm)	Typ(lm)	Max(lm)			
SPMWHT221MD5	2.3 x 2.3 x 0.7t	S0	21	24	30	65mA	Min.80	120°

[5,000K]

NEW **MP23L CRI 90+** Available soon!

LM-80 Test Result

LED Package : Samsung MP23L

Introduction

I. The LM80 test was performed at an accredited lab. II. This is not a full LM80 report. III. Full LM80 summary report available upon request.

Test Results

Current (mA)	Ts (℃)	Ta (℃)	Average lumen maintence at 6000hrs	Maximum chromaticity shift (Δu'v') at 6000hrs
50	55	55	98.9%	0.0018
	85	85	96.8%	0.0020
	105	105	89.5%	0.0019
100	55	55	98.4%	0.0038
	85	85	91.6%	0.0023
	105	105	81.3%	0.0027

ENERGY STAR Application

The measured in situ TMPLED temperature may not exceed the below value to meet the ENERGY STAR requirements.

Category	At or below 50mA	At or below 100mA
Indoor luminaries (≥91.8%)	≤ 98.6 ℃	≤ 83.8 ℃
Outdoor/Commercial luminaries (≥94.1%)	≤ 92.3 ℃	≤ 73.9 ℃

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