

Face Length	MM	20.2
Face Width	MM	10.0
Height	MM	6.2
Pin Spacing	MM	2.5
Row Spacing	MM	7.6
No. of pins	Pins	16

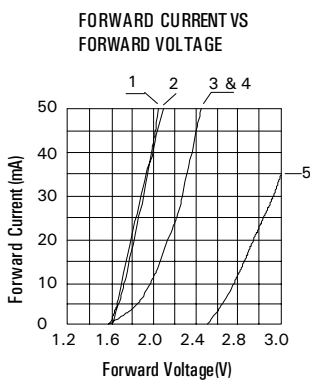
KLLB1020X

1 - 16
2 + 15
3 + 14
4 - 13
5 - 12
6 + 11
7 + 10
8 - 9

Note : All Dimensions are in mm
Tolerance ± 0.2 mm

PART NO.			KLLB1020 I	KLLB1020 SR	KLLB1020 G	KLLB1020 SG	KLLB1020 SY	KLLB1020 SA	KLLB1020 UR	KLLB1020 SO	KLLB1020 B/UB	KLLB1020 BG	KLLB1020 UG	KLLB1020 W
OPERATING CHARACTERISTICS AT 25°C (Bigger Display may have more than one LED chip per segment)		UNITS	IRE D I	SUPER RED SR	GREEN G	SUPER GREEN SG	SUPER YELLOW SY	SUPER AMBER SA	ULTRA RED UR	SUPER ORANGE SO	BLUE B/UB	BLUE GREEN BG	ULTRA GREEN UG	WHITE W
Semiconductor Composition			AlGaAs		GaP/AlInGaP		AllnGaP			SiC / GalnN				
Forward Voltage - Typical @ 10mA	V	V _F	2.10	1.90	2.20	2.20	2.10	2.10	1.90	1.90	3.50	3.50	3.50	3.50
Forward Voltage - Maximum @ 20 mA	V	V _{FM}	2.40	2.10	2.60	2.40	2.40	2.40	2.10	2.40	4.50	4.50	4.50	4.50
Reverse Current @ V _R = 5V	μA	I _R	100	100	100	100	100	100	100	100	100	100	100	100
Peak Emission Wavelength	nm	λ _p	630	660	568	568	590	610	645	620	470	502	525	---
Emission Wavelength Half Width	nm	Δλ	35	20	30	15	15	15	20	20	25	30	35	---
Luminous Intensity per Segment	μcd	I _v	3500	6000	4000	6000	7000	7500	13000	13000	6000	7000	17000	---
ABSOLUTE MAXIMUM RATINGS AT 25°C														
Reverse Voltage	V	V _R	5	5	5	5	5	5	5	5	5	5	5	5
Forward Current (avg)	mA	I _F	20	20	20	20	20	20	20	20	20	20	20	20
Peak Forward Current (T<1μs)	mA	I _{FS}	80	80	80	80	80	80	80	80	80	80	80	80
Operating / Storage Temperature Range			-10° C to + 85° C											
Lead Soldering Temperature			< 260° C for 5 Seconds											
Series Resistor to be used per segment			: 300 Ohms @ 5V Supply (OR) 50 to 100 Ohms @ 3V Supply											

ELECTRICAL CHARACTERISTIC CURVES

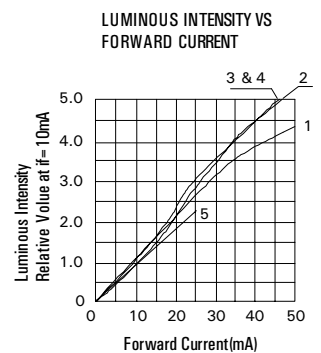
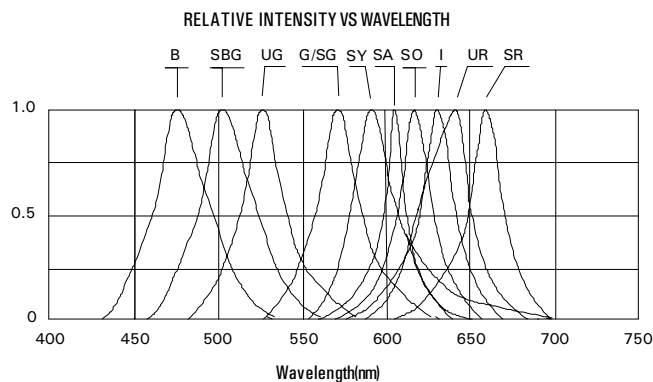


1. AlGaAs : I, SR

2. GaP : G

3 & 4. AllnGaP : SG, SY, SA, UR, SO

5. GalnN : B, BG, UG, W



Face Length	MM	10.0
Face Width	MM	10.0
Height	MM	6.2
Pin Spacing	MM	2.5
Row Spacing	MM	7.6
No. of pins	Pins	8
Seg. V _f @10mA	Volts	2.0

KLLB 1513X

Note : All Dimensions are in mm Tolerance ± 0.2 mm

PART NO.	KLLB1513 I SR G SG SY SA UR SO B SBG UG W															
	UNITS		SYMBOL		IRE D	SUPER RED SR	GREEN G	SUPER GREEN SG	SUPER YELLOW SY	SUPER AMBER SA	ULTRA RED UR	SUPER ORANGE SO	BLUE B	BLUE GREEN SBG	ULTRA GREEN UG	WHITE W
Semiconductor Composition					AlGaAs		GaP/AlInGaP		AlInGaP			SiC / AlGaN				
Forward Voltage - Typical @ 10mA			V	V _F	2.10	1.90	2.20	2.20	2.10	2.10	1.90	1.90	3.50	3.50	3.50	3.50
Forward Voltage - Maximum @ 20 mA			V	V _{FM}	2.40	2.10	2.60	2.40	2.40	2.40	2.10	2.40	4.50	4.50	4.50	4.50
Reverse Current @ V _R = 5V			μA	I _R	100	100	100	100	100	100	100	100	100	100	100	100
Peak Emission Wavelength			nm	λ _P	630	660	568	568	590	610	645	620	470	502	525	---
Emission Wavelength Half Width			nm	Δλ	35	20	30	15	15	15	20	20	25	30	35	---
Luminous Intensity per Segment			μcd	I _V	3500	6000	4000	6000	7000	7500	13000	13000	6000	7000	17000	---
ABSOLUTE MAXIMUM RATINGS AT 25°C																
Reverse Voltage			V	V _R	5	5	5	5	5	5	5	5	5	5	5	5
Forward Current (avg)			mA	I _F	20	20	20	20	20	20	20	20	20	20	20	20
Peak Forward Current (T<1μs)			mA	I _{FS}	80	80	80	80	80	80	80	80	80	80	80	80
Operating / Storage Temperature Range			-40° C to + 85° C													
Lead Soldering Temperature			< 260° C for 5 Seconds													
Series Resistor to be used per segment : 300 Ohms @ 5V Supply (OR) 50 to 100 Ohms @ 3V Supply																

ELECTRICAL CHARACTERISTIC CURVES

