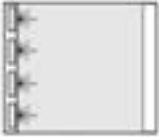


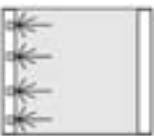




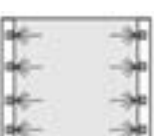


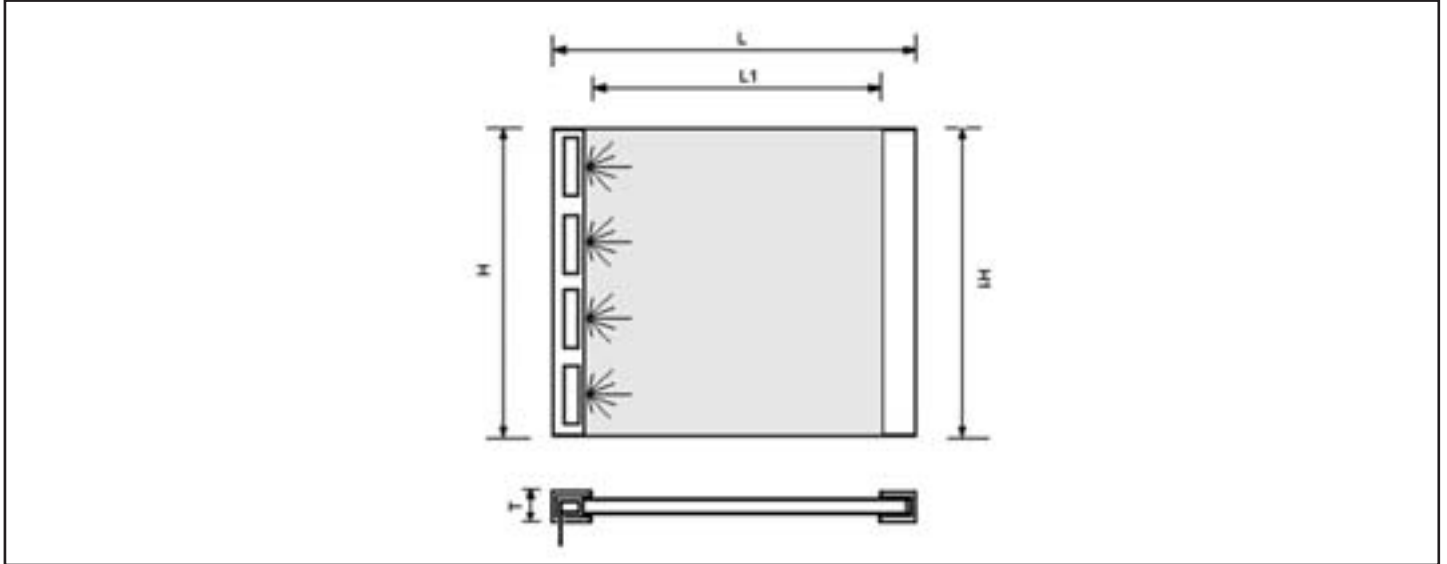


Package Outline Drawing	Part No.	No. of LEDs	Color (nm)	Module Dimensions mm.	Version	Page No.
	KL1H	1 to 5	430 to 700	Min 10,16 x 10,16 Max 120 x 55	7,62 PTH standard type	10
	KL1A	1 to 10	430 to 700	Min 10,16 x 10,16 Max 120 x 55	7,62 PTH standard type	12
	KL2W	2 to 10	430 to 700	Min 10,16 x 10,16 Max 120 x 55	7,62 PTH double light type	14
	KH1H	1 to 5	430 to 700	Min 10,16 x 10,16 Max 120 x 55	2,54 PTH standard type	16
	KH1A	1 to 10	430 to 700	Min 10,16 x 10,16 Max 120 x 55	2,54 PTH standard type	18
	KH2W	2 to 10	430 to 700	Min 10,16 x 10,16 Max 120 x 55	2,54 PTH double light type	20
	KPT1H	1 to 5	430 to 700	Min 10,16 x 10,16 Max 120 x 55	SMD standard type	22
	KPT1A	1 to 5	430 to 700	Min 10,16 x 10,16 Max 120 x 55	SMD standard type	24
	KPT2W	2 to 10	430 to 700	Min 10,16 x 10,16 Max 120 x 55	SMD double light type	26
	KPC1H	1 to 5	430 to 700	Min 10,16 x 10,16 Max 120 x 55	Cable standard type	28
	KPC1A	1 to 10	430 to 700	Min 10,16 x 10,16 Max 120 x 55	Cable standard type	30

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
- ▶ Low Power Consumption
- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KL1H-003-U	42,4x50,8x4,1	30,48 x 50,80	BLUE	470	170	5	3,5	4,0	20	page 8
KL1H-003-G	42,4x50,8x4,1	30,48 x 50,80	GREEN	568	165	5	4,4	5,2	20	page 8
KL1H-003-Y	42,4x50,8x4,1	30,48 x 50,80	YELLOW	587	143	5	4,0	5,2	20	page 8
KL1H-006-U	52,6x50,8x4,1	40,64 X 50,80	BLUE	470	154	5	3,5	4,0	20	page 8
KL1H-006-G	52,6x50,8x4,1	40,64 X 50,80	GREEN	568	161	5	4,4	5,2	20	page 8
KL1H-006-Y	52,6x50,8x4,1	40,64 X 50,80	YELLOW	587	129	5	4,0	5,2	20	page 8
KL1H-009-U	62,8x50,8x4,1	50,80 x 50,80	BLUE	470	140	5	3,5	4,0	20	page 8
KL1H-009-G	62,8x50,8x4,1	50,80 x 50,80	GREEN	568	125	5	4,4	5,2	20	page 8
KL1H-009-Y	62,8x50,8x4,1	50,80 x 50,80	YELLOW	587	118	5	4,0	5,2	20	page 8
KL1H-012-U	72,9x50,8x4,1	60,96 x 50,80	BLUE	470	128	5	3,5	4,0	20	page 8
KL1H-012-G	72,9x50,8x4,1	60,96 x 50,80	GREEN	568	117	5	4,4	5,2	20	page 8
KL1H-012-Y	72,9x50,8x4,1	60,96 x 50,80	YELLOW	587	108	5	4,0	5,2	20	page 8
KL1H-015-U	83,1x50,8x4,1	71,12 x 50,80	BLUE	470	117	5	3,5	4,0	20	page 8
KL1H-015-G	83,1x50,8x4,1	71,12 x 50,80	GREEN	568	106	5	4,4	5,2	20	page 8
KL1H-015-Y	83,1x50,8x4,1	71,12 x 50,80	YELLOW	587	100	5	4,0	5,2	20	page 8
KL1H-018-U	93,2x50,8x4,1	81,28 x 50,80	BLUE	470	108	5	3,5	4,0	20	page 8
KL1H-018-G	93,2x50,8x4,1	81,28 x 50,80	GREEN	568	98	5	4,4	5,2	20	page 8
KL1H-018-Y	93,2x50,8x4,1	81,28 x 50,80	YELLOW	587	93	5	4,0	5,2	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KL1H-021-U	103,4x50,8x4,1	91,44 x 50,80	BLUE	470	96	5	3,5 4,0	20	page 8
KL1H-021-G	103,4x50,8x4,1	91,44 x 50,80	GREEN	568	98	5	4,4 5,2	20	page 8
KL1H-021-Y	103,4x50,8x4,1	91,44 x 50,80	YELLOW	587	83	5	4,0 5,2	20	page 8
KL1H-024-U	113,6x50,8x4,1	101,6 x 50,80	BLUE	470	94	5	3,5 4,0	20	page 8
KL1H-024-G	113,6x50,8x4,1	101,6 x 50,80	GREEN	568	93	5	4,4 5,2	20	page 8
KL1H-024-Y	113,6x50,8x4,1	101,6 x 50,80	YELLOW	587	81	5	4,0 5,2	20	page 8
KL1H-027-U	123,7x50,8x4,1	111,76 x 50,80	BLUE	470	89	5	3,5 4,0	20	page 8
KL1H-027-G	123,7x50,8x4,1	111,76 x 50,80	GREEN	568	91	5	4,4 5,2	20	page 8
KL1H-027-Y	123,7x50,8x4,1	111,76 x 50,80	YELLOW	587	77	5	4,0 5,2	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 ° C to +125 ° C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

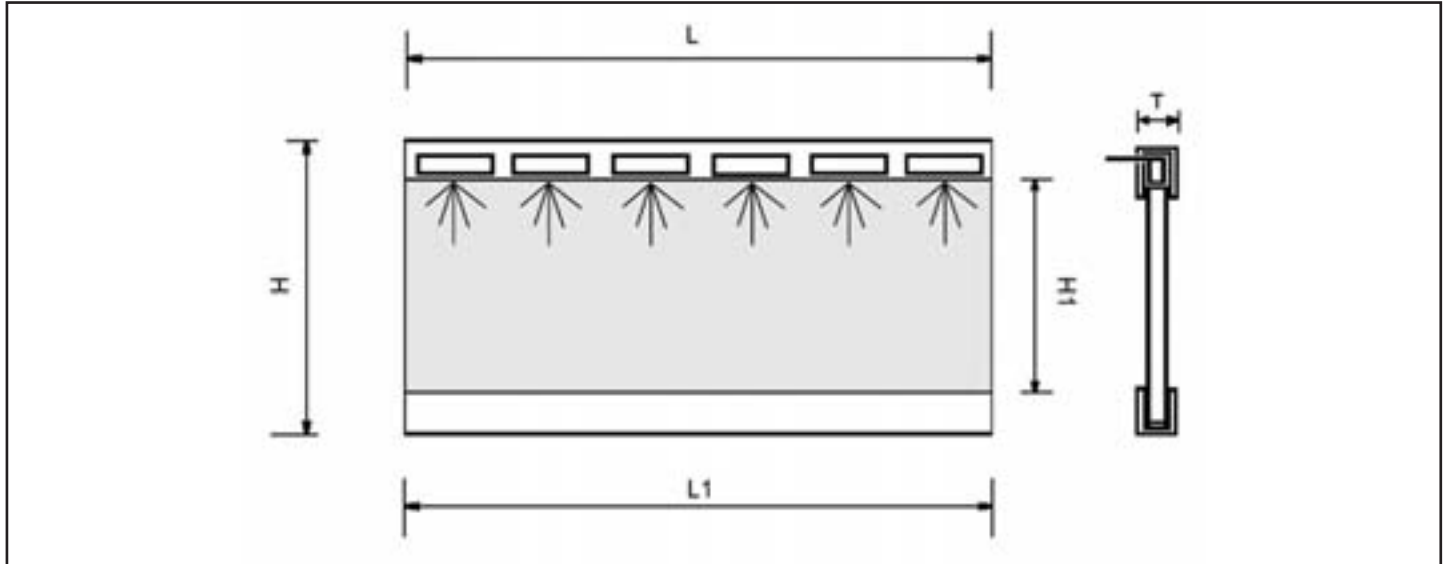
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

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**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KL1A-003-U	30,4x62,8x4,1	30,48 X 50,80	BLUE 470	192	2	3,5	4,0	20	page 8
KL1A-003-G	30,4x62,8x4,1	30,48 X 50,80	GREEN 568	191	2	4,4	5,2	20	page 8
KL1A-003-Y	30,4x62,8x4,1	30,48 X 50,80	YELLOW 587	183	2	4,0	5,2	20	page 8
KL1A-006-U	40,6x62,8x4,1	40,64 X 50,80	BLUE 470	192	3	3,5	4,0	20	page 8
KL1A-006-G	40,6x62,8x4,1	40,64 X 50,80	GREEN 568	191	3	4,4	5,2	20	page 8
KL1A-006-Y	40,6x62,8x4,1	40,64 X 50,80	YELLOW 587	183	3	4,0	5,2	20	page 8
KL1A-009-U	50,8x42,4x4,1	50,80 X 30,48	BLUE 470	217	4	3,5	4,0	20	page 8
KL1A-009-G	50,8x42,4x4,1	50,80 X 30,48	GREEN 568	203	4	4,4	5,2	20	page 8
KL1A-009-Y	50,8x42,4x4,1	50,80 X 30,48	YELLOW 587	207	4	4,0	5,2	20	page 8
KL1A-012-U	50,8x52,6x4,1	50,80 X 40,64	BLUE 470	200	4	3,5	4,0	20	page 8
KL1A-012-G	50,8x52,6x4,1	50,80 X 40,64	GREEN 568	203	4	4,4	5,2	20	page 8
KL1A-012-Y	50,8x52,6x4,1	50,80 X 40,64	YELLOW 587	191	4	4,0	5,2	20	page 8
KL1A-015-U	50,8x62,8x4,1	50,80 X 50,80	BLUE 470	192	4	3,5	4,0	20	page 8
KL1A-015-G	50,8x62,8x4,1	50,80 X 50,80	GREEN 568	196	4	4,4	5,2	20	page 8
KL1A-015-Y	50,8x62,8x4,1	50,80 X 50,80	YELLOW 587	183	4	4,0	5,2	20	page 8
KL1A-018-U	60,9x42,4x4,1	60,96 X 30,48	BLUE 470	217	5	3,5	4,0	20	page 8
KL1A-018-G	60,9x42,4x4,1	60,96 X 30,48	GREEN 568	196	5	4,4	5,2	20	page 8
KL1A-018-Y	60,9x42,4x4,1	60,96 X 30,48	YELLOW 587	207	5	4,0	5,2	20	page 8
KL1A-021-U	60,9x52,6x4,1	60,96 X 40,64	BLUE 470	200	5	3,5	4,0	20	page 8
KL1A-021-G	60,9x52,6x4,1	60,96 X 40,64	GREEN 568	195	5	4,4	5,2	20	page 8
KL1A-021-Y	60,9x52,6x4,1	60,96 X 40,64	YELLOW 587	191	5	4,0	5,2	20	page 8
KL1A-024-U	60,9x62,8x4,1	60,96 X 50,80	BLUE 470	192	5	3,5	4,0	20	page 8
KL1A-024-G	60,9x62,8x4,1	60,96 X 50,80	GREEN 568	195	5	4,4	5,2	20	page 8
KL1A-024-Y	60,9x62,8x4,1	60,96 X 50,80	YELLOW 587	183	5	4,0	5,2	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KL1A-027-U	71,1x42,4x4,1	71,12 X 30,48	BLUE	470	217	6	3,5 4,0	20	page 8
KL1A-027-G	71,1x42,4x4,1	71,12 X 30,48	GREEN	568	212	6	4,4 5,2	20	page 8
KL1A-027-Y	71,1x42,4x4,1	71,12 X 30,48	YELLOW	587	207	6	4,0 5,2	20	page 8
KL1A-030-U	71,1x52,6x4,1	71,12 X 40,64	BLUE	470	200	6	3,5 4,0	20	page 8
KL1A-030-G	71,1x52,6x4,1	71,12 X 40,64	GREEN	568	206	6	4,4 5,2	20	page 8
KL1A-030-Y	71,1x52,6x4,1	71,12 X 40,64	YELLOW	587	191	6	4,0 5,2	20	page 8
KL1A-033-U	71,1x62,8x4,1	71,12 X 50,80	BLUE	470	192	6	3,5 4,0	20	page 8
KL1A-033-G	71,1x62,8x4,1	71,12 X 50,80	GREEN	568	206	6	4,4 5,2	20	page 8
KL1A-033-Y	71,1x62,8x4,1	71,12 X 50,80	YELLOW	587	183	6	4,0 5,2	20	page 8
KL1A-036-U	81,2x42,4x4,1	81,28 X 30,48	BLUE	470	217	7	3,5 4,0	20	page 8
KL1A-036-G	81,2x42,4x4,1	81,28 X 30,48	GREEN	568	212	7	4,4 5,2	20	page 8
KL1A-036-Y	81,2x42,4x4,1	81,28 X 30,48	YELLOW	587	207	7	4,0 5,2	20	page 8
KL1A-039-U	81,2x52,6x4,1	81,28 X 40,64	BLUE	470	200	7	3,5 4,0	20	page 8
KL1A-039-G	81,2x52,6x4,1	81,28 X 40,64	GREEN	568	206	7	4,4 5,2	20	page 8
KL1A-039-Y	81,2x52,6x4,1	81,28 X 40,64	YELLOW	587	191	7	4,0 5,2	20	page 8
KL1A-042-U	81,2x62,8x4,1	81,28 X 50,80	BLUE	470	192	7	3,5 4,0	20	page 8
KL1A-042-G	81,2x62,8x4,1	81,28 X 50,80	GREEN	568	206	7	4,4 5,2	20	page 8
KL1A-042-Y	81,2x62,8x4,1	81,28 X 50,80	YELLOW	587	183	7	4,0 5,2	20	page 8
KL1A-045-U	91,4x42,4x4,1	91,44 X 30,48	BLUE	470	217	8	3,5 4,0	20	page 8
KL1A-045-G	91,4x42,4x4,1	91,44 X 30,48	GREEN	568	206	8	4,4 5,2	20	page 8
KL1A-045-Y	91,4x42,4x4,1	91,44 X 30,48	YELLOW	587	207	8	4,0 5,2	20	page 8
KL1A-048-U	91,4x52,6x4,1	91,44 X 40,64	BLUE	470	200	8	3,5 4,0	20	page 8
KL1A-048-G	91,4x52,6x4,1	91,44 X 40,64	GREEN	568	206	8	4,4 5,2	20	page 8
KL1A-048-Y	91,4 x 52,6x4,1	91,44 X 40,64	YELLOW	587	191	8	4,0 5,2	20	page 8
KL1A-051-U	91,4 x 62,8x4,1	91,44 X 50,80	BLUE	470	192	8	3,5 4,0	20	page 8
KL1A-051-G	91,4 x 62,8x4,1	91,44 X 50,80	GREEN	568	203	8	4,4 5,2	20	page 8
KL1A-051-Y	91,4 x 62,8x4,1	91,44 X 50,80	YELLOW	587	183	8	4,0 5,2	20	page 8
KL1A-055-U	101,6x42,4x4,1	101,6 X 30,48	BLUE	470	217	9	3,5 4,0	20	page 8
KL1A-054-G	101,6x42,4x4,1	101,6 X 30,48	GREEN	568	203	9	4,4 5,2	20	page 8
KL1A-054-Y	101,6x42,4x4,1	101,6 X 30,48	YELLOW	587	207	9	4,0 5,2	20	page 8
KL1A-057-U	101,6x52,6x4,1	101,6 X 40,64	BLUE	470	200	9	3,5 4,0	20	page 8
KL1A-057-G	101,6x52,6x4,1	101,6 X 40,64	GREEN	568	203	9	4,4 5,2	20	page 8
KL1A-057-Y	101,6x52,6x4,1	101,6 X 40,64	YELLOW	587	191	9	4,0 5,2	20	page 8
KL1A-060-U	101,6x62,8x4,1	101,6 X 50,80	BLUE	470	192	9	3,5 4,0	20	page 8
KL1A-060-G	101,6x62,8x4,1	101,6 X 50,80	GREEN	568	203	9	4,4 5,2	20	page 8
KL1A-060-Y	101,6x62,8x4,1	101,6 X 50,80	YELLOW	587	183	9	4,0 5,2	20	page 8
KL1A-063-U	111,7x42,4x4,1	111,76 X 30,48	BLUE	470	217	9	3,5 4,0	20	page 8
KL1A-063-G	111,7x42,4x4,1	111,76 X 30,48	GREEN	568	203	10	4,4 5,2	20	page 8
KL1A-063-Y	111,7x42,4x4,1	111,76 X 30,48	YELLOW	587	207	10	4,0 5,2	20	page 8
KL1A-066-U	111,7x52,6x4,1	111,76 X 40,64	BLUE	470	200	10	3,5 4,0	20	page 8
KL1A-066-G	111,7x52,6x4,1	111,76 X 40,64	GREEN	568	203	10	4,4 5,2	20	page 8
KL1A-066-Y	111,7x52,6x4,1	111,76 X 40,64	YELLOW	587	191	10	4,0 5,2	20	page 8
KL1A-069-U	111,7x62,8x4,1	111,76 X 50,80	BLUE	470	192	10	3,5 4,0	20	page 8
KL1A-069-G	111,7x62,8x4,1	111,76 X 50,80	GREEN	568	203	10	4,4 5,2	20	page 8
KL1A-069-Y	111,7x62,8x4,1	111,76 X 50,80	YELLOW	587	183	10	4,0 5,2	20	page 8

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- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
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  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

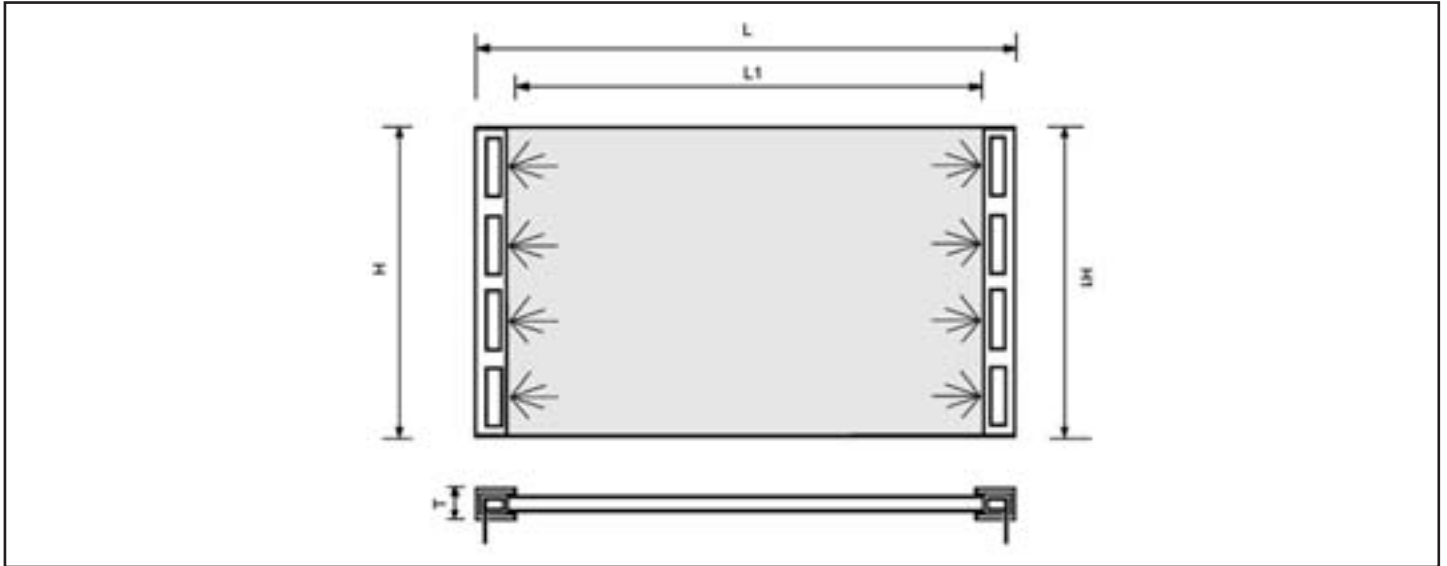
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
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**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KL2W-003-U	42,4x40,6x4,1	30,48 x 40,64	BLUE	470	205	8	3,5	4,0	20	page 8
KL2W-003-G	42,4x40,6x4,1	30,48 x 40,64	GREEN	568	196	8	4,4	5,2	20	page 8
KL2W-003-Y	42,4x40,6x4,1	30,48 x 40,64	YELLOW	587	172	8	4,0	5,2	20	page 8
KL2W-006-U	52,6x40,6x4,1	40,64 x 40,64	BLUE	470	191	8	3,5	4,0	20	page 8
KL2W-006-G	52,6x40,6x4,1	40,64 x 40,64	GREEN	568	191	8	4,4	5,2	20	page 8
KL2W-006-Y	52,6x40,6x4,1	40,64 x 40,64	YELLOW	587	159	8	4,0	5,2	20	page 8
KL2W-009-U	62,8x40,6x4,1	50,80 x 40,64	BLUE	470	181	8	3,5	4,0	20	page 8
KL2W-009-G	62,8x40,6x4,1	50,80 x 40,64	GREEN	568	183	8	4,4	5,2	20	page 8
KL2W-009-Y	62,8x40,6x4,1	50,80 x 40,64	YELLOW	587	150	8	4,0	5,2	20	page 8
KL2W-012-U	72,9x40,6x4,1	60,96 x 40,64	BLUE	470	173	8	3,5	4,0	20	page 8
KL2W-012-G	72,9x40,6x4,1	60,96 x 40,64	GREEN	568	181	8	4,4	5,2	20	page 8
KL2W-012-Y	72,9x40,6x4,1	60,96 x 40,64	YELLOW	587	143	8	4,0	5,2	20	page 8
KL2W-015-U	83,1x40,6x4,1	71,12 x 40,64	BLUE	470	169	8	3,5	4,0	20	page 8
KL2W-015-G	83,1x40,6x4,1	71,12 x 40,64	GREEN	568	179	8	4,4	5,2	20	page 8
KL2W-015-Y	83,1x40,6x4,1	71,12 x 40,64	YELLOW	587	139	8	4,0	5,2	20	page 8
KL2W-024-U	93,2x40,6x4,1	81,28 x 40,64	BLUE	470	168	8	3,5	4,0	20	page 8
KL2W-024-G	93,2x40,6x4,1	81,28 x 40,64	GREEN	568	173	8	4,4	5,2	20	page 8
KL2W-024-Y	93,2x40,6x4,1	81,28 x 40,64	YELLOW	587	136	8	4,0	5,2	20	page 8
KL2W-027-U	103,4x40,6x4,1	91,44 x 40,64	BLUE	470	168	8	3,5	4,0	20	page 8
KL2W-027-G	103,4x40,6x4,1	91,44 x 40,64	GREEN	568	169	8	4,4	5,2	20	page 8
KL2W-027-Y	103,4x40,6x4,1	91,44 x 40,64	YELLOW	587	121	8	4,0	5,2	20	page 8
KL2W-030-U	113,6x40,6x4,1	101,6 x 40,64	BLUE	470	175	8	3,5	4,0	20	page 8
KL2W-030-G	113,6x40,6x4,1	101,6 x 40,64	GREEN	568	173	8	4,4	5,2	20	page 8
KL2W-030-Y	113,6x40,6x4,1	101,6 x 40,64	YELLOW	587	141	8	4,0	5,2	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KL2W-033-U	123,7x40,6x4,1	111,76 x 40,64	BLUE	470	185	8	3,5 4,0	20	page 8
KL2W-033-G	123,7x40,6x4,1	111,76 x 40,64	GREEN	568	173	8	4,4 5,2	20	page 8
KL2W-033-Y	123,7x40,6x4,1	111,76 x 40,64	YELLOW	587	148	8	4,0 5,2	20	page 8
KL2W-036-U	42,4x50,8x4,1	30,48 x 50,80	BLUE	470	205	10	3,5 4,0	20	page 8
KL2W-036-G	42,4x50,8x4,1	30,48 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-036-Y	42,4x50,8x4,1	30,48 x 50,80	YELLOW	587	172	10	4,0 5,2	20	page 8
KL2W-045-U	52,6x50,8x4,1	40,64 x 50,80	BLUE	470	191	10	3,5 4,0	20	page 8
KL2W-045-G	52,6x50,8x4,1	40,64 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-045-Y	52,6x50,8x4,1	40,64 x 50,80	YELLOW	587	159	10	4,0 5,2	20	page 8
KL2W-048-U	62,8x50,8x4,1	50,80 x 50,80	BLUE	470	181	10	3,5 4,0	20	page 8
KL2W-048-G	62,8x50,8x4,1	50,80 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-048-Y	62,8x50,8x4,1	50,80 x 50,80	YELLOW	587	150	10	4,0 5,2	20	page 8
KL2W-051-U	72,9x50,8x4,1	60,96 x 50,80	BLUE	470	173	10	3,5 4,0	20	page 8
KL2W-051-G	72,9x50,8x4,1	60,96 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-051-Y	72,9x50,8x4,1	60,96 x 50,80	YELLOW	587	143	10	4,0 5,2	20	page 8
KL2W-054-U	83,1x50,8x4,1	71,12 x 50,80	BLUE	470	169	10	3,5 4,0	20	page 8
KL2W-054-G	83,1x50,8x4,1	71,12 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-054-Y	83,1x50,8x4,1	71,12 x 50,80	YELLOW	587	139	10	4,0 5,2	20	page 8
KL2W-057-U	93,2x50,8x4,1	81,28 x 50,80	BLUE	470	168	10	3,5 4,0	20	page 8
KL2W-057-G	93,2x50,8x4,1	81,28 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-057-Y	93,2x50,8x4,1	81,28 x 50,80	YELLOW	587	136	10	4,0 5,2	20	page 8
KL2W-060-U	103,4x50,8x4,1	91,44 x 50,80	BLUE	470	169	10	3,5 4,0	20	page 8
KL2W-060-G	103,4x50,8x4,1	91,44 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-060-Y	103,4x50,8x4,1	91,44 x 50,80	YELLOW	587	121	10	4,0 5,2	20	page 8
KL2W-063-U	113,6x50,8x4,1	101,60 x 50,80	BLUE	470	175	10	3,5 4,0	20	page 8
KL2W-063-G	113,6x50,8x4,1	101,60 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-063-Y	113,6x50,8x4,1	101,60 x 50,80	YELLOW	587	141	10	4,0 5,2	20	page 8
KL2W-066-U	123,7x50,8x4,1	111,76 x 50,80	BLUE	470	185	10	3,5 4,0	20	page 8
KL2W-066-G	123,7x50,8x4,1	111,76 x 50,80	GREEN	568	173	10	4,4 5,2	20	page 8
KL2W-066-Y	123,7x50,8x4,1	111,76 x 50,80	YELLOW	587	148	10	4,0 5,2	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

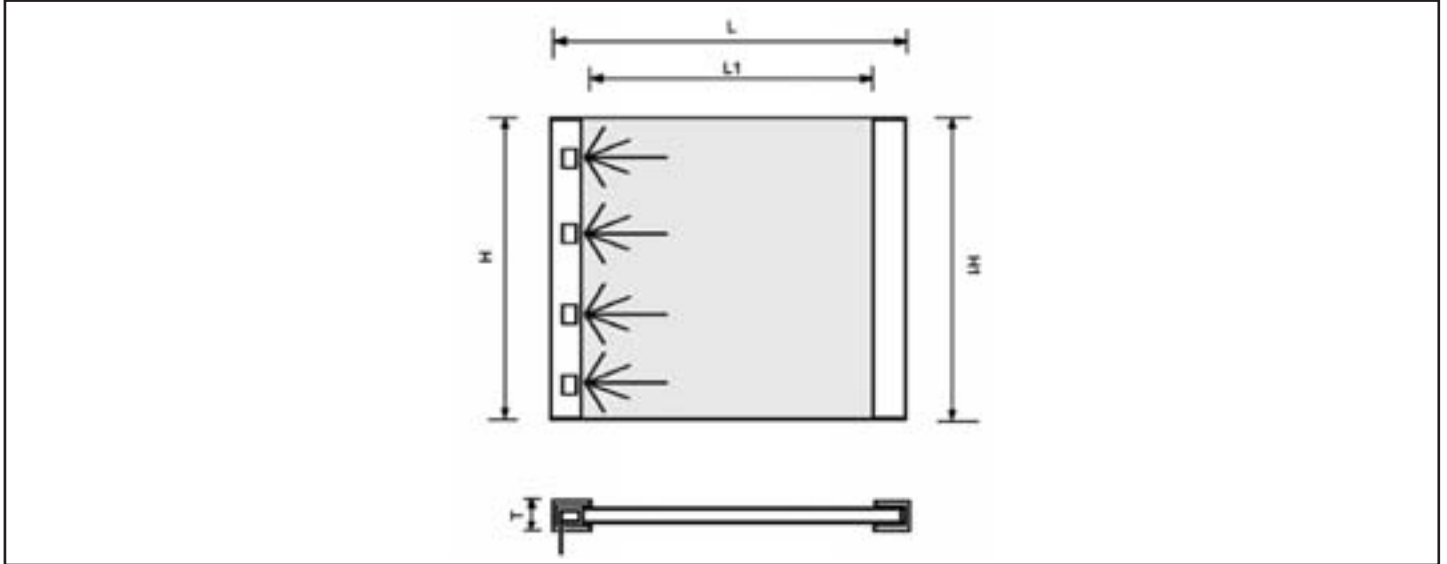
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
- ▶ Low Power Consumption
- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KH1H-003-U	50,4x50,8x5,0	30,48 x 50,80	BLUE 470	42	5	2,5	4,5	20	page 8
KH1H-003-PG	50,4x50,8x5,0	30,48 x 50,80	PUREGREEN 525	124	5	2,5	4,5	20	page 8
KH1H-003-W	50,4x50,8x5,0	30,48 x 50,80	WHITE X=0.3 Y=0.3	103	5	2,5	4,5	20	page 8
KH1H-003-A	50,4x50,8x5,0	30,48 x 50,80	AMBER 610	77	5	1,7	2,6	20	page 8
KH1H-003-Y	50,4x50,8x5,0	30,48 x 50,80	YELLOW 590	43	5	1,7	2,6	20	page 8
KH1H-006-U	60,6x50,8x5,0	40,64 x 50,80	BLUE 470	39	5	2,5	4,5	20	page 8
KH1H-006-PG	60,6x50,8x5,0	40,64 x 50,80	PUREGREEN 525	113	5	2,5	4,5	20	page 8
KH1H-006-W	60,6x50,8x5,0	40,64 x 50,80	WHITE X=0.3 Y=0.3	94	5	2,5	4,5	20	page 8
KH1H-006-A	60,6x50,8x5,0	40,64 x 50,80	AMBER 610	70	5	1,7	2,6	20	page 8
KH1H-006-Y	60,6x50,8x5,0	40,64 x 50,80	YELLOW 590	39	5	1,7	2,6	20	page 8
KH1H-009-U	70,8x50,8x5,0	50,80 x 50,80	BLUE 470	35	5	2,5	4,5	20	page 8
KH1H-009-PG	70,8x50,8x5,0	50,80 x 50,80	PUREGREEN 525	102	5	2,5	4,5	20	page 8
KH1H-009-W	70,8x50,8x5,0	50,80 x 50,80	WHITE X=0.3 Y=0.3	86	5	2,5	4,5	20	page 8
KH1H-009-A	70,8x50,8x5,0	50,80 x 50,80	AMBER 610	64	5	1,7	2,6	20	page 8
KH1H-009-Y	70,8x50,8x5,0	50,80 x 50,80	YELLOW 590	35	5	1,7	2,6	20	page 8
KH1H-012-U	80,9x50,8x5,0	60,96 x 50,80	BLUE 470	33	5	2,5	4,5	20	page 8
KH1H-012-PG	80,9x50,8x5,0	60,96 x 50,80	PUREGREEN 525	94	5	2,5	4,5	20	page 8
KH1H-012-W	80,9x50,8x5,0	60,96 x 50,80	WHITE X=0.3 Y=0.3	79	5	2,5	4,5	20	page 8
KH1H-012-A	80,9x50,8x5,0	60,96 x 50,80	AMBER 610	59	5	1,7	2,6	20	page 8
KH1H-012-Y	80,9x50,8x5,0	60,96 x 50,80	YELLOW 590	32	5	1,7	2,6	20	page 8
KH1H-015-U	91,1x50,8x5,0	71,12 x 50,80	BLUE 470	30	5	2,5	4,5	20	page 8
KH1H-015-PG	91,1x50,8x5,0	71,12 x 50,80	PUREGREEN 525	87	5	2,5	4,5	20	page 8
KH1H-015-W	91,1x50,8x5,0	71,12 x 50,80	WHITE X=0.3 Y=0.3	73	5	2,5	4,5	20	page 8
KH1H-015-A	91,1x50,8x5,0	71,12 x 50,80	AMBER 610	55	5	1,7	2,6	20	page 8



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KH1H-015-Y	91,1x50,8x4,1	71,12 x 50,80	YELLOW	590	29	5	1,7	2,6	20	page 8
KH1H-018-U	101,2x50,8x5,0	81,28 x 50,80	BLUE	470	28	5	2,5	4,5	20	page 8
KH1H-018-PG	101,2x50,8x5,0	81,28 x 50,80	PUREGREEN	525	81	5	2,5	4,5	20	page 8
KH1H-018-W	101,2x50,8x5,0	81,28 x 50,80	WHITE	X=0.3 Y=0.3	68	5	2,5	4,5	20	page 8
KH1H-018-A	101,2x50,8x5,0	81,28 x 50,80	AMBER	610	51	5	1,7	2,6	20	page 8
KH1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	YELLOW	590	27	5	1,7	2,6	20	page 8
KH1H-021-U	111,4x50,8x5,0	91,44 x 50,80	BLUE	470	25	5	2,5	4,5	20	page 8
KH1H-021-PG	111,4x50,8x5,0	91,44 x 50,80	PUREGREEN	525	72	5	2,5	4,5	20	page 8
KH1H-021-W	111,4x50,8x5,0	91,44 x 50,80	WHITE	X=0.3 Y=0.3	61	5	2,5	4,5	20	page 8
KH1H-021-A	111,4x50,8x5,0	91,44 x 50,80	AMBER	610	45	5	1,7	2,6	20	page 8
KH1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	YELLOW	590	24	5	1,7	2,6	20	page 8
KH1H-024-U	121,6x50,8x5,0	101,6 x 50,80	BLUE	470	25	5	2,5	4,5	20	page 8
KH1H-024-PG	121,6x50,8x5,0	101,6 x 50,80	PUREGREEN	525	71	5	2,5	4,5	20	page 8
KH1H-024-W	121,6x50,8x5,0	101,6 x 50,80	WHITE	X=0.3 Y=0.3	60	5	2,5	4,5	20	page 8
KH1H-024-A	121,6x50,8x5,0	101,6 x 50,80	AMBER	610	45	5	1,7	2,6	20	page 8
KH1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	YELLOW	590	23	5	1,7	2,6	20	page 8
KH1H-027-U	131,7x50,8x5,0	111,76 x 50,80	BLUE	470	24	5	2,5	4,5	20	page 8
KH1H-027-PG	131,7x50,8x5,0	111,76 x 50,80	PUREGREEN	525	68	5	2,5	4,5	20	page 8
KH1H-027-W	131,7x50,8x5,0	111,76 x 50,80	WHITE	X=0.3 Y=0.3	56	5	2,5	4,5	20	page 8
KH1H-027-A	131,7x50,8x5,0	111,76 x 50,80	AMBER	610	43	5	1,7	2,6	20	page 8
KH1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	YELLOW	590	22	5	1,7	2,6	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 ° C to +125 ° C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

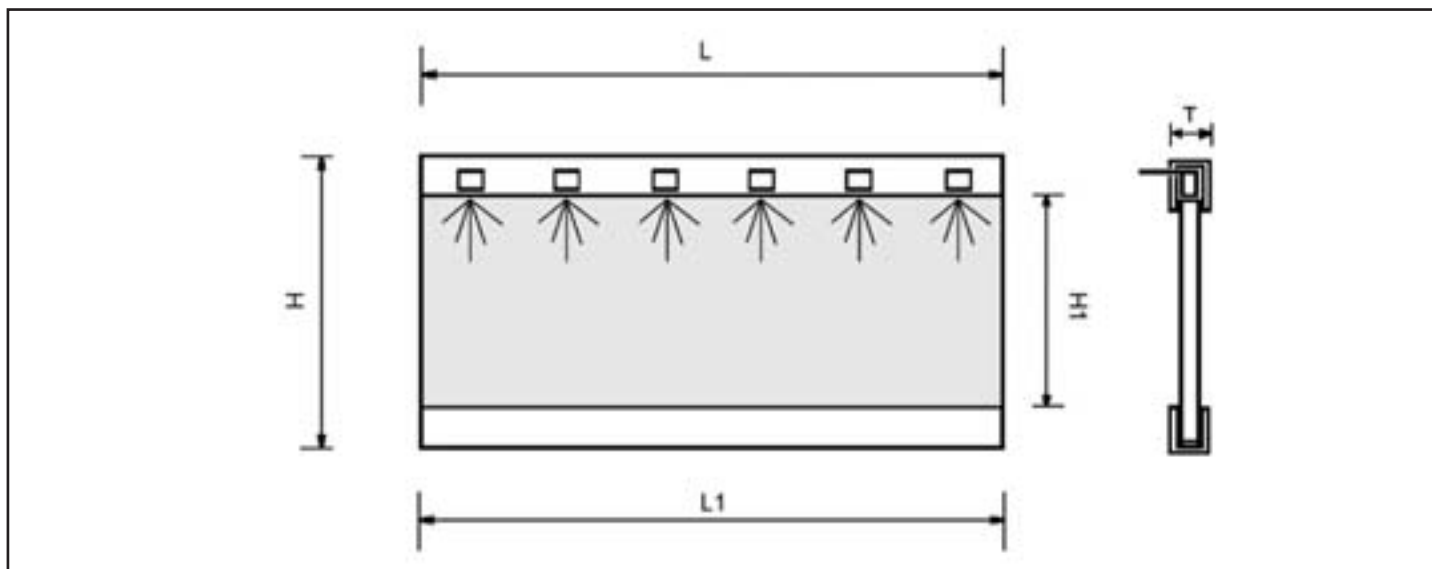
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
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- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KH1A-003-U	50,8X50,4x5,0	50,80 x 30,48	BLUE 470	55	4	2,8	4,5	20	page 8
KH1A-003-PG	50,8X50,4x5,0	50,80 x 30,48	PUREGREEN 525	150	4	2,8	4,5	20	page 8
KH1A-003-W	50,8X50,4x5,0	50,80 x 30,48	WHITE X=0,3 Y=0,3	98	4	2,8	4,5	20	page 8
KH1A-003-A	50,8X50,4x5,0	50,80 x 30,48	AMBER 610	95	4	1,7	2,6	20	page 8
KH1A-003-Y	50,8X50,4x5,0	50,80 x 30,48	YELLOW 590	35	4	1,7	2,6	20	page 8
KH1A-006-U	50,8x60,6x5,0	50,80 x 40,64	BLUE 470	52	4	2,8	4,5	20	page 8
KH1A-006-PG	50,8x60,6x5,0	50,80 x 40,64	PUREGREEN 525	144	4	2,8	4,5	20	page 8
KH1A-006-W	50,8x60,6x5,0	50,80 x 40,64	WHITE X=0,3 Y=0,3	93	4	2,8	4,5	20	page 8
KH1A-006-A	50,8x60,6x5,0	50,80 x 40,64	AMBER 610	92	4	1,7	2,6	20	page 8
KH1A-006-Y	50,8x60,6x5,0	50,80 x 40,64	YELLOW 590	35	4	1,7	2,6	20	page 8
KH1A-009-U	50,8x70,8x5,0	50,80 x 50,80	BLUE 470	52	4	2,8	4,5	20	page 8
KH1A-009-PG	50,8x70,8x5,0	50,80 x 50,80	PUREGREEN 525	143	4	2,8	4,5	20	page 8
KH1A-009-W	50,8x70,8x5,0	50,80 x 50,80	WHITE X=0,3 Y=0,3	92	4	2,8	4,5	20	page 8
KH1A-009-A	50,8x70,8x5,0	50,80 x 50,80	AMBER 610	92	4	1,7	2,6	20	page 8
KH1A-009-Y	50,8x70,8x5,0	50,80 x 50,80	YELLOW 590	35	4	1,7	2,6	20	page 8
KH1A-012-U	60,9x60,6x5,0	60,96 x 40,64	BLUE 470	52	5	2,8	4,5	20	page 8
KH1A-012-PG	60,9x60,6x5,0	60,96 x 40,64	PUREGREEN 525	144	5	2,8	4,5	20	page 8
KH1A-012-W	60,9x60,6x5,0	60,96 x 40,64	WHITE X=0,3 Y=0,3	93	5	2,8	4,5	20	page 8
KH1A-012-A	60,9x60,6x5,0	60,96 x 40,64	AMBER 610	92	5	1,7	2,6	20	page 8
KH1A-012-Y	60,9x60,6x5,0	60,96 x 40,64	YELLOW 590	32	5	1,7	2,6	20	page 8
KH1A-015-U	60,9x70,8x5,0	60,96 x 50,80	BLUE 470	52	5	2,8	4,5	20	page 8
KH1A-015-PG	60,9x70,8x5,0	60,96 x 50,80	PUREGREEN 525	143	5	2,8	4,5	20	page 8
KH1A-015-W	60,9x70,8x5,0	60,96 x 50,80	WHITE X=0,3 Y=0,3	92	5	2,8	4,5	20	page 8
KH1A-015-A	60,9x70,8x5,0	60,96 x 50,80	AMBER 610	92	5	1,7	2,6	20	page 8
KH1A-015-Y	60,9x70,8x5,0	60,96 x 50,80	YELLOW 590	32	5	1,7	2,6	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KH1A-018-U	71,1x60,6x5,0	71,12 x 40,64	BLUE	470	52	6	2,8 4,5	20	page 8
KH1A-018-PG	71,1x60,6x5,0	71,12 x 40,64	PUREGREEN	525	144	6	2,8 4,5	20	page 8
KH1A-018-W	71,1x60,6x5,0	71,12 x 40,64	WHITE	X=0,3 Y=0,3	93	6	2,8 4,5	20	page 8
KH1A-018-A	71,1x60,6x5,0	71,12 x 40,64	AMBER	610	92	6	1,7 2,6	20	page 8
KH1A-018-Y	71,1x60,6x5,0	71,12 x 40,64	YELLOW	590	55	6	1,7 2,6	20	page 8
KH1A-021-U	71,1x70,8x5,0	71,12 x 50,80	BLUE	470	52	6	2,8 4,5	20	page 8
KH1A-021-PG	71,1x70,8x5,0	71,12 x 50,80	PUREGREEN	525	143	6	2,8 4,5	20	page 8
KH1A-021-W	71,1x70,8x5,0	71,12 x 50,80	WHITE	X=0,3 Y=0,3	92	6	2,8 4,5	20	page 8
KH1A-021-A	71,1x70,8x5,0	71,12 x 50,80	AMBER	610	92	6	1,7 2,6	20	page 8
KH1A-021-Y	71,1x70,8x5,0	71,12 x 50,80	YELLOW	590	53	6	1,7 2,6	20	page 8
KH1A-024-U	81,2x60,6x5,0	81,28 x 40,64	BLUE	470	52	7	2,8 4,5	20	page 8
KH1A-024-PG	81,2x60,6x5,0	81,28 x 40,64	PUREGREEN	525	144	7	2,8 4,5	20	page 8
KH1A-024-W	81,2x60,6x5,0	81,28 x 40,64	WHITE	X=0,3 Y=0,3	93	7	2,8 4,5	20	page 8
KH1A-024-A	81,2x60,6x5,0	81,28 x 40,64	AMBER	610	92	7	1,7 2,6	20	page 8
KH1A-024-Y	81,2x60,6x5,0	81,28 x 40,64	YELLOW	590	53	7	1,7 2,6	20	page 8
KH1A-027-U	81,2x70,8x5,0	81,28 x 50,80	BLUE	470	52	7	2,8 4,5	20	page 8
KH1A-027-PG	81,2x70,8x5,0	81,28 x 50,80	PUREGREEN	525	143	7	2,8 4,5	20	page 8
KH1A-027-W	81,2x70,8x5,0	81,28 x 50,80	WHITE	X=0,3 Y=0,3	92	7	2,8 4,5	20	page 8
KH1A-027-A	81,2x70,8x5,0	81,28 x 50,80	AMBER	610	92	7	1,7 2,6	20	page 8
KH1A-027-Y	81,2x70,8x5,0	81,28 x 50,80	YELLOW	590	53	7	1,7 2,6	20	page 8
KH1A-030-U	91,4x60,6x5,0	91,44 x 40,64	BLUE	470	52	8	2,8 4,5	20	page 8
KH1A-030-PG	91,4x60,6x5,0	91,44 x 40,64	PUREGREEN	525	144	8	2,8 4,5	20	page 8
KH1A-030-W	91,4x60,6x5,0	91,44 x 40,64	WHITE	X=0,3 Y=0,3	93	8	2,8 4,5	20	page 8
KH1A-030-A	91,4x60,6x5,0	91,44 x 40,64	AMBER	610	92	8	1,7 2,6	20	page 8
KH1A-030-Y	91,4x60,6x5,0	91,44 x 40,64	YELLOW	590	53	8	1,7 2,6	20	page 8
KH1A-033-U	91,4x70,8x5,0	91,44 x 50,80	BLUE	470	52	8	2,8 4,5	20	page 8
KH1A-033-PG	91,4x70,8x5,0	91,44 x 50,80	PUREGREEN	525	143	8	2,8 4,5	20	page 8
KH1A-033-W	91,4x70,8x5,0	91,44 x 50,80	WHITE	X=0,3 Y=0,3	92	8	2,8 4,5	20	page 8
KH1A-033-A	91,4x70,8x5,0	91,44 x 50,80	AMBER	610	92	8	1,7 2,6	20	page 8
KH1A-033-Y	91,4x70,8x5,0	91,44 x 50,80	YELLOW	590	53	8	1,7 2,6	20	page 8
KH1A-036-U	101,6x70,8x5,0	101,6 x 50,80	BLUE	470	52	9	2,8 4,5	20	page 8
KH1A-036-PG	101,6x70,8x5,0	101,6 x 50,80	PUREGREEN	525	143	9	2,8 4,5	20	page 8
KH1A-036-W	101,6x70,8x5,0	101,6 x 50,80	WHITE	X=0,3 Y=0,3	92	9	2,8 4,5	20	page 8
KH1A-036-A	101,6x70,8x5,0	101,6 x 50,80	AMBER	610	92	9	1,7 2,6	20	page 8
KH1A-036-Y	101,6x70,8x5,0	101,6 x 50,80	YELLOW	590	53	9	1,7 2,6	20	page 8
KH1A-039-U	111,7x70,8x5,0	111,76 x 50,80	BLUE	470	52	10	2,8 4,5	20	page 8
KH1A-039-PG	111,7x70,8x5,0	111,76 x 50,80	PUREGREEN	525	143	10	2,8 4,5	20	page 8
KH1A-039-W	111,7x70,8x5,0	111,76 x 50,80	WHITE	X=0,3 Y=0,3	92	10	2,8 4,5	20	page 8
KH1A-039-A	111,7x70,8x5,0	111,76 x 50,80	AMBER	610	92	10	1,7 2,6	20	page 8
KH1A-039-Y	111,7x70,8x5,0	111,76 x 50,80	YELLOW	590	53	10	1,7 2,6	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

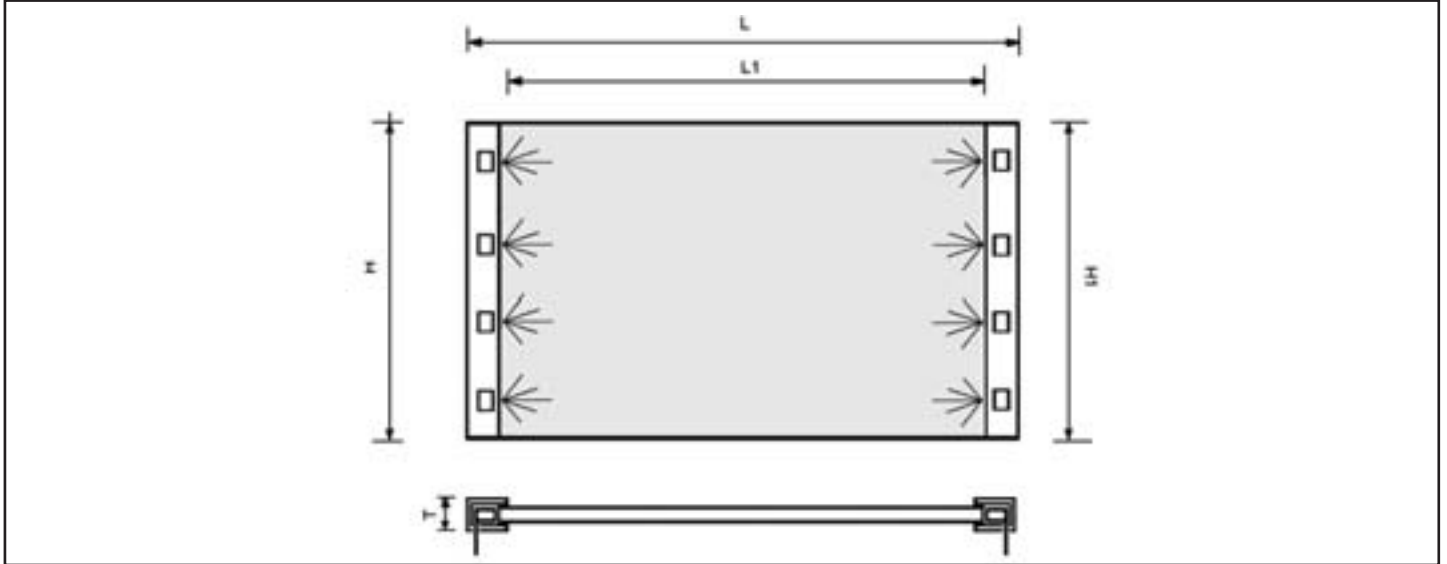
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
  - ▶ Easy For Installation
  - ▶ SAMPLES: STANDARD 3 days  
                  CUSTOM 6 days
  - ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
  - ▶ Low Power Consumption
  - ▶ Low Cost
  - ▶ Excellent mechanical strength and electrical stability
  - ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KH2W-003-U	70,8x40,6x5,0	50,80 x 40,64	BLUE	470	43	8	2,8	4,5	20	page 8
KH2W-003-G	70,8x40,6x5,0	50,80 x 40,64	GREEN	525	132	8	2,8	4,5	20	page 8
KH2W-003-W	70,8x40,6x5,0	50,80 x 40,64	WHITE	$\chi=0,3 \ Y=0,3$	113	8	2,8	4,5	20	page 8
KH2W-003-A	70,8x40,6x5,0	50,80 x 40,64	AMBER	610	74	8	1,7	2,6	20	page 8
KH2W-003-Y	70,8x40,6x5,0	50,80 x 40,64	YELLOW	590	61	8	1,7	2,6	20	page 8
KH2W-006-U	80,9x40,6x5,0	60,96 x 40,64	BLUE	470	42	8	2,8	4,5	20	page 8
KH2W-006-G	80,9x40,6x5,0	60,96 x 40,64	GREEN	525	127	8	2,8	4,5	20	page 8
KH2W-006-W	80,9x40,6x5,0	60,96 x 40,64	WHITE	$\chi=0,3 \ Y=0,3$	108	8	2,8	4,5	20	page 8
KH2W-006-A	80,9x40,6x5,0	60,96 x 40,64	AMBER	610	70	8	1,7	2,6	20	page 8
KH2W-006-Y	80,9x40,6x5,0	60,96 x 40,64	YELLOW	590	59	8	1,7	2,6	20	page 8
KH2W-009-U	91,1x40,6x5,0	71,12 x 40,64	BLUE	470	41	8	2,8	4,5	20	page 8
KH2W-009-G	91,1x40,6x5,0	71,12 x 40,64	GREEN	525	125	8	2,8	4,5	20	page 8
KH2W-009-W	91,1x40,6x5,0	71,12 x 40,64	WHITE	$\chi=0,3 \ Y=0,3$	150	8	2,8	4,5	20	page 8
KH2W-009-A	91,1x40,6x5,0	71,12 x 40,64	AMBER	610	67	8	1,7	2,6	20	page 8
KH2W-009-Y	91,1x40,6x5,0	71,12 x 40,64	YELLOW	590	57	8	1,7	2,6	20	page 8
KH2W-012-U	101,2x40,6x5,0	81,28 x 40,64	BLUE	470	41	8	2,8	4,5	20	page 8
KH2W-012-G	101,2x40,6x5,0	81,28 x 40,64	GREEN	525	123	8	2,8	4,5	20	page 8
KH2W-012-W	101,2x40,6x5,0	81,28 x 40,64	WHITE	$\chi=0,3 \ Y=0,3$	103	8	2,8	4,5	20	page 8
KH2W-012-A	101,2x40,6x5,0	81,28 x 40,64	AMBER	610	66	8	1,7	2,6	20	page 8
KH2W-012-Y	101,2x40,6x5,0	81,28 x 40,64	YELLOW	590	56	8	1,7	2,6	20	page 8
KH2W-015-U	111,4x40,6x5,0	91,44 x 40,64	BLUE	470	41	8	2,8	4,5	20	page 8
KH2W-015-G	111,4x40,6x5,0	91,44 x 40,64	GREEN	525	123	8	2,8	4,5	20	page 8
KH2W-015-W	111,4x40,6x5,0	91,44 x 40,64	WHITE	$\chi=0,3 \ Y=0,3$	103	8	2,8	4,5	20	page 8
KH2W-015-A	111,4x40,6x5,0	91,44 x 40,64	AMBER	610	66	8	1,7	2,6	20	page 8
KH2W-015-Y	111,4x40,6x5,0	91,44 x 40,64	YELLOW	590	56	8	1,7	2,6	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KH2W-018-U	121,6x40,6x5,0	101,6 x 40,64	BLUE	470	41	8	2,8	4,5	20	page 8
KH2W-018-G	121,6x40,6x5,0	101,6 x 40,64	GREEN	525	123	8	2,8	4,5	20	page 8
KH2W-018-W	121,6x40,6x5,0	101,6 x 40,64	WHITE	$\chi=0,3 Y=0,3$	103	8	2,8	4,5	20	page 8
KH2W-018-A	121,6x40,6x5,0	101,6 x 40,64	AMBER	610	66	8	1,7	2,6	20	page 8
KH2W-018-Y	121,6x40,6x5,0	101,6 x 40,64	YELLOW	590	56	8	1,7	2,6	20	page 8
KH2W-021-U	131,7x40,6x5,0	111,76 x 40,64	BLUE	470	41	8	2,8	4,5	20	page 8
KH2W-021-G	131,7x40,6x5,0	111,76 x 40,64	GREEN	525	123	8	2,8	4,5	20	page 8
KH2W-021-W	131,7x40,6x5,0	111,76 x 40,64	WHITE	$\chi=0,3 Y=0,3$	103	8	2,8	4,5	20	page 8
KH2W-021-A	131,7x40,6x5,0	111,76 x 40,64	AMBER	610	66	8	1,7	2,6	20	page 8
KH2W-021-Y	131,7x40,6x5,0	111,76 x 40,64	YELLOW	590	56	8	1,7	2,6	20	page 8
KH2W-024-U	70,8 x50,8x5,0	50,80 x 50,80	BLUE	470	48	10	2,8	4,5	20	page 8
KH2W-024-G	70,8 x50,8x5,0	50,80 x 50,80	GREEN	525	132	10	2,8	4,5	20	page 8
KH2W-024-W	70,8 x50,8x5,0	50,80 x 50,80	WHITE	$\chi=0,3 Y=0,3$	113	10	2,8	4,5	20	page 8
KH2W-024-A	70,8 x50,8x5,0	50,80 x 50,80	AMBER	610	74	10	1,7	2,6	20	page 8
KH2W-024-Y	70,8 x50,8x5,0	50,80 x 50,80	YELLOW	590	61	10	1,7	2,6	20	page 8
KH2W-027-U	80,9 x50,8x5,0	60,96 x 50,80	BLUE	470	45	10	2,8	4,5	20	page 8
KH2W-027-G	80,9 x50,8x5,0	60,96 x 50,80	GREEN	525	127	10	2,8	4,5	20	page 8
KH2W-027-W	80,9 x50,8x5,0	60,96 x 50,80	WHITE	$\chi=0,3 Y=0,3$	108	10	2,8	4,5	20	page 8
KH2W-027-A	80,9 x50,8x5,0	60,96 x 50,80	AMBER	610	70	10	1,7	2,6	20	page 8
KH2W-027-Y	80,9 x50,8x5,0	60,96 x 50,80	YELLOW	590	59	10	1,7	2,6	20	page 8
KH2W-030-U	91,1x50,8x5,0	71,12 x 50,80	BLUE	470	41	10	2,8	4,5	20	page 8
KH2W-030-G	91,1x50,8x5,0	71,12 x 50,80	GREEN	525	125	10	2,8	4,5	20	page 8
KH2W-030-W	91,1x50,8x5,0	71,12 x 50,80	WHITE	$\chi=0,3 Y=0,3$	105	10	2,8	4,5	20	page 8
KH2W-030-A	91,1x50,8x5,0	71,12 x 50,80	AMBER	610	67	10	1,7	2,6	20	page 8
KH2W-030-Y	91,1x50,8x5,0	71,12 x 50,80	YELLOW	590	57	10	1,7	2,6	20	page 8
KH2W-033-U	101,2x50,8x5,0	81,28 x 50,80	BLUE	470	41	10	2,8	4,5	20	page 8
KH2W-033-G	101,2x50,8x5,0	81,28 x 50,80	GREEN	525	123	10	2,8	4,5	20	page 8
KH2W-033-W	101,2x50,8x5,0	81,28 x 50,80	WHITE	$\chi=0,3 Y=0,3$	103	10	2,8	4,5	20	page 8
KH2W-033-A	101,2x50,8x5,0	81,28 x 50,80	AMBER	610	66	10	1,7	2,6	20	page 8
KH2W-033-Y	101,2x50,8x5,0	81,28 x 50,80	YELLOW	590	56	10	1,7	2,6	20	page 8
KH2W-036-U	111,4x50,8x5,0	91,44 x 50,80	BLUE	470	41	10	2,8	4,5	20	page 8
KH2W-036-G	111,4x50,8x5,0	91,44 x 50,80	GREEN	525	123	10	2,8	4,5	20	page 8
KH2W-036-W	111,4x50,8x5,0	91,44 x 50,80	WHITE	$\chi=0,3 Y=0,3$	103	10	2,8	4,5	20	page 8
KH2W-036-A	111,4x50,8x5,0	91,44 x 50,80	AMBER	610	66	10	1,7	2,6	20	page 8
KH2W-036-Y	111,4x50,8x5,0	91,44 x 50,80	YELLOW	590	56	10	1,7	2,6	20	page 8
KH2W-039-U	121,6x50,8x5,0	101,60 x 50,80	BLUE	470	41	10	2,8	4,5	20	page 8
KH2W-039-G	121,6x50,8x5,0	101,60 x 50,80	GREEN	525	123	10	2,8	4,5	20	page 8
KH2W-039-W	121,6x50,8x5,0	101,60 x 50,80	WHITE	$\chi=0,3 Y=0,3$	103	10	2,8	4,5	20	page 8
KH2W-039-A	121,6x50,8x5,0	101,60 x 50,80	AMBER	610	66	10	1,7	2,6	20	page 8
KH2W-039-Y	121,6x50,8x5,0	101,60 x 50,80	YELLOW	590	56	10	1,7	2,6	20	page 8
KH2W-042-U	131,7x50,8x5,0	111,76 x 50,80	BLUE	470	41	10	2,8	4,5	20	page 8
KH2W-042-G	131,7x50,8x5,0	111,76 x 50,80	GREEN	525	123	10	2,8	4,5	20	page 8
KH2W-042-W	131,7x50,8x5,0	111,76 x 50,80	WHITE	$\chi=0,3 Y=0,3$	103	10	2,8	4,5	20	page 8
KH2W-042-A	131,7x50,8x5,0	111,76 x 50,80	AMBER	610	66	10	1,7	2,6	20	page 8
KH2W-042-Y	131,7x50,8x5,0	111,76 x 50,80	YELLOW	590	56	10	1,7	2,6	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

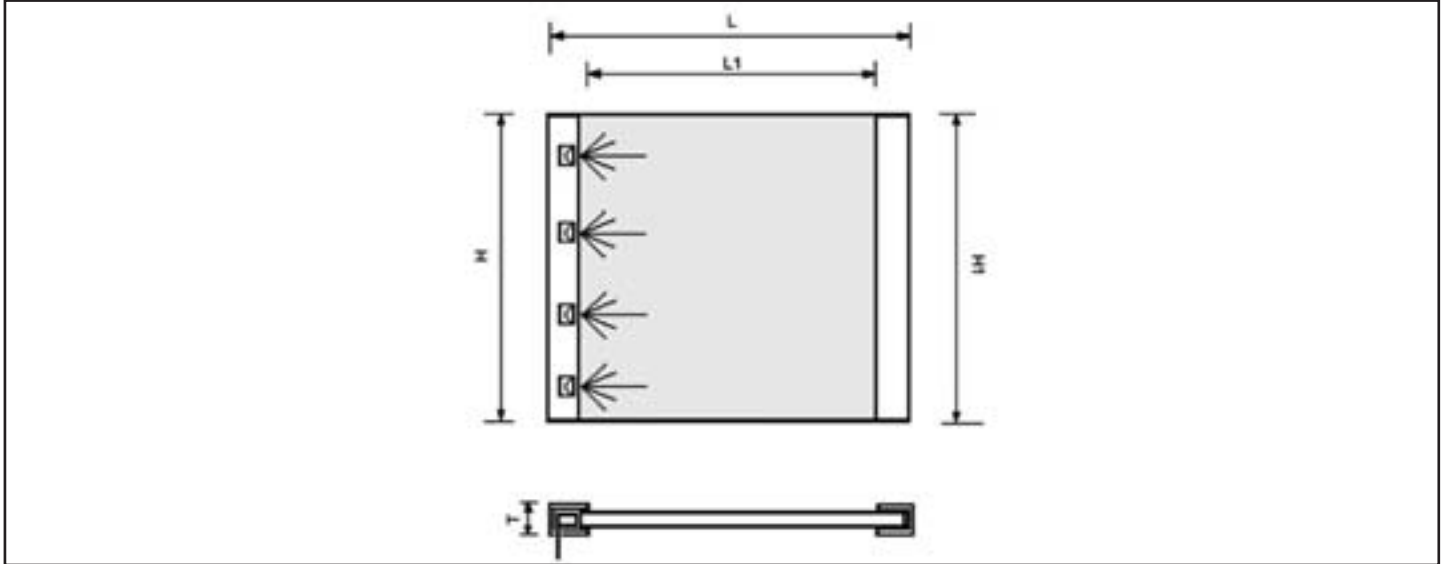
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
- ▶ Low Power Consumption
- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPT1H-003-U	50,4x50,8x5,0	30,48 x 50,80	BLUE	465	48	5	3,5	4,2	20	page 8
KPT1H-003-G	50,4x50,8x5,0	30,48 x 50,80	GREEN	505	136	5	2,4	3,8	20	page 8
KPT1H-003-A	50,4x50,8x5,0	30,48 x 50,80	AMBER	615	74	5	2,4	3,8	20	page 8
KPT1H-003-PG	50,4x50,8x5,0	30,48 x 50,80	PUREGREEN	528	106	5	2,5	3,8	20	page 8
KPT1H-003-W	50,4x50,8x5,0	30,48 x 50,80	WHITE	X=0,32 X=0,31	185	5	3,8	4,3	20	page 8
KPT1H-006-U	60,6x50,8x5,0	40,64 X 50,80	BLUE	465	48	5	3,5	4,2	20	page 8
KPT1H-006-G	60,6x50,8x5,0	40,64 X 50,80	GREEN	505	121	5	2,4	3,8	20	page 8
KPT1H-006-A	60,6x50,8x5,0	40,64 X 50,80	AMBER	615	66	5	2,4	3,8	20	page 8
KPT1H-006-PG	60,6x50,8x5,0	40,64 X 50,80	PUREGREEN	528	95	5	2,5	3,8	20	page 8
KPT1H-006-W	60,6x50,8x5,0	40,64 X 50,80	WHITE	X=0,32 X=0,31	162	5	3,8	4,3	20	page 8
KPT1H-009-U	70,8x50,8x5,0	50,80 x 50,80	BLUE	465	47	5	3,5	4,2	20	page 8
KPT1H-009-G	70,8x50,8x5,0	50,80 x 50,80	GREEN	505	108	5	2,4	3,8	20	page 8
KPT1H-009-A	70,8x50,8x5,0	50,80 x 50,80	AMBER	615	60	5	2,4	3,8	20	page 8
KPT1H-009-PG	70,8x50,8x5,0	50,80 x 50,80	PUREGREEN	528	86	5	2,5	3,8	20	page 8
KPT1H-009-W	70,8x50,8x5,0	50,80 x 50,80	WHITE	X=0,32 X=0,31	145	5	3,8	4,3	20	page 8
KPT1H-012-U	80,9x50,8x5,0	60,96 x 50,80	BLUE	465	46	5	3,5	4,2	20	page 8
KPT1H-012-G	80,9x50,8x5,0	60,96 x 50,80	GREEN	505	98	5	2,4	3,8	20	page 8
KPT1H-012-A	80,9x50,8x5,0	60,96 x 50,80	AMBER	615	54	5	2,4	3,8	20	page 8
KPT1H-012-PG	80,9x50,8x5,0	60,96 x 50,80	PUREGREEN	528	79	5	2,5	3,8	20	page 8
KPT1H-012-W	80,9x50,8x5,0	60,96 x 50,80	WHITE	X=0,32 X=0,31	130	5	3,8	4,3	20	page 8
KPT1H-015-U	91,1x50,8x5,0	71,12 x 50,80	BLUE	465	45	5	3,5	4,2	20	page 8
KPT1H-015-G	91,1x50,8x5,0	71,12 x 50,80	GREEN	505	89	5	2,4	3,8	20	page 8
KPT1H-015-Y	91,1x50,8x5,0	71,12 x 50,80	AMBER	615	50	5	2,4	3,8	20	page 8
KPT1H-015-Y	91,1x50,8x5,0	71,12 x 50,80	PUREGREEN	528	72	5	2,5	3,8	20	page 8
KPT1H-015-Y	91,1x50,8x5,0	71,12 x 50,80	WHITE	X=0,32 X=0,31	117	5	3,8	4,3	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPT1H-018-U	101,2x50,8x5,0	81,28 x 50,80	BLUE	465	34	5	3,5	4,2	20	page 8
KPT1H-018-G	101,2x50,8x5,0	81,28 x 50,80	GREEN	505	81	5	2,4	3,8	20	page 8
KPT1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	AMBER	615	46	5	2,4	3,8	20	page 8
KPT1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	PUREGREEN	528	66	5	2,5	3,8	20	page 8
KPT1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	WHITE	X=0,32 X=0,31	107	5	3,8	4,3	20	page 8
KPT1H-021-U	111,4x50,8x5,0	91,44 x 50,80	BLUE	465	34	5	3,5	4,2	20	page 8
KPT1H-021-G	111,4x50,8x5,0	91,44 x 50,80	GREEN	505	72	5	2,4	3,8	20	page 8
KPT1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	AMBER	615	41	5	2,4	3,8	20	page 8
KPT1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	PUREGREEN	528	59	5	2,5	3,8	20	page 8
KPT1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	WHITE	X=0,32 X=0,31	95	5	3,8	4,3	20	page 8
KPT1H-024-U	121,6x50,8x5,0	101,6 x 50,80	BLUE	465	34	5	3,5	4,2	20	page 8
KPT1H-024-G	121,6x50,8x5,0	101,6 x 50,80	GREEN	505	69	5	2,4	3,8	20	page 8
KPT1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	AMBER	615	40	5	2,4	3,8	20	page 8
KPT1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	PUREGREEN	528	57	5	2,5	3,8	20	page 8
KPT1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	WHITE	X=0,32 X=0,31	91	5	3,8	4,3	20	page 8
KPT1H-027-U	131,7x50,8x5,0	111,76 x 50,80	BLUE	465	34	5	3,5	4,2	20	page 8
KPT1H-027-G	131,7x50,8x5,0	111,76 x 50,80	GREEN	505	65	5	2,4	3,8	20	page 8
KPT1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	AMBER	615	37	5	2,4	3,8	20	page 8
KPT1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	PUREGREEN	528	53	5	2,5	3,8	20	page 8
KPT1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	WHITE	X=0,32 X=0,31	85	5	3,8	4,3	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

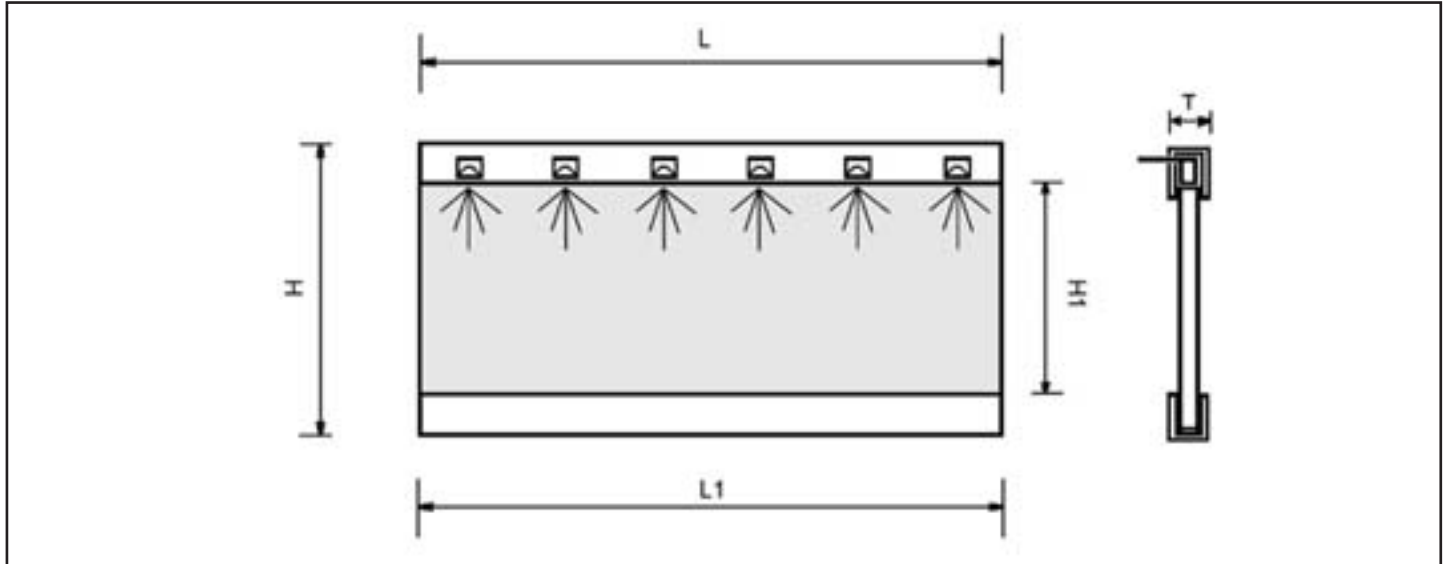
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
- ▶ Low Power Consumption
- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPT1A-003-U	30,4x70,8x5,0	30,48 X 50,80	BLUE	465	73	2	3,5	4,2	20	page 8
KPT1A-003-G	30,4x70,8x5,0	30,48 X 50,80	GREEN	505	142	2	2,4	3,8	20	page 8
KPT1A-003-A	30,4x70,8x5,0	30,48 X 50,80	AMBER	615	80	2	2,4	3,8	20	page 8
KPT1A-003-PG	30,4x70,8x5,0	30,48 X 50,80	PUREGREEN	528	126	2	2,5	3,8	20	page 8
KPT1A-003-W	30,4x70,8x5,0	30,48 X 50,80	WHITE	X=0,32 X=0,31	173	2	3,8	4,3	20	page 8
KPT1A-006-U	40,6x70,8x5,0	40,64 X 50,80	BLUE	465	73	3	3,5	4,2	20	page 8
KPT1A-006-G	40,6x70,8x5,0	40,64 X 50,80	GREEN	505	142	3	2,4	3,8	20	page 8
KPT1A-006-A	40,6x70,8x5,0	40,64 X 50,80	AMBER	615	80	3	2,4	3,8	20	page 8
KPT1A-006-PG	40,6x70,8x5,0	40,64 X 50,80	PUREGREEN	528	126	3	2,5	3,8	20	page 8
KPT1A-006-W	40,6x70,8x5,0	40,64 X 50,80	WHITE	X=0,32 X=0,31	173	3	3,8	4,3	20	page 8
KPT1A-009-U	50,8x60,6x5,0	50,80 X 40,64	BLUE	465	73	4	3,5	4,2	20	page 8
KPT1A-009-G	50,8x60,6x5,0	50,80 X 40,64	GREEN	505	142	4	2,4	3,8	20	page 8
KPT1A-009-A	50,8x60,6x5,0	50,80 X 40,64	AMBER	615	81	4	2,4	3,8	20	page 8
KPT1A-009-PG	50,8x60,6x5,0	50,80 X 40,64	PUREGREEN	528	128	4	2,5	3,8	20	page 8
KPT1A-009-W	50,8x60,6x5,0	50,80 X 40,64	WHITE	X=0,32 X=0,31	174	4	3,8	4,3	20	page 8
KPT1A-012-U	50,8x70,8x5,0	50,80 X 50,80	BLUE	465	73	4	3,5	4,2	20	page 8
KPT1A-012-G	50,8x70,8x5,0	50,80 X 50,80	GREEN	505	142	4	2,4	3,8	20	page 8
KPT1A-012-A	50,8x70,8x5,0	50,80 X 50,80	AMBER	615	80	4	2,4	3,8	20	page 8
KPT1A-012-PG	50,8x70,8x5,0	50,80 X 50,80	PUREGREEN	528	126	4	2,5	3,8	20	page 8
KPT1A-012-W	50,8x70,8x5,0	50,80 X 50,80	WHITE	X=0,32 X=0,31	173	4	3,8	4,3	20	page 8
KPT1A-015-U	60,9x70,8x5,0	60,96 X 50,80	BLUE	465	73	5	3,5	4,2	20	page 8
KPT1A-015-G	60,9x70,8x5,0	60,96 X 50,80	GREEN	505	142	5	2,4	3,8	20	page 8
KPT1A-015-A	60,9x70,8x5,0	60,96 X 50,80	AMBER	615	80	5	2,4	3,8	20	page 8
KPT1A-015-PG	60,9x70,8x5,0	60,96 X 50,80	PUREGREEN	528	126	5	2,5	3,8	20	page 8
KPT1A-015-W	60,9x70,8x5,0	60,96 X 50,80	WHITE	X=0,32 X=0,31	173	5	3,8	4,3	20	page 8



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPT1A-018-U	71,1x60,6x5,0	71,12 X 40,64	BLUE	465	73	6	3,5	4,2	20	page 8
KPT1A-018-G	71,1x60,6x5,0	71,12 X 40,64	GREEN	505	142	6	2,4	3,8	20	page 8
KPT1A-018-A	71,1x60,6x5,0	71,12 X 40,64	AMBER	615	81	6	2,4	3,8	20	page 8
KPT1A-018-PG	71,1x60,6x5,0	71,12 X 40,64	PUREGREEN	528	126	6	2,5	3,8	20	page 8
KPT1A-018-W	71,1x60,6x5,0	71,12 X 40,64	WHITE	X=0,32 X=0,31	173	6	3,8	4,3	20	page 8
KPT1A-021-U	71,1x70,8x5,0	71,12 X 50,80	BLUE	465	73	6	3,5	4,2	20	page 8
KPT1A-021-G	71,1x70,8x5,0	71,12 X 50,80	GREEN	505	142	6	2,4	3,8	20	page 8
KPT1A-021-A	71,1x70,8x5,0	71,12 X 50,80	AMBER	615	80	6	2,4	3,8	20	page 8
KPT1A-021-PG	71,1x70,8x5,0	71,12 X 50,80	PUREGREEN	528	126	6	2,5	3,8	20	page 8
KPT1A-021-W	71,1x70,8x5,0	71,12 X 50,80	WHITE	X=0,32 X=0,31	173	6	3,8	4,3	20	page 8
KPT1A-024-U	81,2x60,6x5,0	81,28 X 40,64	BLUE	465	73	7	3,5	4,2	20	page 8
KPT1A-024-G	81,2x60,6x5,0	81,28 X 40,64	GREEN	505	148	7	2,4	3,8	20	page 8
KPT1A-024-A	81,2x60,6x5,0	81,28 X 40,64	AMBER	615	81	7	2,4	3,8	20	page 8
KPT1A-024-PG	81,2x60,6x5,0	81,28 X 40,64	PUREGREEN	528	126	7	2,5	3,8	20	page 8
KPT1A-024-W	81,2x60,6x5,0	81,28 X 40,64	WHITE	X=0,32 X=0,31	173	7	3,8	4,3	20	page 8
KPT1A-027-U	81,2x70,8x5,0	81,28 X 50,80	BLUE	465	73	7	3,5	4,2	20	page 8
KPT1A-027-G	81,2x70,8x5,0	81,28 X 50,80	GREEN	505	142	7	2,4	3,8	20	page 8
KPT1A-027-A	81,2x70,8x5,0	81,28 X 50,80	AMBER	615	80	7	2,4	3,8	20	page 8
KPT1A-027-PG	81,2x70,8x5,0	81,28 X 50,80	PUREGREEN	528	126	7	2,5	3,8	20	page 8
KPT1A-027-W	81,2x70,8x5,0	81,28 X 50,80	WHITE	X=0,32 X=0,31	173	7	3,8	4,3	20	page 8
KPT1A-030-U	91,4 x 70,8x5,0	91,44 X 50,80	BLUE	465	73	8	3,5	4,2	20	page 8
KPT1A-030-G	91,4 x 70,8x5,0	91,44 X 50,80	GREEN	505	142	8	2,4	3,8	20	page 8
KPT1A-030-A	91,4 x 70,8x5,0	91,44 X 50,80	AMBER	615	80	8	2,4	3,8	20	page 8
KPT1A-030-PG	91,4 x 70,8x5,0	91,44 X 50,80	PUREGREEN	528	126	8	2,5	3,8	20	page 8
KPT1A-030-W	91,4 x 70,8x5,0	91,44 X 50,80	WHITE	X=0,32 X=0,31	173	8	3,8	4,3	20	page 8
KPT1A-033-U	101,6x70,8x5,0	101,6 X 50,80	BLUE	465	73	9	3,5	4,2	20	page 8
KPT1A-033-G	101,6x70,8x5,0	101,6 X 50,80	GREEN	505	142	9	2,4	3,8	20	page 8
KPT1A-033-A	101,6x70,8x5,0	101,6 X 50,80	AMBER	615	80	9	2,4	3,8	20	page 8
KPT1A-033-PG	101,6x70,8x5,0	101,6 X 50,80	PUREGREEN	528	126	9	2,5	3,8	20	page 8
KPT1A-033-W	101,6x70,8x5,0	101,6 X 50,80	WHITE	X=0,32 X=0,31	173	9	3,8	4,3	20	page 8
KPT1A-036-U	111,7x70,8x5,0	111,76 X 50,80	BLUE	465	73	10	3,5	4,2	20	page 8
KPT1A-036-G	111,7x70,8x5,0	111,76 X 50,80	GREEN	505	142	10	2,4	3,8	20	page 8
KPT1A-036-A	111,7x70,8x5,0	111,76 X 50,80	AMBER	615	80	10	2,4	3,8	20	page 8
KPT1A-036-PG	111,7x70,8x5,0	111,76 X 50,80	PUREGREEN	528	126	10	2,5	3,8	20	page 8
KPT1A-036-W	111,7x70,8x5,0	111,76 X 50,80	WHITE	X=0,32 X=0,31	173	10	3,8	4,3	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

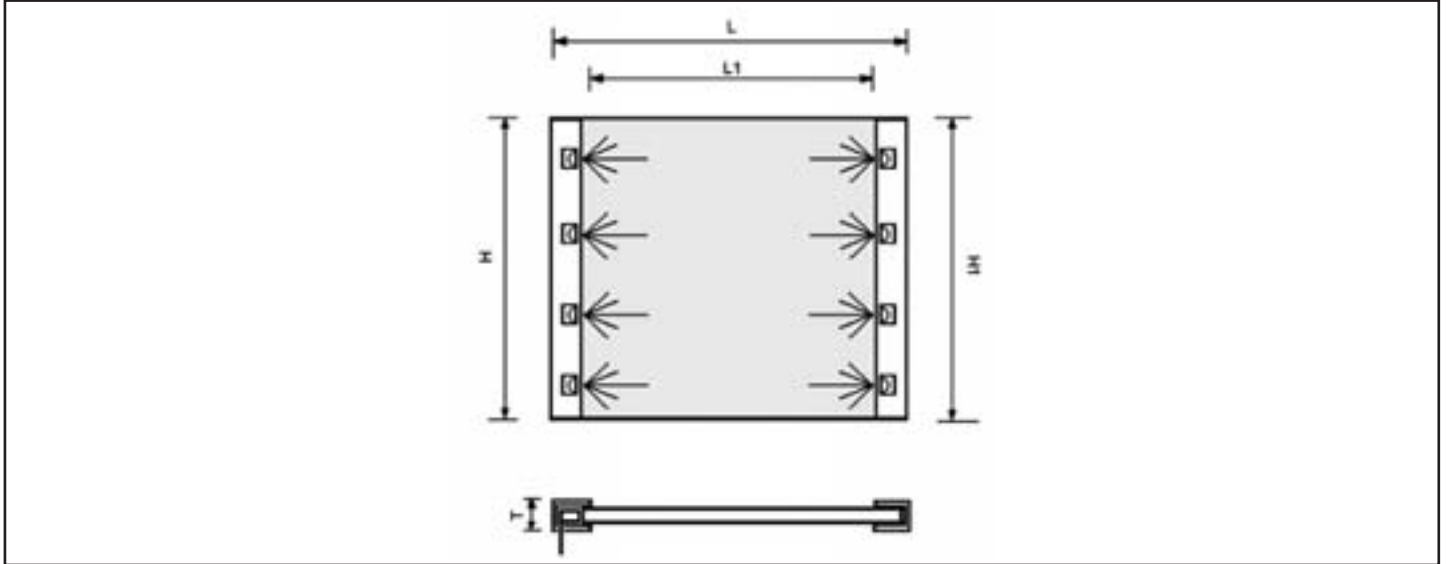
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
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- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ
						Typ	Max		
KPT2W-003-U	70,8x40,6x5,0	50,80 x 40,64	BLUE 465	48	8	3,5	4,2	20	page 8
KPT2W-003-G	70,8x40,6x5,0	50,80 x 40,64	GREEN 505	135	8	2,4	3,8	20	page 8
KPT2W-003-W	70,8x40,6x5,0	50,80 x 40,64	WHITE X=0,32 X=0,31	174	8	3,8	4,3	20	page 8
KPT2W-003-A	70,8x40,6x5,0	50,80 x 40,64	AMBER 615	73	8	2,4	3,8	20	page 8
KPT2W-003-PG	70,8x40,6x5,0	50,80 x 40,64	PUREGREEN 528	108	8	2,5	3,8	20	page 8
KPT2W-006-U	80,9x40,6x5,0	60,96 x 40,64	BLUE 465	48	8	3,5	4,2	20	page 8
KPT2W-006-G	80,9x40,6x5,0	60,96 x 40,64	GREEN 505	128	8	2,4	3,8	20	page 8
KPT2W-006-W	80,9x40,6x5,0	60,96 x 40,64	WHITE X=0,32 X=0,31	164	8	3,8	4,3	20	page 8
KPT2W-006-A	80,9x40,6x5,0	60,96 x 40,64	AMBER 615	70	8	2,4	3,8	20	page 8
KPT2W-006-PG	80,9x40,6x5,0	60,96 x 40,64	PUREGREEN 528	104	8	2,5	3,8	20	page 8
KPT2W-009-U	91,1x40,6x5,0	71,12 x 40,64	BLUE 465	47	8	3,5	4,2	20	page 8
KPT2W-009-G	91,1x40,6x5,0	71,12 x 40,64	GREEN 505	124	8	2,4	3,8	20	page 8
KPT2W-009-W	91,1x40,6x5,0	71,12 x 40,64	WHITE X=0,32 X=0,31	158	8	3,8	4,3	20	page 8
KPT2W-009-A	91,1x40,6x5,0	71,12 x 40,64	AMBER 615	69	8	2,4	3,8	20	page 8
KPT2W-009-PG	91,1x40,6x5,0	71,12 x 40,64	PUREGREEN 528	101	8	2,5	3,8	20	page 8
KPT2W-012-U	101,2x40,6x5,0	81,28 x 40,64	BLUE 465	47	8	3,5	4,2	20	page 8
KPT2W-012-G	101,2x40,6x5,0	81,28 x 40,64	GREEN 505	122	8	2,4	3,8	20	page 8
KPT2W-012-W	101,2x40,6x5,0	81,28 x 40,64	WHITE X=0,32 X=0,31	154	8	3,8	4,3	20	page 8
KPT2W-012-A	101,2x40,6x5,0	81,28 x 40,64	AMBER 615	68	8	2,4	3,8	20	page 8
KPT2W-012-PG	101,2x40,6x5,0	81,28 x 40,64	PUREGREEN 528	100	8	2,5	3,8	20	page 8
KPT2W-015-U	111,4x40,6x5,0	91,44 x 40,64	BLUE 465	47	8	3,5	4,2	20	page 8
KPT2W-015-G	111,4x40,6x5,0	91,44 x 40,64	GREEN 505	122	8	2,4	3,8	20	page 8
KPT2W-015-W	111,4x40,6x5,0	91,44 x 40,64	WHITE X=0,32 X=0,31	154	8	3,8	4,3	20	page 8
KPT2W-015-A	111,4x40,6x5,0	91,44 x 40,64	AMBER 615	68	8	2,4	3,8	20	page 8
KPT2W-015-PG	111,4x40,6x5,0	91,44 x 40,64	PUREGREEN 528	100	8	2,5	3,8	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPT2W-018-U	121,6x40,6x5,0	101,6 x 40,64	BLUE	465	47	8	3,5	4,2	20	page 8
KPT2W-018-G	121,6x40,6x5,0	101,6 x 40,64	GREEN	505	121	8	2,4	3,8	20	page 8
KPT2W-018-W	121,6x40,6x5,0	101,6 x 40,64	WHITE	X=0,32 X=0,31	154	8	3,8	4,3	20	page 8
KPT2W-018-A	121,6x40,6x5,0	101,6 x 40,64	AMBER	615	68	8	2,4	3,8	20	page 8
KPT2W-018-PG	121,6x40,6x5,0	101,6 x 40,64	PUREGREEN	528	100	8	2,5	3,8	20	page 8
KPT2W-021-U	131,7x40,6x5,0	111,76 x 40,64	BLUE	465	47	8	3,5	4,2	20	page 8
KPT2W-021-G	131,7x40,6x5,0	111,76 x 40,64	GREEN	505	121	8	2,4	3,8	20	page 8
KPT2W-021-W	131,7x40,6x5,0	111,76 x 40,64	WHITE	X=0,32 X=0,31	154	8	3,8	4,3	20	page 8
KPT2W-021-A	131,7x40,6x5,0	111,76 x 40,64	AMBER	615	68	8	2,4	3,8	20	page 8
KPT2W-021-PG	131,7x40,6x5,0	111,76 x 40,64	PUREGREEN	528	101	8	2,5	3,8	20	page 8
KPT2W-024-U	70,8x5,00,8x5,0	50,80 x 50,80	BLUE	465	48	10	3,5	4,2	20	page 8
KPT2W-024-G	70,8x50,8x5,0	50,80 x 50,80	GREEN	505	135	10	2,4	3,8	20	page 8
KPT2W-024-W	70,8x50,8x5,0	50,80 x 50,80	WHITE	X=0,32 X=0,31	174	10	3,8	4,3	20	page 8
KPT2W-024-A	70,8x50,8x5,0	50,80 x 50,80	AMBER	615	73	10	2,4	3,8	20	page 8
KPT2W-024-PG	70,8x50,8x5,0	50,80 x 50,80	PUREGREEN	528	108	10	2,5	3,8	20	page 8
KPT2W-027-U	80,9x50,8x5,0	60,96 x 50,80	BLUE	465	48	10	3,5	4,2	20	page 8
KPT2W-027-G	80,9x50,8x5,0	60,96 x 50,80	GREEN	505	128	10	2,4	3,8	20	page 8
KPT2W-027-W	80,9x50,8x5,0	60,96 x 50,80	WHITE	X=0,32 X=0,31	164	10	3,8	4,3	20	page 8
KPT2W-027-A	80,9x50,8x5,0	60,96 x 50,80	AMBER	615	70	10	2,4	3,8	20	page 8
KPT2W-027-PG	80,9x50,8x5,0	60,96 x 50,80	PUREGREEN	528	104	10	2,5	3,8	20	page 8
KPT2W-030-U	91,1x50,8x5,0	71,12 x 50,80	BLUE	465	48	10	3,5	4,2	20	page 8
KPT2W-030-G	91,1x50,8x5,0	71,12 x 50,80	GREEN	505	124	10	2,4	3,8	20	page 8
KPT2W-030-W	91,1x50,8x5,0	71,12 x 50,80	WHITE	X=0,32 X=0,31	158	10	3,8	4,3	20	page 8
KPT2W-030-A	91,1x50,8x5,0	71,12 x 50,80	AMBER	615	69	10	2,4	3,8	20	page 8
KPT2W-030-PG	91,1x50,8x5,0	71,12 x 50,80	PUREGREEN	528	101	10	2,5	3,8	20	page 8
KPT2W-033-U	101,2x50,8x5,0	81,28 x 50,80	BLUE	465	47	10	3,5	4,2	20	page 8
KPT2W-033-G	101,2x50,8x5,0	81,28 x 50,80	GREEN	505	122	10	2,4	3,8	20	page 8
KPT2W-033-W	101,2x50,8x5,0	81,28 x 50,80	WHITE	X=0,32 X=0,31	154	10	3,8	4,3	20	page 8
KPT2W-033-A	101,2x50,8x5,0	81,28 x 50,80	AMBER	615	68	10	2,4	3,8	20	page 8
KPT2W-033-PG	101,2x50,8x5,0	81,28 x 50,80	PUREGREEN	528	100	10	2,5	3,8	20	page 8
KPT2W-036-U	111,4x50,8x5,0	91,44 x 50,80	BLUE	465	47	10	3,5	4,2	20	page 8
KPT2W-036-G	111,4x50,8x5,0	91,44 x 50,80	GREEN	505	121	10	2,4	3,8	20	page 8
KPT2W-036-W	111,4x50,8x5,0	91,44 x 50,80	WHITE	X=0,32 X=0,31	154	10	3,8	4,3	20	page 8
KPT2W-036-A	111,4x50,8x5,0	91,44 x 50,80	AMBER	615	68	10	2,4	3,8	20	page 8
KPT2W-036-PG	111,4x50,8x5,0	91,44 x 50,80	PUREGREEN	528	101	10	2,5	3,8	20	page 8
KPT2W-039-U	121,6x50,8x5,0	101,60 x 50,80	BLUE	465	47	10	3,5	4,2	20	page 8
KPT2W-039-G	121,6x50,8x5,0	101,60 x 50,80	GREEN	505	121	10	2,4	3,8	20	page 8
KPT2W-039-W	121,6x50,8x5,0	101,60 x 50,80	WHITE	X=0,32 X=0,31	154	10	3,8	4,3	20	page 8
KPT2W-039-A	121,6x50,8x5,0	101,60 x 50,80	AMBER	615	68	10	2,4	3,8	20	page 8
KPT2W-039-PG	121,6x50,8x5,0	101,60 x 50,80	PUREGREEN	528	101	10	2,5	3,8	20	page 8
KPT2W-042-U	131,7x50,8x5,0	111,76 x 50,80	BLUE	465	47	10	3,5	4,2	20	page 8
KPT2W-042-G	131,7x50,8x5,0	111,76 x 50,80	GREEN	505	121	10	2,4	3,8	20	page 8
KPT2W-042-W	131,7x50,8x5,0	111,76 x 50,80	WHITE	X=0,32 X=0,31	154	10	3,8	4,3	20	page 8
KPT2W-042-A	131,7x50,8x5,0	111,76 x 50,80	AMBER	615	68	10	2,4	3,8	20	page 8
KPT2W-042-PG	131,7x50,8x5,0	111,76 x 50,80	PUREGREEN	528	101	10	2,5	3,8	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

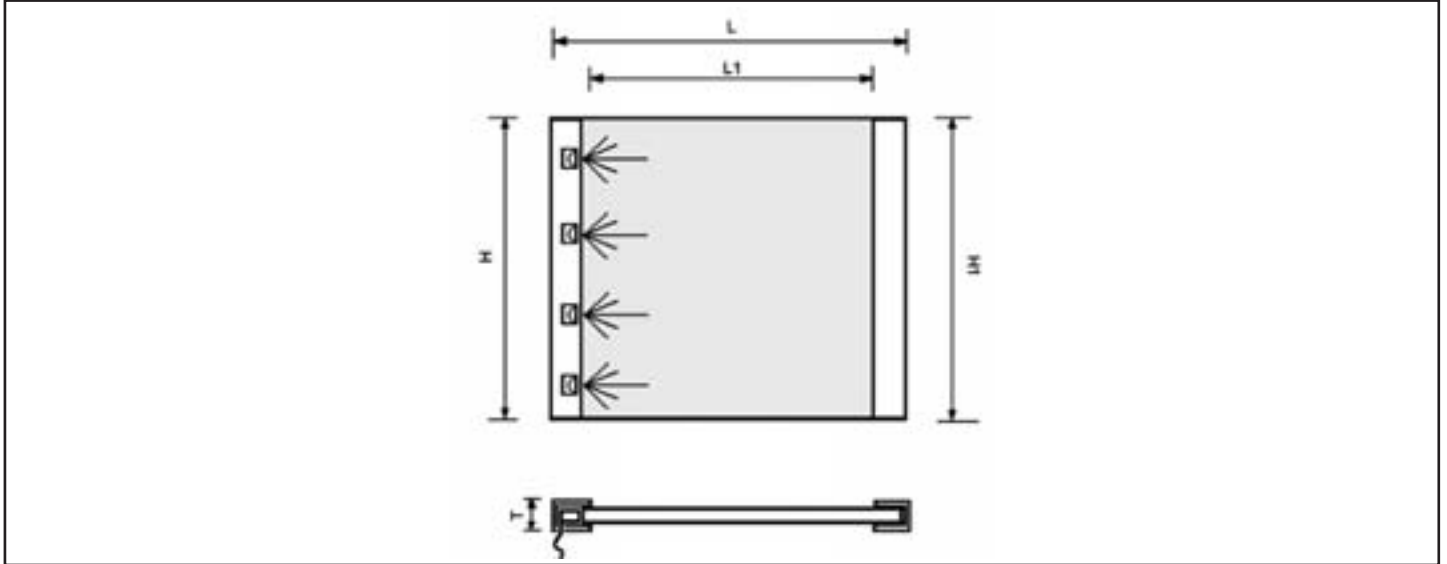
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
- ▶ Easy For Installation
- ▶ SAMPLES: STANDARD 3 days  
CUSTOM 6 days
- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
- ▶ Choise of 19 bright Colours
- ▶ Low Power Consumption
- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPC1H-003-U	50,4x50,8x5,0	30,48 x 50,80	BLUE	465	48	5	3,5	4,2	20	page 8
KPC1H-003-G	50,4x50,8x5,0	30,48 x 50,80	GREEN	505	136	5	2,4	3,8	20	page 8
KPC1H-003-A	50,4x50,8x5,0	30,48 x 50,80	AMBER	615	74	5	2,4	3,8	20	page 8
KPC1H-003-PG	50,4x50,8x5,0	30,48 x 50,80	PUREGREEN	528	106	5	2,5	3,8	20	page 8
KPC1H-003-W	50,4x50,8x5,0	30,48 x 50,80	WHITE	X=0,32 X=0,31	185	5	3,8	4,3	20	page 8
KPC1H-006-U	60,6x50,8x5,0	40,64 X 50,80	BLUE	465	48	5	3,5	4,2	20	page 8
KPC1H-006-G	60,6x50,8x5,0	40,64 X 50,80	GREEN	505	121	5	2,4	3,8	20	page 8
KPC1H-006-A	60,6x50,8x5,0	40,64 X 50,80	AMBER	615	66	5	2,4	3,8	20	page 8
KPC1H-006-PG	60,6x50,8x5,0	40,64 X 50,80	PUREGREEN	528	95	5	2,5	3,8	20	page 8
KPC1H-006-W	60,6x50,8x5,0	40,64 X 50,80	WHITE	X=0,32 X=0,31	162	5	3,8	4,3	20	page 8
KPC1H-009-U	70,8x50,8x5,0	50,80 x 50,80	BLUE	465	47	5	3,5	4,2	20	page 8
KPC1H-009-G	70,8x50,8x5,0	50,80 x 50,80	GREEN	505	108	5	2,4	3,8	20	page 8
KPC1H-009-A	70,8x50,8x5,0	50,80 x 50,80	AMBER	615	60	5	2,4	3,8	20	page 8
KPC1H-009-PG	70,8x50,8x5,0	50,80 x 50,80	PUREGREEN	528	86	5	2,5	3,8	20	page 8
KPC1H-009-W	70,8x50,8x5,0	50,80 x 50,80	WHITE	X=0,32 X=0,31	145	5	3,8	4,3	20	page 8
KPC1H-012-U	80,9x50,8x5,0	60,96 x 50,80	BLUE	465	46	5	3,5	4,2	20	page 8
KPC1H-012-G	80,9x50,8x5,0	60,96 x 50,80	GREEN	505	98	5	2,4	3,8	20	page 8
KPC1H-012-A	80,9x50,8x5,0	60,96 x 50,80	AMBER	615	54	5	2,4	3,8	20	page 8
KPC1H-012-PG	80,9x50,8x5,0	60,96 x 50,80	PUREGREEN	528	79	5	2,5	3,8	20	page 8
KPC1H-012-W	80,9x50,8x5,0	60,96 x 50,80	WHITE	X=0,32 X=0,31	130	5	3,8	4,3	20	page 8
KPC1H-015-U	91,1x50,8x5,0	71,12 x 50,80	BLUE	465	45	5	3,5	4,2	20	page 8
KPC1H-015-G	91,1x50,8x5,0	71,12 x 50,80	GREEN	505	89	5	2,4	3,8	20	page 8
KPC1H-015-Y	91,1x50,8x5,0	71,12 x 50,80	AMBER	615	50	5	2,4	3,8	20	page 8
KPC1H-015-Y	91,1x50,8x5,0	71,12 x 50,80	PUREGREEN	528	72	5	2,5	3,8	20	page 8
KPC1H-015-Y	91,1x50,8x5,0	71,12 x 50,80	WHITE	X=0,32 X=0,31	117	5	3,8	4,3	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPC1H-018-U	101,2x50,8x5,0	81,28 x 50,80	BLUE	465	44	5	3,5	4,2	20	page 8
KPC1H-018-G	101,2x50,8x5,0	81,28 x 50,80	GREEN	505	81	5	2,4	3,8	20	page 8
KPC1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	AMBER	615	46	5	2,4	3,8	20	page 8
KPC1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	PUREGREEN	528	66	5	2,5	3,8	20	page 8
KPC1H-018-Y	101,2x50,8x5,0	81,28 x 50,80	WHITE	X=0,32 X=0,31	107	5	3,8	4,3	20	page 8
KPC1H-021-U	111,4x50,8x5,0	91,44 x 50,80	BLUE	465	44	5	3,5	4,2	20	page 8
KPC1H-021-G	111,4x50,8x5,0	91,44 x 50,80	GREEN	505	72	5	2,4	3,8	20	page 8
KPC1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	AMBER	615	41	5	2,4	3,8	20	page 8
KPC1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	PUREGREEN	528	59	5	2,5	3,8	20	page 8
KPC1H-021-Y	111,4x50,8x5,0	91,44 x 50,80	WHITE	X=0,32 X=0,31	95	5	3,8	4,3	20	page 8
KPC1H-024-U	121,6x50,8x5,0	101,6 x 50,80	BLUE	465	44	5	3,5	4,2	20	page 8
KPC1H-024-G	121,6x50,8x5,0	101,6 x 50,80	GREEN	505	69	5	2,4	3,8	20	page 8
KPC1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	AMBER	615	40	5	2,4	3,8	20	page 8
KPC1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	PUREGREEN	528	57	5	2,5	3,8	20	page 8
KPC1H-024-Y	121,6x50,8x5,0	101,6 x 50,80	WHITE	X=0,32 X=0,31	91	5	3,8	4,3	20	page 8
KPC1H-027-U	131,7x50,8x5,0	111,76 x 50,80	BLUE	465	44	5	3,5	4,2	20	page 8
KPC1H-027-G	131,7x50,8x5,0	111,76 x 50,80	GREEN	505	65	5	2,4	3,8	20	page 8
KPC1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	AMBER	615	37	5	2,4	3,8	20	page 8
KPC1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	PUREGREEN	528	53	5	2,5	3,8	20	page 8
KPC1H-027-Y	131,7x50,8x5,0	111,76 x 50,80	WHITE	X=0,32 X=0,31	85	5	3,8	4,3	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 ° C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

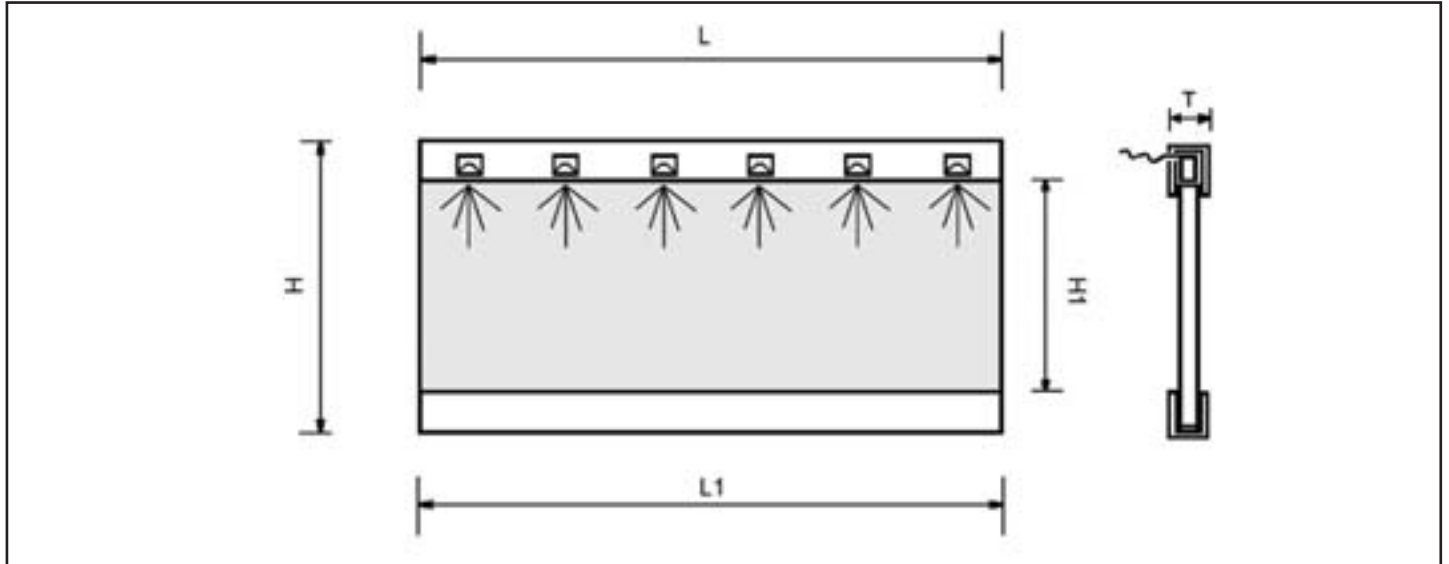
- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators

**FEATURES**

- ▶ Large Area Uniformity
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- ▶ CUSTOM VERSION (from 1.000 to 3.000 pcs)
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- ▶ Low Cost
- ▶ Excellent mechanical strength and electrical stability
- ▶ Concentrate configuration designed reduced thickness



**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPC1A-003-U	30,4x70,8x5,0	30,48 X 50,80	BLUE	465	73	2	3,5	4,2	20	page 8
KPC1A-003-G	30,4x70,8x5,0	30,48 X 50,80	GREEN	505	142	2	2,4	3,8	20	page 8
KPC1A-003-A	30,4x70,8x5,0	30,48 X 50,80	AMBER	615	80	2	2,4	3,8	20	page 8
KPC1A-003-PG	30,4x70,8x5,0	30,48 X 50,80	PUREGREEN	528	126	2	2,5	3,8	20	page 8
KPC1A-003-W	30,4x70,8x5,0	30,48 X 50,80	WHITE	X=0,32 X=0,31	173	2	3,8	4,3	20	page 8
KPC1A-006-U	40,6x70,8x5,0	40,64 X 50,80	BLUE	465	73	3	3,5	4,2	20	page 8
KPC1A-006-G	40,6x70,8x5,0	40,64 X 50,80	GREEN	505	142	3	2,4	3,8	20	page 8
KPC1A-006-A	40,6x70,8x5,0	40,64 X 50,80	AMBER	615	80	3	2,4	3,8	20	page 8
KPC1A-006-PG	40,6x70,8x5,0	40,64 X 50,80	PUREGREEN	528	126	3	2,5	3,8	20	page 8
KPC1A-006-W	40,6x70,8x5,0	40,64 X 50,80	WHITE	X=0,32 X=0,31	173	3	3,8	4,3	20	page 8
KPC1A-009-U	50,8x60,6x5,0	50,80 X 40,64	BLUE	465	73	4	3,5	4,2	20	page 8
KPC1A-009-G	50,8x60,6x5,0	50,80 X 40,64	GREEN	505	142	4	2,4	3,8	20	page 8
KPC1A-009-A	50,8x60,6x5,0	50,80 X 40,64	AMBER	615	81	4	2,4	3,8	20	page 8
KPC1A-009-PG	50,8x60,6x5,0	50,80 X 40,64	PUREGREEN	528	128	4	2,5	3,8	20	page 8
KPC1A-009-W	50,8x60,6x5,0	50,80 X 40,64	WHITE	X=0,32 X=0,31	174	4	3,8	4,3	20	page 8
KPC1A-012-U	50,8x70,8x5,0	50,80 X 50,80	BLUE	465	73	4	3,5	4,2	20	page 8
KPC1A-012-G	50,8x70,8x5,0	50,80 X 50,80	GREEN	505	142	4	2,4	3,8	20	page 8
KPC1A-012-A	50,8x70,8x5,0	50,80 X 50,80	AMBER	615	80	4	2,4	3,8	20	page 8
KPC1A-012-PG	50,8x70,8x5,0	50,80 X 50,80	PUREGREEN	528	126	4	2,5	3,8	20	page 8
KPC1A-012-W	50,8x70,8x5,0	50,80 X 50,80	WHITE	X=0,32 X=0,31	173	4	3,8	4,3	20	page 8
KPC1A-015-U	60,9x70,8x5,0	60,96 X 50,80	BLUE	465	73	5	3,5	4,2	20	page 8
KPC1A-015-G	60,9x70,8x5,0	60,96 X 50,80	GREEN	505	142	5	2,4	3,8	20	page 8
KPC1A-015-A	60,9x70,8x5,0	60,96 X 50,80	AMBER	615	80	5	2,4	3,8	20	page 8
KPC1A-015-PG	60,9x70,8x5,0	60,96 X 50,80	PUREGREEN	528	126	5	2,5	3,8	20	page 8
KPC1A-015-W	60,9x70,8x5,0	60,96 X 50,80	WHITE	X=0,32 X=0,31	173	5	3,8	4,3	20	page 8

**Electrical & Optical Characteristics at TA = 25°C (1 Chip)**

Code	Module Dimension (mm) L x H x T	Effective Viewing Area (mm) L1 x H1	Colour (nm) Typ	Cd/m <sup>2</sup> Typ	No. of chips	Vf(V) @ 20mA		If (mA) Typ	Dimension (mm) Typ	
						Typ	Max			
KPC1A-018-U	71,1x60,6x5,0	71,12 X 40,64	BLUE	465	73	6	3,5	4,2	20	page 8
KPC1A-018-G	71,1x60,6x5,0	71,12 X 40,64	GREEN	505	142	6	2,4	3,8	20	page 8
KPC1A-018-A	71,1x60,6x5,0	71,12 X 40,64	AMBER	615	81	6	2,4	3,8	20	page 8
KPC1A-018-PG	71,1x60,6x5,0	71,12 X 40,64	PUREGREEN	528	126	6	2,5	3,8	20	page 8
KPC1A-018-W	71,1x60,6x5,0	71,12 X 40,64	WHITE	X=0,32 X=0,31	173	6	3,8	4,3	20	page 8
KPC1A-021-U	71,1x70,8x5,0	71,12 X 50,80	BLUE	465	73	6	3,5	4,2	20	page 8
KPC1A-021-G	71,1x70,8x5,0	71,12 X 50,80	GREEN	505	142	6	2,4	3,8	20	page 8
KPC1A-021-A	71,1x70,8x5,0	71,12 X 50,80	AMBER	615	80	6	2,4	3,8	20	page 8
KPC1A-021-PG	71,1x70,8x5,0	71,12 X 50,80	PUREGREEN	528	126	6	2,5	3,8	20	page 8
KPC1A-021-W	71,1x70,8x5,0	71,12 X 50,80	WHITE	X=0,32 X=0,31	173	6	3,8	4,3	20	page 8
KPC1A-024-U	81,2x60,6x5,0	81,28 X 40,64	BLUE	465	73	7	3,5	4,2	20	page 8
KPC1A-024-G	81,2x60,6x5,0	81,28 X 40,64	GREEN	505	148	7	2,4	3,8	20	page 8
KPC1A-024-A	81,2x60,6x5,0	81,28 X 40,64	AMBER	615	81	7	2,4	3,8	20	page 8
KPC1A-024-PG	81,2x60,6x5,0	81,28 X 40,64	PUREGREEN	528	126	7	2,5	3,8	20	page 8
KPC1A-024-W	81,2x60,6x5,0	81,28 X 40,64	WHITE	X=0,32 X=0,31	173	7	3,8	4,3	20	page 8
KPC1A-027-U	81,2x70,8x5,0	81,28 X 50,80	BLUE	465	73	7	3,5	4,2	20	page 8
KPC1A-027-G	81,2x70,8x5,0	81,28 X 50,80	GREEN	505	142	7	2,4	3,8	20	page 8
KPC1A-027-A	81,2x70,8x5,0	81,28 X 50,80	AMBER	615	80	7	2,4	3,8	20	page 8
KPC1A-027-PG	81,2x70,8x5,0	81,28 X 50,80	PUREGREEN	528	126	7	2,5	3,8	20	page 8
KPC1A-027-W	81,2x70,8x5,0	81,28 X 50,80	WHITE	X=0,32 X=0,31	173	7	3,8	4,3	20	page 8
KPC1A-030-U	91,4x70,8x5,0	91,44 X 50,80	BLUE	465	73	8	3,5	4,2	20	page 8
KPC1A-030-G	91,4x70,8x5,0	91,44 X 50,80	GREEN	505	142	8	2,4	3,8	20	page 8
KPC1A-030-A	91,4x70,8x5,0	91,44 X 50,80	AMBER	615	80	8	2,4	3,8	20	page 8
KPC1A-030-PG	91,4x70,8x5,0	91,44 X 50,80	PUREGREEN	528	126	8	2,5	3,8	20	page 8
KPC1A-030-W	91,4x70,8x5,0	91,44 X 50,80	WHITE	X=0,32 X=0,31	173	8	3,8	4,3	20	page 8
KPC1A-033-U	101,6x70,8x5,0	101,6 X 50,80	BLUE	465	73	9	3,5	4,2	20	page 8
KPC1A-033-G	101,6x70,8x5,0	101,6 X 50,80	GREEN	505	142	9	2,4	3,8	20	page 8
KPC1A-033-A	101,6x70,8x5,0	101,6 X 50,80	AMBER	615	80	9	2,4	3,8	20	page 8
KPC1A-033-PG	101,6x70,8x5,0	101,6 X 50,80	PUREGREEN	528	126	9	2,5	3,8	20	page 8
KPC1A-033-W	101,6x70,8x5,0	101,6 X 50,80	WHITE	X=0,32 X=0,31	173	9	3,8	4,3	20	page 8
KPC1A-036-U	111,7x70,8x5,0	111,76 X 50,80	BLUE	465	73	10	3,5	4,2	20	page 8
KPC1A-036-G	111,7x70,8x5,0	111,76 X 50,80	GREEN	505	142	10	2,4	3,8	20	page 8
KPC1A-036-A	111,7x70,8x5,0	111,76 X 50,80	AMBER	615	80	10	2,4	3,8	20	page 8
KPC1A-036-PG	111,7x70,8x5,0	111,76 X 50,80	PUREGREEN	528	126	10	2,5	3,8	20	page 8
KPC1A-036-W	111,7x70,8x5,0	111,76 X 50,80	WHITE	X=0,32 X=0,31	173	10	3,8	4,3	20	page 8

**OPTIONS AVAILABLE**

- ◆ Ultrabright
- ◆ Low cost version
- ◆ Bin Selection
- ◆ Ultra bright (from 300 to 1.900 mcd)
- ◆ Special LEDs on request:
  - 470 nm to 700nm
  - 10 mcd to 1.000 mcd
  - +85 °C to +125 °C
  - 19 Standard colours
- ◆ Full Colours
- ◆ Bicolour-Tricolour
- ◆ Different Dimensions

**MATERIAL SPECIFICATION**

- ◆ Housing: PC
- ◆ Lens: PC Optic
- ◆ Operating Temperature SMD version
  - 40° to +125 °C
- ◆ Operating Temperature PTH version
  - 40° to +85 °C
- ◆ Soldering Temperature: 260 °C ≤ 5 sec.
- ◆ Storage Temperature: -60° to + 125°C
- ◆ MTBF: 100.000 hours @ 20mA  
250.000 hours @ 2mA

**APPLICATIONS**

- ◆ Industrial Controls
- ◆ Instrumentation
- ◆ Office automation
- ◆ Computer Peripherals
- ◆ Consumer Product
- ◆ Medical Equipment
- ◆ Test Equipment
- ◆ Process Control Equipment
- ◆ Portable Data entry Device
- ◆ Telecommunication Indicators