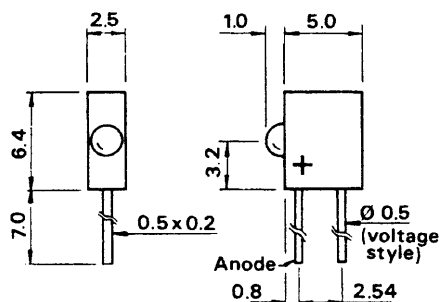


101 Series: Single 2 mm LED 1 Way 90° Mounting PCB Logic Status Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 2:1

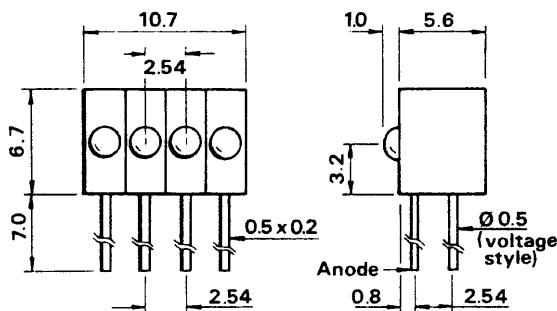
- Ideal for bar graph displays
- Omni directional viewing
- Side stackable on 2.54 mm centres
- Low current range
- Additional voltage ranges available
- Minimum line quantity 50

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE V _f @ I _{opr}	FORWARD CURRENT I _{opr}	LUMINOUS INTENSITY I _v @ I _{opr}	WAVE LENGTH λ _p	VIEWING ANGLE 2θ _{1/2}	OPERATING TEMP T _{opr}	STORAGE TEMP T _{stg}
101 - 221 - 01	Red	1.8	2.0	0.8	635	90	- 40 to + 85	- 50 to + 100
101 - 222 - 01	Yellow	1.9	2.0	0.6	583			
101 - 223 - 01	Green	1.8	2.0	0.6	565			
101 - 205 - 02	Red	1.8	10	3.0	635			
101 - 211 - 02	Yellow	2.0	10	3.0	583			
101 - 214 - 02	Green	2.0	10	3.0	565			
101 - 205 - 20	Red	5 / 6	7 / 10	2.1 / 3.0	635			
101 - 211 - 20	Yellow	5 / 6	7 / 10	2.1 / 3.0	583			
101 - 214 - 20	Green	5 / 6	7 / 10	2.1 / 3.0	565			
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours

102 Series: Single 2 mm LED 4 Way 90° Mounting PCB Logic Status Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 2:1

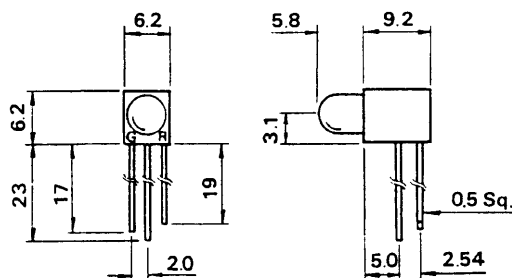
- TTL compatible - range of voltage and current options
- Multi-colour permutations available
- Low current range
- Voltage range
- Minimum line quantity 20

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE V _f @ I _{opr}	FORWARD CURRENT I _{opr}	LUMINOUS INTENSITY I _v @ I _{opr}	WAVE LENGTH λ _p	VIEWING ANGLE 2θ _{1/2}	OPERATING TEMP T _{opr}	STORAGE TEMP T _{stg}
102 - 221 - 01	Red	1.8	2.0	0.8	635	90	- 40 to + 85	- 50 to + 100
102 - 222 - 01	Yellow	1.9	2.0	0.6	583			
102 - 223 - 01	Green	1.8	2.0	0.6	565			
102 - 205 - 02	Red	1.8	10	3.0	635			
102 - 211 - 02	Yellow	2.0	10	3.0	583			
102 - 214 - 02	Green	2.0	10	3.0	565			
102 - 205 - 20	Red	5 / 6	7 / 10	2.1 / 3.0	635			
102 - 211 - 20	Yellow	5 / 6	7 / 10	2.1 / 3.0	583			
102 - 214 - 20	Green	5 / 6	7 / 10	2.1 / 3.0	565			
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours

104 Series- Single 5 mm LED 1 Way 90° Mounting Bi-Colour 3 Pin PCB Indicator



G : green anode
R : red anode

DIMENSIONS IN mm (TYPICAL)

SCALE 1:1

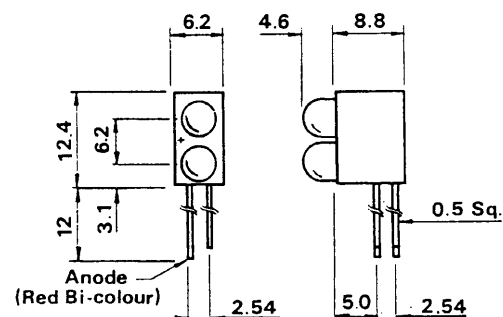
- Can be used as red/amber/green tri-colour (see data page 38)
- 1 LED in place of 3
- 3 lead with common cathode
- Diffused white lens epoxy
- Minimum line quantity 20

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE Vf @ Iopr	FORWARD CURRENT Iopr	LUMINOUS INTENSITY Iv @ Iopr	WAVE LENGTH λp	VIEWING ANGLE 2Θ1/2	OPERATING TEMP Topr	STORAGE TEMP Tstg
104 - 535 - 04	Red/Green Bi-Colour	2.0 2.2	20	40	635 565	50	- 40 to + 85	- 50 to + 100
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours

110 Series- Duplex 5 mm LED 1 Way 90° Mounting PCB Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 1:1

- Bi-colour and integral resistor models enhance potential for space and assembly time savings
- Low current range
- Minimum line quantity 20

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

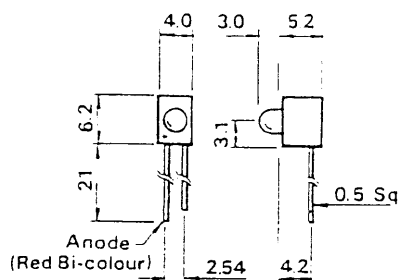
ORDER CODE	COLOUR	TYP FWD VOLTAGE Vf @ Iopr	FORWARD CURRENT Iopr	LUMINOUS INTENSITY Iv @ Iopr	WAVE LENGTH λp	VIEWING ANGLE 2Θ1/2	OPERATING TEMP Topr	STORAGE TEMP Tstg
110 - 505 - 01	Red	1.8	2.0	1.5	650	30	- 40 to + 85	- 50 to + 100
110 - 511 - 01	Yellow	1.9	2.0	1.5	585			
110 - 514 - 01	Green	1.9	2.0	3.0	563			
110 - 505 - 04	Red	2.1	20	33	650			
110 - 511 - 04	Yellow	2.2	20	33	585			
110 - 514 - 04	Green	2.2	20	68	563			
110 - 581 - 20	Red	5.0	10	8.0	635	50	- 40 to + 85	- 50 to + 100
110 - 582 - 20	Yellow	5.0	10	8.0	590			
110 - 583 - 20	Green	5.0	10	8.0	565			
110 - 530 - 04	Red/Green Bi-Colour	2.0 2.2	20	12	635 565			
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours

204-362 to 453

182

103 Series - Duplex 3 mm LED 1 Way 90° Mounting PCB Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 1:1

- Low current versions
- 12 volt models available
- Minimum line quantity 50

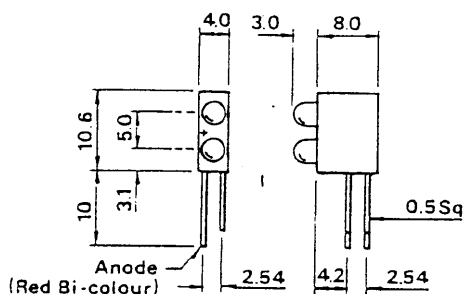
204-362/386

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE Vf @ Iopr	FORWARD CURRENT Iopr	LUMINOUS INTENSITY Iv @ Iopr	WAVE LENGTH λp	VIEWING ANGLE 2Θ1/2	OPERATING TEMP Topr	STORAGE TEMP Tstg
103 - 305 - 01	Red	1.8	2.0	1.5	650	30	- 40 to + 85	- 50 to + 100
103 - 311 - 01	Yellow	1.9	2.0	1.5	585			
103 - 314 - 01	Green	1.9	2.0	2.0	563			
103 - 305 - 04	Red	2.1	20	33	650			
103 - 311 - 04	Yellow	2.2	20	33	585			
103 - 314 - 04	Green	2.2	20	47	563	60		
103 - 381 - 20	Red	5.0	10	8.0	635			
103 - 382 - 20	Yellow	5.0	10	8.0	590			
103 - 383 - 20	Green	5.0	10	8.0	565			
103 - 330 - 04	Red/Green Bi-Colour	2.0	20	12	635	50		
		2.2			565			
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours

109 Series - Duplex 3 mm LED 1 Way 90° Mounting PCB Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 1:1

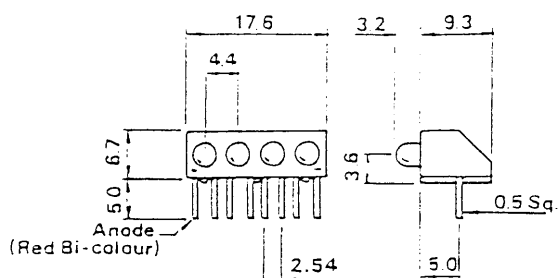
- Save board space and assembly time
- Blue available
- Minimum line quantity 50

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE V _f @ I _{opr}	FORWARD CURRENT I _{opr}	LUMINOUS INTENSITY I _v @ I _{opr}	WAVE LENGTH λ _p	VIEWING ANGLE 2θ _{1/2}	OPERATING TEMP T _{opr}	STORAGE TEMP T _{stg}
109 - 305 - 01	Red	1.8	2.0	1.5	650	30	- 40 to + 85	- 50 to + 100
109 - 311 - 01	Yellow	1.9	2.0	1.5	585			
109 - 314 - 01	Green	1.9	2.0	2.0	563			
109 - 305 - 04	Red	2.1	20	33	650			
109 - 311 - 04	Yellow	2.2	20	33	585			
109 - 314 - 04	Green	2.2	20	47	563	60		
109 - 381 - 20	Red	5.0	10	8.0	635			
109 - 382 - 20	Yellow	5.0	10	8.0	590			
109 - 383 - 20	Green	5.0	10	8.0	565	50		
109 - 330 - 04	Red/Green Bi-Colour	2.0 2.2	20	12	635 565			
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours

107 Series - Single 3 mm LED 4 Way 90° Mounting PCB Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 1:1

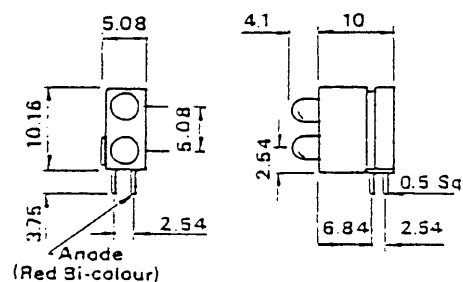
- Multi-colour permutations available
- Suitable for flow soldering assembly
- 12 volt range available
- Minimum line quantity 20

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE Vf @ Iopr	FORWARD CURRENT Iopr	LUMINOUS INTENSITY Iv @ Iopr	WAVE LENGTH nm	VIEWING ANGLE 2θ1/2	OPERATING TEMP Topr	STORAGE TEMP Tstg
107 - 305 - 01	Red	1.8	2.0	1.5	550	30	- 40 to + 85	- 50 to + 100
107 - 311 - 01	Yellow	1.9	2.0	1.5	585			
107 - 314 - 01	Green	1.9	2.0	2.0	563			
107 - 305 - 04	Red	2.1	20	33	550			
107 - 311 - 04	Yellow	2.2	20	33	585			
107 - 314 - 04	Green	2.2	20	47	563	60	+ 85	+ 100
107 - 381 - 20	Red	5.0	10	8.0	535			
107 - 382 - 20	Yellow	5.0	10	8.0	590			
107 - 383 - 20	Green	5.0	10	8.0	555	50		
107 - 330 - 04	Red/Green Bi-Colour	2.0 2.2	20	12	535 565			
	Diffused	V	mA	mcd	nm	deg	°C	°C

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours

122 Series - Single 3 mm LED 4 Way 90° Mounting PCB Indicator



DIMENSIONS IN mm (TYPICAL)

SCALE 1:1

- DIN standard compatible
- Complements 3 and 8 way models
- Meets with UL94 V-O flammability rating
- Minimum line quantity 50

ORDERING INFORMATION AND TECHNICAL CHARACTERISTICS (Ta = 25°C)

ORDER CODE	COLOUR	TYP FWD VOLTAGE Vf @ Iopr	FORWARD CURRENT Iopr	LUMINOUS INTENSITY Iv @ Iopr	WAVE LENGTH nm	VIEWING ANGLE 2θ1/2	OPERATING TEMP Topr	STORAGE TEMP Tstg
122 - 305 - 01	Red	1.8	2.0	1.5	550	30	- 40 to + 85	- 50 to + 100
122 - 311 - 01	Yellow	1.9	2.0	1.5	585			
122 - 314 - 01	Green	1.9	2.0	2.0	563			
122 - 305 - 04	Red	2.1	20	33	550			
122 - 311 - 04	Yellow	2.2	20	33	585			
122 - 314 - 04	Green	2.2	20	47	563	deg	°C	°C
	Diffused	V	mA	mcd	nm			

Mean Time Between Failure 100,000 hours, Low Current Models 250,000 hours