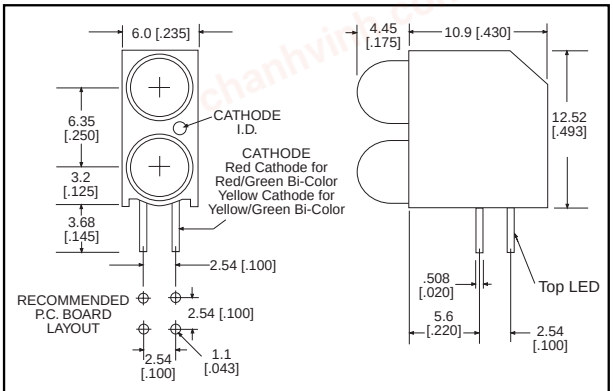
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5mm
LED CBI® Circuit Board Indicator
Bi-level

Dialight

552-0xxx



Dimensions in mm [inches]

Standard Polarity shown in drawing: Cathode right

Features

- Multiple CBIs form horizontal LED arrays on 6.35mm (0.250") center-lines.
- High Contrast, UL 94 V-0 rated, black housing
- Oxygen index: 32%
- Polymer content: PBT, 0.710 g
- Housing stand-offs facilitate PCB cleaning
- Solderability per MIL-STD-202F, method 208F
- LEDs are safe for direct viewing per IEC 825-1, EN-60825-1

Custom Combinations

- Contact factory for information on custom color combinations and ganged arrays

Tolerance note: As noted, otherwise:

- LED Protrusion: ±0.04 mm [±0.016]
- CBI Housing: ±0.02mm[±0.008]

PART NO.	COLOR*
HIGH EFFICIENCY, LED TYPE 02	
552-0211	Red
552-0222	Green
552-0233	Yellow
552-0277	Orange
INTEGRAL RESISTOR 5 VOLTS, LED TYPE 03	
552-0311	Red
552-0322	Green
552-0333	Yellow
INTEGRAL RESISTOR 12 VOLTS, LED TYPE 04 NEW NEW	
552-0422	Green
552-0433	Yellow
BI-COLOR, LED TYPE 07	
552-0711	Red/Green
552-0744	Yellow/Green
SUPER BRIGHT, LED TYPE 08	
552-0811	Red
552-0822	Green
552-0833	Yellow
LOW CURRENT, LED TYPE 09	
552-0911	Red
552-0922	Green
552-0933	Yellow

To order any of the 552-0xxx part numbers with Reverse Polarity (Cathode Left), please add -010 to the part numbers shown above.

PART NUMBER ORDERING CODE

Top Position — Bottom Position

5 5 2 – 0 x x x – 0 1 0

Series: 552
LED Type: 0x
Color: xx
Reverse Polarity Option: 010 (1) Cathode Left

0) Blank 1) Red or Red/Green Bi-Color 2) Green 3) Yellow
4) Yellow/Green Bi-Color 7) Orange

–010 Ordering Code Suffix required ONLY for Reverse Polarity Option

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Typical Operating Characteristics (T_A=25°C)

See LED data sheet for additional information

HIGH EFFICIENCY

See page 6-55 and 6-56 for Reference Only LED Drive Circuit Examples. See page 6-58 for Pin Out

Part Number	Color	Peak Wavelength nm	I_V mcd	V_F Volts	Test Current (mA)	Viewing Angle $2\theta_{½}$	LED Data sheet	Page #
552-0211	Red	650	7	2.2	10	50°	5HD-9269	6-49
552-0222	Green	563	10	2.1	10	65°	5HD-9270-5	6-49
552-0233	Yellow	585	6.3	2.1	10	50°	5HD-9271-5	6-49
552-0277	Orange	600	7	1.9	10	60°	521-9704	6-43

INTEGRAL RESISTOR, 5 VOLTS

Part Number	Color	Peak Wavelength nm	I_V mcd	Test Voltage	Forward Current (mA)	Viewing Angle $2\theta_{½}$	LED Data sheet	Page #
552-0311	Red	655	2	5	13	60°	5RD-9422	6-52
552-0322	Green	565	8	5	12	60°	5RD-9423	6-52
552-0333	Yellow	583	8	5	10	60°	521-9284	6-41

INTEGRAL RESISTOR, 12 VOLTS

Part Number	Color	Peak Wavelength nm	I_V mcd	Test Voltage	Forward Current (mA)	Viewing Angle $2\theta_{½}$	LED Data sheet	Page #
552-0422	Green	565	4	12	13	60°	5RD-9378	6-52
552-0433	Yellow	583	4	12	13	60°	5RD-9379	6-52

BI-COLOR

Part Number	Color	Peak Wavelength nm	I_V mcd	V_F Volts	Test Current (mA)	Viewing Angle $2\theta_{½}$	LED Data sheet	Page #
552-0711	Red/Green	660/565	90/40	1.8/2.1	20	60°	521-9651	6-46
552-0744	Yellow/Green	585/565	8.7/8.7	2.1/2.1	20	50°	521-9724	6-46

SUPER BRIGHT

Part Number	Color	Peak Wavelength nm	I_V mcd	V_F Volts	Test Current (mA)	Viewing Angle $2\theta_{½}$	LED Data sheet	Page #
552-0811	Red	650	34	2.1	20	50°	5SD-9441	6-53
552-0822	Green	563	34	2.2	20	50°	5SD-9456	6-53
552-0833	Yellow	585	34	2.2	20	50°	5SD-9455	6-53

LOW CURRENT

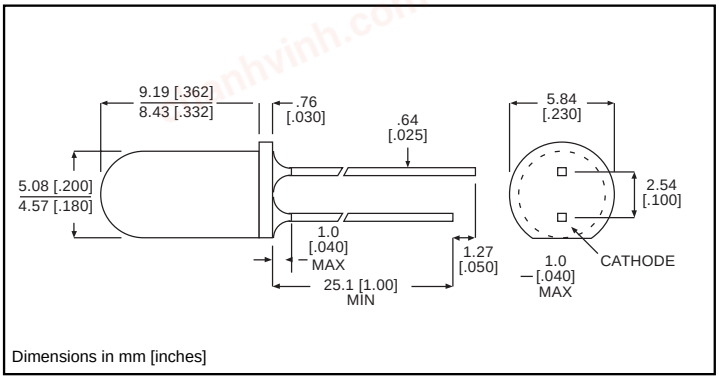
Part Number	Color	Peak Wavelength nm	I_V mcd	V_F Volts	Test Current (mA)	Viewing Angle $2\theta_{½}$	LED Data sheet	Page #
552-0911	Red	635	2	1.8	2	50°	521-9320	6-42
552-0922	Green	565	1.8	1.8	2	50°	521-9327	6-42
552-0933	Yellow	583	1.8	1.9	2	50°	521-9321	6-42

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5mm Discrete LED
Integral Resistor, 5 Volts
Diffused

Dialight

521-9183, -9284



Dimensions in mm [inches]

PART NO.	LED COLOR
521-9183	Red
521-9284	Yellow

MOUNTING CLIP: 515-0004
located on page 6-48

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red **-9183**	Yellow **-9284**
Forward Voltage (V)	7.5	7.5
Derating (V/°C) From 50°C	.071	.071
Operating Temperature (°C)	-40/+85	-40/+85
Storage Temperature (°C)	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case	

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red **-9183**	Yellow **-9284**
Luminous Intensity (mcd)	Min.	2	2
V_F = 5V	Typical	8	8
Peak Wavelength (nm) λ Peak	Typical	635	583
Viewing Angle (2Θ ½)	Typical	60°	60°
Forward Current (I)	Typical	10	10
V_F = 5V	Max	15	15
Reverse Voltage (V), I_R=100µA	Min.	5	5

Θ ½ is the off axis angle at which the luminous intensity is half the axial luminous intensity

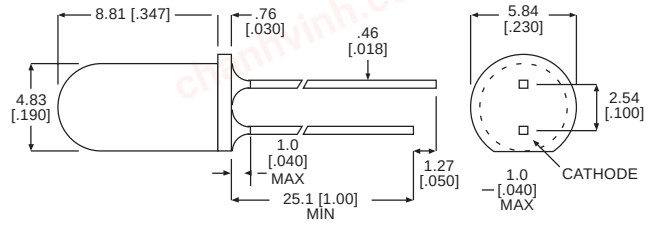
6

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5mm Discrete LED
Low Current, 2mA
Diffused

Dialight

521-9320, -9321, -9327



Dimensions in mm [inches]

PART NO.	COLOR
521-9320	Red
521-9321	Yellow
521-9327	Green

MOUNTING CLIP: 515-0004
located on page 6-48

ABSOLUTE MAXIMUM RATINGS (TA=25°C)	Red **-9320**	Yellow **-9321**	Green **-9327**
Power Dssipation (mW)	27	36	24
Derating (mA/°C) *From 92°C*	1	1	1
Forward Current (mA)	7	7	7
Peak Current (mA) *Pulse width = 10 µs*	500	500	500
Operating Temperature (°C)	-55/+100	-55/+100	-55/+100
Storage Temperature (°C)	-55/+100	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case		

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (TA=25°C)		Red **-9320**	Yellow **-9321**	Green **-9327**
Luminous Intensity (mcd)	Min.	1.2	1.2	1.2
I_F=2mA	Typical	2	1.8	1.8
Peak Wavelength (nm) λ Peak	Typical	635	583	565
Viewing Angle (2Θ ½)	Typical	50°	50°	50°
Forward Voltage (V)	Typical	1.8	1.9	1.8
I_F=2mA	Max.	2.2	2.7	2.2
Reverse Voltage (V), I_R=50µA	Min.	5	5	5

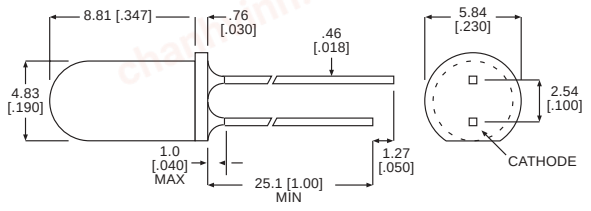
Θ ½ is the off axis angle at which the luminous intensity is half the axial luminous intensity

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5mm Discrete LED
High Efficiency
Diffused

Dialight

521-9246, -9248, -9250, -9704



Dimensions in mm [inches]

PART NO.	COLOR
521-9246	Red
521-9248	Yellow
521-9250	Green
521-9704	Orange

MOUNTING CLIP: 515-0004
located on page 6-48

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red **-9246**	Yellow **-9248**	Green **-9250**	Orange **-9704**
Power Dissipation (mW)	135	85	135	135
Derating (mW/°C) *From 25°C 1. (mA/°C) From 50°C*	1.8	1.6	1.8	.5[1]
Forward Current (mA)	25	20	25	30
Peak Current (mA) *Pulse width = 10µs*	500	500	500	500
Operating Temperature (°C)	-55/+100	-55/+100	-20/+100	-55/+100
Storage Temperature (°C)	-55/+100	-55/+100	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case			

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red **-9246**	Yellow **-9248**	Green **-9250**	Orange **-9704**
Luminous Intensity (mcd)	Min.	4	4	4.2	4
I_F=10mA	Typical	7	8	5.2	7
Peak Wavelength (nm) λ Peak	Typical	635	583	565	600
Viewing Angle (2Θ ½)	Typical	60°	60°	60°	60°
Forward Voltage (V)	Typical	2.2	2.2	2.3	1.9
I_F=10mA	Max.	3	3	3	2.4
Reverse Voltage (V), I_R=100µA	Min.	5	5	5	5

Θ ½ is the off axis angle at which the luminous intensity is half the axial luminous intensity

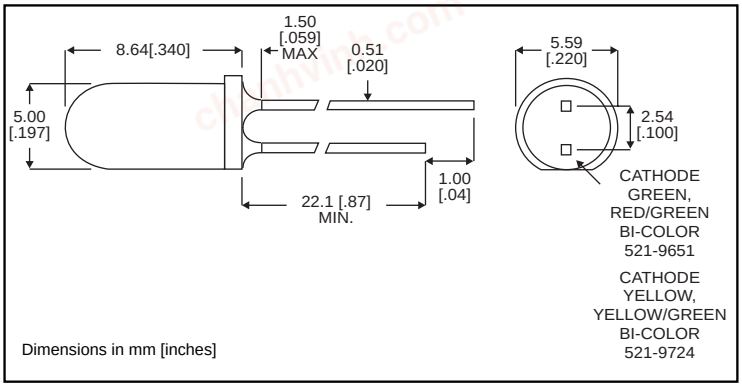
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5mm Discrete LED
Bi-Color
Non-Tinted, Diffused

Dialight

521-9651, -9724



Dimensions in mm [inches]

PART NO.	LED COLOR
521-9651	Red/Green
521-9724	Yellow/Green

MOUNTING CLIP: 515-0005
located on page 6-48

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red/Green **-9651**	Yellow/Green **-9724**
Power Dissipation (mW)	100/100	60/100
Forward Current (mA)	40/30	20/30
Derating (mA/°C) *From 50°C*	.5/.4	.25/.40
Peak Current (mA)	200/120	80/120
Pulse width = 100 µs		
Operating Temperature (°C)	-55/+100	-55/+100
Storage Temperature (°C)	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case	

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red/Green **-9651**	Yellow/Green **-9724**
Luminous Intensity (mcd)	Min.	29/12.6	2.5/2.5
I_F=20mA	Typical	90/40	8.7/8.7
Peak Wavelength (nm)	Typical	660/565	585/565
λ Peak			
Viewing Angle (2Θ ½)	Typical	60°	50°
Forward Voltage (V)	Typical	1.8/2.1	2.1/2.1
I_F=20mA	Max.	2.4/2.8	2.8/2.8

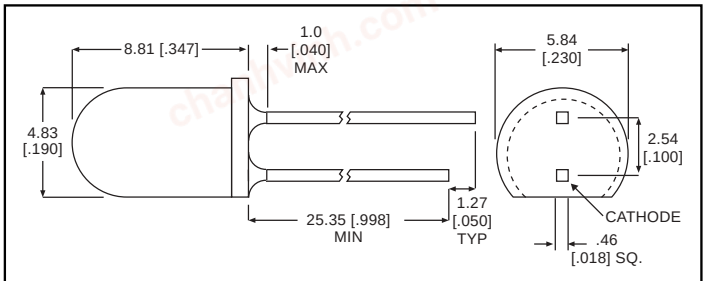
Θ ½ is the off axis angle at which the luminous intensity is half the axial luminous intensity

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5mm Discrete LED
Super Bright, Water Clear
Non-Tinted, Non-Diffused

Dialight

521-9464,-9465,-9466



Dimensions in mm [inches]

PART NO.	COLOR
521-9464	Red
521-9465	Green
521-9466	Yellow

MOUNTING CLIP: 515-0004
located on page 6-48

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red **-9464**	Green **-9465**	Yellow **-9466**
Power Dissipation (mW)	135	135	85
Derating (mW/°C) *From 25°C 1. From 50 °C*	1.8	1.8	1.6[1]
Forward Current (mA)	30	30	20
Peak Current (mA) *Pulse width = 10 µs*	500	500	500
Operating Temperature (°C)	-55/+100	-20/+100	-55/+100
Storage Temperature (°C)	-55/+100	-55/+100	-55/+100
Soldering Temperature	260 °C, 5 seconds, 1.6 mm from case		

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red **-9464**	Green **-9465**	Yellow **-9466**
Luminous Intensity (mcd)	Min.	80	80	80
I_F=20mA	Typical	125	120	140
Peak Wavelength (nm) λ Peak	Typical	635	565	583
Viewing Angle (2Θ ½)	Typical	24°	24°	24°
Forward Voltage (V)	Typical	2.2	2.3	2.2
I_F=20mA	Max.	3	3	3
Reverse Voltage (V), I_R=100µA	Min.	5	5	5

Θ ½ *is the off axis angle at which the luminous intensity is half the axial luminous intensity*

6

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5mm High Efficiency Diffused

Dialight

5HD-xxxx

*** NOT A VALID PART NUMBER. THIS SHEET IS FOR REFERENCE ONLY.**

TYPE	COLOR
*5HD-9269	Red
*5HD-9270-2	Green
*5HD-9270-5	Green
*5HD-9271-2	Yellow
*5HD-9271-5	Yellow

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red **-9269**	Green **-9270-2**	Green **-9270-5**	Yellow **-9271-2**	Yellow **-9271-5**
Power Dissipation (mW)	60	140	75	200	60
Derating (mW/°C) *From 50°C 1. From 40°C*	.66[1]		.66[1]		.66[1]
Forward Current (mA)	20	40	25	60	20
Derating (mA/°C) *From 25°C*		.6		.8	
Peak Current (mA) *Pulse width = 1µs*	60	500	60	1000	60
Operating Temperature (°C)	-25/+85	-55/+100	-25/+85	-55/+100	-25/+85
Storage Temperature (°C)	-30/+100	-55/+100	-30/+100	-55/+100	-30/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case				

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red **-9269**	Green **-9270-2**	Green **-9270-5**	Yellow **-9271-2**	Yellow **-9271-5**
Luminous Intensity (mcd)	Min.	2.2	4	3.6	4	2.2
I_F=10mA	Typical	7	32	10	10	6.3
Peak Wavelength (nm)	Typical	650	565	563	590	585
λ Peak						
Viewing Angle (2Θ ½)	Typical	50°	50°	65°	70°	50°
Forward Voltage (V)	Typical	2.2	2*	2.1	2.4*	2.1
I_F=10mA, *I_F=20mA	Max.	2.5	2.6*	3	3*	3
Reverse Voltage (V),	Min.	5	5*	3*	5*	3
I_R=100µA *I_R=10µA						

Θ ½ is the off axis angle at which the luminous intensity is half the axial luminous intensity

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5mm General Purpose Diffused

Dialight

5ND-xxxx

* NOT A VALID PART NUMBER. THIS SHEET IS FOR REFERENCE ONLY.

TYPE	COLOR
*5ND-9672	Red
*5ND-9673	Yellow
*5ND-9674	Green

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red -9672	Yellow -9673	Green -9674
Power Dissipation (mW)	80	60	100
Forward Current (mA)	40	20	30
Derating (mA/°C) *From 25°C*	.5	.25	.4
Peak Current (mA) *Pulse width = 10 µs*	200	80	120
Operating Temperature (°C)	-55/+100	-55/+100	-55/+100
Storage Temperature (°C)	-55/+100	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case		

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red -9672	Yellow -9673	Green -9674
Luminous Intensity (mcd)	Min.	3.5	3.5	3.5
I_F=20mA	Typical	12.3	12.3	12.3
Peak Wavelength (nm)	Typical	635	585	565
λ Peak				
Viewing Angle (2Θ ½)	Typical	60°	60°	60°
Forward Voltage (V)	Typical	2	2.1	2.1
I_F=20mA	Max.	2.8	2.8	2.8
Reverse Voltage (V), I_R=100µA	Min.	5	5	5

Θ ½ *is the off axis angle at which the luminous intensity is half the axial luminous intensity*

6

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5mm Integral Resistor Diffused

Dialight

5RD-XXXX

* NOT A VALID PART NUMBER. THIS SHEET IS FOR REFERENCE ONLY.

TYPE	COLOR	VOLTS
*5RD-9378	Green	12
*5RD-9379	Yellow	12
*5RD-9422	Red	5
*5RD-9423	Green	5

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Green 12V **-9378**	Yellow 12V **-9379**	Red 5V **-9422**	Green 5V **-9423**
Forward Voltage (V) *(T_A=70°C)	15*	15	7.5	7.5
Operating Temperature (°C)	-20/+85	-40/+85	-40/+85	-20/+85
Storage Temperature (°C)	-55/+100	-55/+100	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case			

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Green 12V **-9378**	Yellow 12V **-9379**	Red 5V **-9422**	Green 5V **-9423**
Luminous Intensity (mcd)	Min.	1.5*	1.5*	1	2
V_F=5V, *V_F=12V	Typical	4*	4*	2	8
Peak Wavelength (nm) λ Peak	Typical	565	583	655	565
Viewing Angle (2Θ ½)	Typical	60°	60°	60°	60°
Forward Current (mA), V_F=5V	Typical	13*	13*	13	12
*V_F=12V	Max.	20*	20*	20	15
Reverse Voltage (V), I_R=100µA	Typical	5	5	5	5

Θ ½ is the off axis angle at which the luminous intensity is half the axial luminous intensity

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5mm
Super Bright LED
Diffused

Dialight

5SD-xxxx

* NOT A VALID PART NUMBER. THIS SHEET IS FOR REFERENCE ONLY.

TYPE	COLOR
*5SD-9441	Red
*5SD-9455	Yellow
*5SD-9456	Green

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)	Red **-9441**	Yellow **-9455**	Green **-9456**
Power Dissipation (mW)	75	75	75
Forward Current (mA)	25	25	25
Derating (mA/°C) *From 50°C*	.66*	.5	.5
*(mW/°C) *From 40°C*			
Peak Current (mA) *Pulse width = 1 ms*	60	60	60
Operating Temperature (°C)	-55/+100	-55/+100	-55/+100
Storage Temperature (°C)	-55/+100	-55/+100	-55/+100
Soldering Temperature	260°C, 5 seconds, 1.6 mm from case		

Solder Adherence per MIL-STD-202E, Method 208C

OPERATING CHARACTERISTICS (T_A=25°C)		Red **-9441**	Yellow **-9455**	Green **-9456**
Luminous Intensity (mcd)	Min.	17	17	17
I_F=20mA	Typical	34	34	34
Peak Wavelength (nm) λ Peak	Typical	650	585	563
Viewing Angle ($2\Theta_{1/2}$)	Typical	50°	50°	50°
Forward Voltage (V)	Typical	2.1	2.2	2.2
I_F=20mA	Max.	2.55	3	3
Reverse Voltage (V), I_R=10µA	Min.	3	3	3

$\Theta_{1/2}$ *is the off axis angle at which the luminous intensity is half the axial luminous intensity*

6