

# OPB 740 Series Reflective Object Sensors

## Description

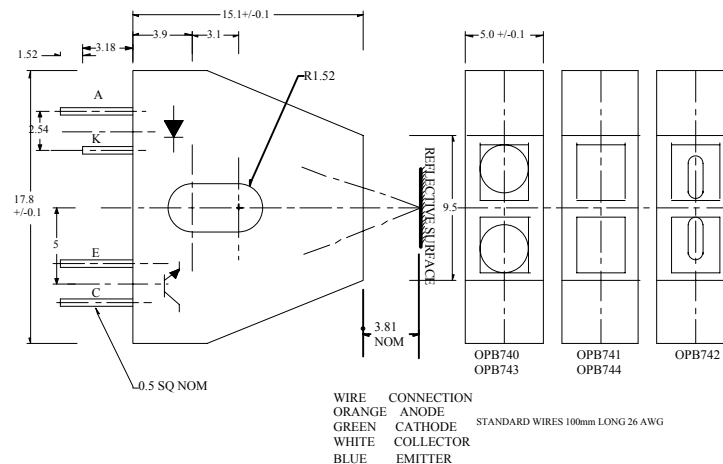
The OPB740 through OPB744 series of reflective object sensors each consist of an infrared emitting diode and an NPN silicon phototransistor mounted side by side on converging optical axes in a black plastic housing. Various options include choice of no windows, blue polysulfone windows for dust protection or opaque windows with offset openings for improved resolution. Available with wires as OPB740W / OPB744W series.

The OPB 745 reflective object sensor consists of an infrared emitting diode and an NPN silicon photodarlington .



- OPB 740 = NO WINDOWS
- OPB 741 = BLUE WINDOWS
- OPB 742 = OFFSET WINDOWS
- OPB 743 = NO WINDOWS
- OPB 744 = BLUE WINDOWS
- OPB 745 = OFFSET WINDOWS

## MECHANICAL DATA



## NOTES

- 1 RMA Flux is recommended. Duration can be extended to 10sec. max. when flow soldering.
- 2 Derate Linearly 1.82mW/°C above 26°C
- 3 d is distance from the assembly face to the reflective surface.
- 4 Reflective surface is Eastam Kodak neutral white test card with 90% diffuse reflectance as a reflective surface.
- 5 Crosstalk is the photocurrent measured with current to the input diode & no reflecting surface
- 6 All parameters tested using pulse technique.

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INPUT DIODE FORWARD DC CURRENT REVERSE DC VOLTAGE POWER DISSIPATION	40mA 2.0V 100mW (2)
OUTPUT SENSOR COLLECTOR-EMITTER VOLTAGE EMITTER-COLLECTOR VOLTAGE POWER DISSIPATION	30V 5.0V 100mW (2)
OUTPUT PHOTODARLINGTON COLLECTOR-EMITTER VOLTAGE EMITTER-COLLECTOR VOLTAGE POWER DISSIPATION	15.0V 5.0V 100mW (2)
OPERATING TEMP	-40 C TO +80°C
STORAGE TEMP	-40 C TO +80°C
LEAD SOLDERING TEMP	240°C (1)

## OPTO ELECTRONIC DATA(Ta=25°C)

PARAMETERS	SYMBOL	MIN	MAX	UNITS	TEST CONDITIONS
<b>INPUT DIODE</b>					
Forward Voltage	VF		1.70	V	If = 40mA
Reverse Current	IR		100	µA	Vr = 2.0V
<b>OUTPUT PHOTOTRANSISTOR</b>					
Collector-Emitter Breakdown	V(BR)CEO	30.0		V	Ic = 100µA
Emitter-Collector Breakdown	V(BR)ECO	5.0		V	Ie = 100µA
Collector-Emitter Dark Current	ICEO		100	nA	Vce= 10.0V, If = 0, Ee = 0
<b>COUPLED CHARACTERISTICS</b>					
On state Collector Current OPB740/OPB741/W OPB742/W OPB743/OPB744/W	IC(ON) (3)(4)	50 10 200		µA µA µA	Vce=5.0V, If=40mA, d=3.8mm
Crosstalk OPB740/OPB741/W OPB742/W OPB743/OPB744/W	ICX (5)		10 100 20	µA nA µA	Vce=5V, If=40mA,
<b>Output Photodarlington OPB745. OPB745W</b>					
Collector-Emitter Breakdown Voltage	V(BR)CEO	15.0		V	Ic = 100µA
Emitter-Collector Breakdown Voltage	V(BR)ECO	5.0		V	Ie = 100µA
Collector Dark Current	ICEO		250	nA	Vce=10V, If = 0, Ee = 0
<b>COUPLED</b>					
On-state Collector Current	IC(ON) (3)(4)	1.00		mA	Vce=5.0V, If=40mA, d=3.8mm
Crosstalk	ICX (5)		250	nA	Vce=5V, If=40mA