

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.

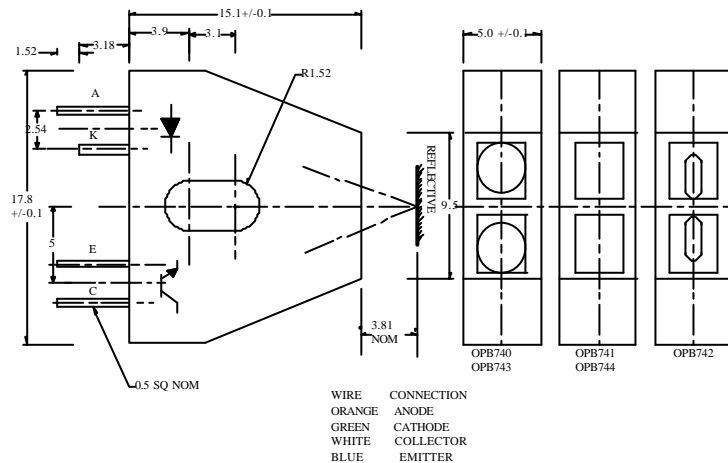
The OPB 745 reflective object sensor consists of an infrared emitting diode and an NPN silicon photodarlington mounted side by side on converging optical axes in a black plastic housing.



Replaces

OPB 740 = K8700 NO WINDOWS
OPB 741 = K8701 BLUE WINDOWS
OPB 742 = K8708 OFFSET WINDOWS
OPB 743 = K8710 NO WINDOWS
OPB 744 = K8711 BLUE WINDOWS
OPB 745 = K8709 OFFSET WINDOWS
OPB 740W = K8702 NO WINDOWS/WIRES
OPB 741W = K8703 BLUE WINDOWS/WIRES
OPB 742W = K8712 NO WINDOWS/WIRES
OPB 744W = K8713

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 Lower curve is based on calculated worst case condition rather than the conventional -20 limit.
- 6 Crosstalk is the photocurrent measured with current to the input diode & no reflecting surface.
- 7 All parameters tested using pulse technique.

BEDFORD OPTO TECHNOLOGY LTD
LINDSAYLANDS, BIGGAR, ML12 6NR

Tel: +44 (0) 1899 221221 Fax: +44 (0) 1899 221009

Website: bot.co.uk E-mail: bill@bot.co.uk

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INPUT DIODE FORWARD DC CURRENT REVERSE DC VOLTAGE	40mA 2.0V
OUTPUT SENSOR COLLECTOR-EMITTER VOLTAGE EMITTER-COLLECTOR VOLTAGE	30V 5.0V
OUTPUT PHOTODARLINGTON COLLECTOR-EMITTER VOLTAGE EMITTER-COLLECTOR VOLTAGE	15.0V 5.0V
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)

PARAMETER	SYMBOL	MIN	MAX	UNITS	TEST CONDIS- TIONS
INPUT DIODE					
Forward Voltage	V _F		1.70	V	I _f = 40mA
Reverse Current	I _R		100	μA	V _r = 2.0V
OUTPUT PHOTOTRANSISTOR					
Collector-Emitter Breakdown	V(BR)CEO	30.0		V	I _c = 100μA
Emitter-Collector Breakdown	V(BR)ECO	5.0		V	I _e = 100μA
Collector-Emitter Dark Current	I _{CEO}		100	nA	V _{ce} = 10.0V, I _f = 0, E _e
COUPLED CHARACTERISTICS					
On state Collector Current OPB740/OPB741/W OPB742/W OPB743/OPB744/W	I _{C(ON)} (3) (4)	50 10		μA μA	V _{ce} =5.0V, I _f =40mA, d=150°
Crosstalk OPB740/OPB741/W OPB742/W OPB743/OPB744/W	I _{CX} (6)		10 100	μA nA	V _{ce} =5V, I _f =40mA,
Output Photodarlington OPB745. OPB745W					
Collector-Emitter Breakdown Volt-	V(BR)CEO	15.0		V	I _c = 100μA
Emitter-Collector Breakdown Volt-	V(BR)ECO	5.0		V	I _e = 100μA
Collector Dark Current	I _{CEO}		250	nA	V _{ce} = 10.0V, I _f = 0,
COUPLED					
On-state Collector Current	I _{C(ON)} (3)	1.00		mA	V _{ce} =5.0V, I _f =40mA,
Crosstalk	I _{CX} (2)		250	nA	V _{ce} =5V, I _f =40mA