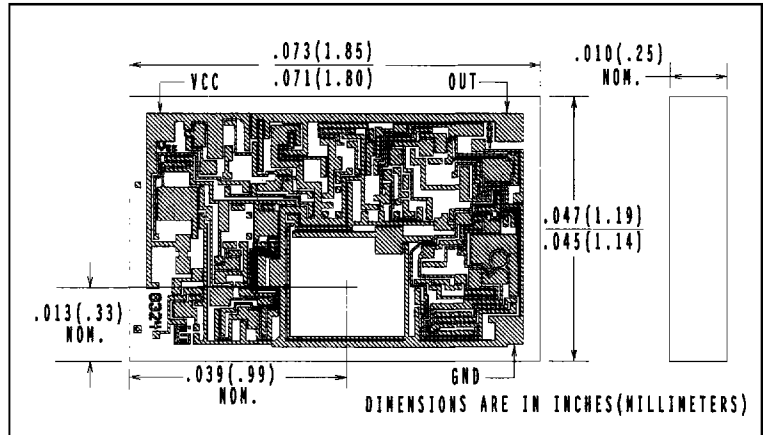
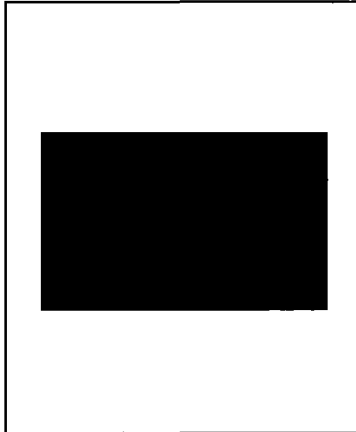


Photologic® Chips

Types OPC8324, OPC8325, OPC8326, OPC8327



Features

- Internal voltage regulator for 4.5V to 18V operation
- Open collector or totem-pole output
- Drive up to 10 TTL loads
- Data rates to 250 kBaud
- High sensitivity

Description

The OPC8324 family of photologic® chips are bipolar monolithic integrated circuits consisting of a photodiode, a voltage regulator, a linear amplifier, and a Schmitt trigger on a single silicon chip. Four output options are available, buffer-totem pole (OPC8324), buffer-open collector (OPC8325), inverter-open collector (OPC8326), and inverter-totem pole (OPC8327). The OPC8324 family features significantly lower thresholds than the companion OPC8320 family.

Optek chip warranty excludes any damage resulting from improper bonding or alloying techniques.

Packaging Options for 8324 Series

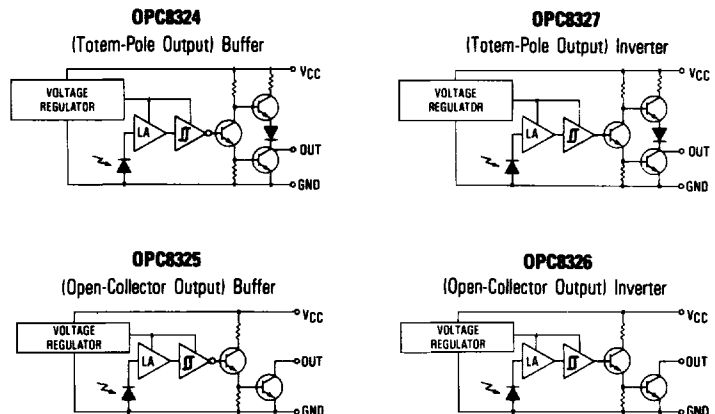
OPC8XXXTP Sawn on Tape
 OPC8XXXWP Waffle Pack
 OPC8XXXSP Unsaun Slice
 Special packaging and testing available upon request. Call Optek for availability of other logic chips.

Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Operating Temperature	-40° C to +85° C
Storage Temperature	-55° C to +125° C
Supply Voltage, V _{CC}	18 V
Junction Temperature	125° C

Notes: (1) Light level sufficient to cause high level output (see Φ_{T+}). Light source is a GaAs LED, λ_P = 935 nm. (2) Light level sufficient to cause low level output (see Φ_{T-}). Light source is a GaAs LED, λ_P = 935 nm, typical.

Schematics



Types OPC8324, OPC8325, OPC8326, OPC8327

Electrical Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
OPC8324 (Buffer Totem-Pole)						
I _{CCH}	High Level Supply Current		8.0	10	mA	V _{CC} = 18 V, $\Phi = 8\ \mu\text{W}$
V _{OH}	High Level Output Voltage	15.5	16.5		V	V _{CC} = 18 V, I _{OH} = -1.0 mA, $\Phi = 8\ \mu\text{W}$
V _{OL}	Low Level Output Voltage		280	400	mV	V _{CC} = 4.5 V, I _{OL} = 16 mA, $\Phi = 0\ \mu\text{W}$
Φ_{T+}	Incident Radiant Power Threshold ⁽¹⁾	0.1	0.7	1.5	μW	V _{CC} = 5.0 V
Φ_{T+}/Φ_{T-}	Hysteresis	1.1	1.5	2		V _{CC} = 5.0 V
OPC8325 (Buffer Open-Collector)						
I _{CCH}	High Level Supply Current		8.0	10	mA	V _{CC} = 18 V, $\Phi = 8\ \mu\text{W}$
I _{OH}	High Level Output Current		<1	100	μA	V _{CC} = 18 V, V _{OH} = 32 V, $\Phi = 8\ \mu\text{W}$
V _{OL}	Low Level Output Voltage		280	400	mV	V _{CC} = 4.5 V, I _{OL} = 16 mA, $\Phi = 0\ \mu\text{W}$
Φ_{T+}	Incident Radiant Power Threshold ⁽¹⁾	0.1	0.7	1.5	μW	V _{CC} = 5.0 V
Φ_{T+}/Φ_{T-}	Hysteresis	1.1	1.5	2		V _{CC} = 5.0 V
OPC8326 (Inverter Open-Collector)						
I _{CCL}	Low Level Supply Current		8.0	10	mA	V _{CC} = 18 V, $\Phi = 0\ \mu\text{W}$
I _{OH}	High Level Output Current		<1	15	μA	V _{CC} = 18 V, V _{OH} = 32 V, $\Phi = 0\ \mu\text{W}$
V _{OL}	Low Level Output Voltage		280	400	mV	V _{CC} = 4.5 V, I _{OL} = 16 mA, $\Phi = 8\ \mu\text{W}$
Φ_{T-}	Incident Radiant Power Threshold ⁽²⁾	0.1	0.7	1.5	μW	V _{CC} = 5.0 V
Φ_{T-}/Φ_{T+}	Hysteresis	1.1	1.5	2		V _{CC} = 5.0 V
OPC8327 (Inverter Totem-Pole)						
I _{CCH}	High Level Supply Current		8.0	10	mA	V _{CC} = 18 V, $\Phi = 0\ \mu\text{W}$
V _{OH}	High Level Output Voltage	15.5	16.5		V	V _{CC} = 18 V, I _{OH} = -1.0 mA, $\Phi = 0\ \mu\text{W}$
V _{OL}	Low Level Output Voltage		280	400	mV	V _{CC} = 4.5 V, I _{OH} = 16 mA, $\Phi = 8\ \mu\text{W}$
Φ_{T-}	Incident Radiant Power Threshold ⁽²⁾	0.1	0.7	1.5	μW	V _{CC} = 5.0 V
Φ_{T-}/Φ_{T+}	Hysteresis	1.1	1.5	2		V _{CC} = 5.0 V

Optek reserves the right to make changes at any time in order to improve design and to supply the best product possible.

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