

REFLECTIVE TRANSDUCERS — SERIES OTR121, OTR122, OTR125, OTR126

Adjustable range is provided by Opto Technology's reflective transducer assemblies which consist of high efficiency gallium arsenide infrared emitting diodes and silicon phototransistor or photodarlington detectors with highly stable hybrid amplifiers. All sensors utilize Schmitt Trigger level detectors for fast (low nanosecond) precise switching and provide options for LSTTL or open collector positive or negative true logic output. These assemblies are ideal for such applications as end-of-tape/beginning-of-tape sensing, limit switches, mark sensors and object sensors (film, paper, reflective tape, etc.). IR transmitting filter to eliminate ambient illumination problems available upon request.

PART DESCRIPTION

PART NUMBER	MAXIMUM RANGE (IN.)			MAXIMUM FREQUENCY (KHZ)	SENSOR TYPE	OUTPUT CONFIGURATION	PACKAGE NUMBER
	(1)	(2)	(3)				
OTR-121S-L (N or P) (4)	36	4	2	10	Phototransistor	LSTTL	3
OTR-121S-C	36	4	2	10	Phototransistor	Open Collector	3
OTR-122S-L	90	10	4	1	Photodarlington	LSTTL	3
OTR-122S-C	90	10	4	1	Photodarlington	Open Collector	3
OTR-125S-L	6	1	.5	10	Phototransistor	LSTTL	4
OTR-125S-C	6	1	.5	10	Phototransistor	Open Collector	4
OTR-126S-L	15	2.5	1	1	Photodarlington	LSTTL	4
OTR-126S-C	15	2.5	1	1	Photodarlington	Open Collector	4

NOTE: (1) Reflective Surface is 3 inch dia. reflective disc
 (2) Reflective Surface is 1 inch square white paper
 (3) Reflective Surface is 3/16 inch dia. 3M reflective tape
 (4) N = logic level low (Not reflecting)
 P = logic level high (Not reflecting)

ELECTRICAL CHARACTERISTICS (25° unless otherwise noted)

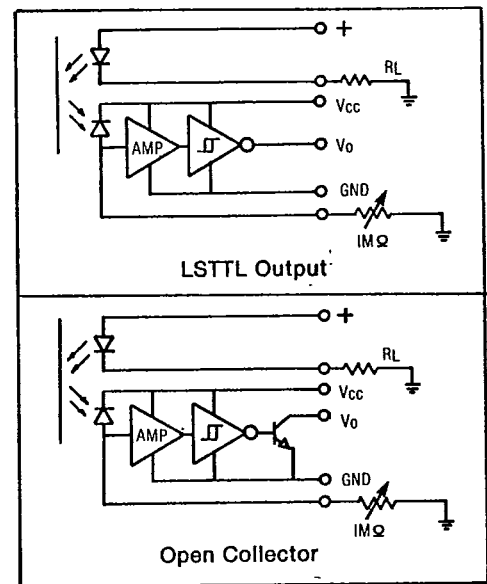
PARAMETER	TEST CONDITIONS	LSTTL OUTPUT			OPEN COLLECTOR			UNIT
		MIN.	TYP.	MAX.	MIN.	TYP.	MAX.	
V _{OH} High-Level Output Voltage	V _{CC} = 4.75 V, I _{OH} = 400 μA	2.7	3.4					V
V _{OL} Low-Level Output Voltage	V _{CC} = 4.75 V, I _{OL} = 8 mA		.35	5				V
I _{OH} Low-Level Output Current				-400				μA
I _{OL} Low-Level Output Current				8				mA
V _{CE (SAT)} Collector-Emitter Saturation Voltage	I _C = 100 mA						.3	V
V _{CEO} Collector-Emitter Breakdown Voltage	I _C = 10 mA				40			V
t _r & t _f Rise and Fall Time*	C _L = 15 pf, R _L = 2KΩ		15	22		60	150	nS
V _{CC} Supply Voltage		4.75	5	5.25	4.75	5	5.25	V
I _{CC} Supply Current	V _{CC} = 5.25 V		15	25		15	15	mA
Hysteresis			10			10		%

*Output to Ground

INFRARED EMITTER	OTR 121 & 122		OTR 125 & 126		UNIT
	TYP.	MAX.	TYP.	MAX.	
V _F Forward Voltage @ Max. I _F	1.4	1.7	1.3	1.5	V
I _F Continuous Forward Current	70	100	35	50	mA

ABSOLUTE MAXIMUM RATINGS

Supply Voltage, V_{CC} -0.5V to 7V
 Operating Temperature Range 0°C to 70°C
 Storage Temperature Range -55°C to 100°C
 Power Dissipation OTR 121 & 122 350MW
 Power Dissipation OTR 125 & 126 250MW



ELECTRICAL SCHEMATICS