Transmissive Optoswitch

Slotted Switch — 0.425 High

VTL23DxAH Series

PRODUCT DESCRIPTION

This series of interrupter type transmissive optoswitches combines an infrared emitting diode (IRED) with an NPN phototransistor in an opaque plastic case with two mounting tabs. Visible light blocking dust covers are provided over the .04" (1.0 mm) wide molded-in apertures. Smaller width external aperture covers are available to increase position sensing resolution. These devices are furnished with P.C.board mount leads.

RoHS Compliant

ABSOLUTE MAXIMUM RATINGS

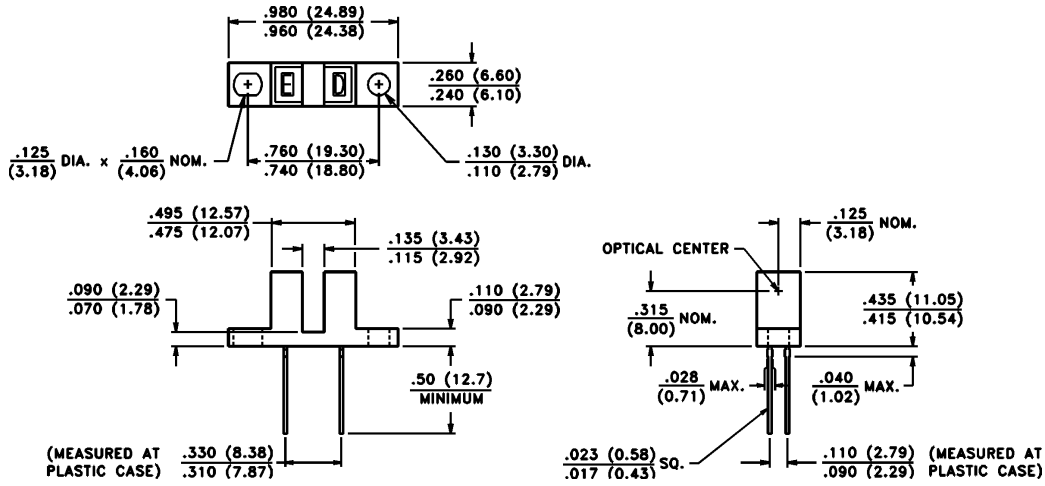
Maximum Temperatures

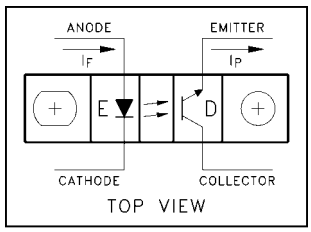
Storage and Operating:	-40°C to 85°C
Lead Soldering Temperature:	260°C (1.6 mm from case, 5 seconds max.)

GENERAL CHARACTERISTICS (@ 25°C unless otherwise noted)

Parameter	Symbol	Text Conditions	Input IRED	Output Detector
Reverse Voltage	V_R	I_R = 100 µA	2.0V Min.	
Continuous Forward Current	I_F	Derate 0.73 mA/°C above 30°C	40 mA Max.	
Forward Voltage Drop	V_F	I_F = 20 mA	1.8V Max.	
Collector Breakdown Voltage	$V_{BR(CEO)}$	I_C = 100 µA		30V Min.
Emitter Breakdown Voltage	$V_{BR(ECO)}$	I_C = 100 µA		3.0V Min.
Power Dissipation	P_D	Derate 0.91 mW/°C above 30°C		50 mW Max.

PACKAGE DIMENSIONS inch (mm)





ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also curves, pages 32 & 33)

PART NO. (4)	LIGHT CURRENT, I_P			DARK CURRENT (1)			SATURATION VOLTAGE			EMITTER/DETECTOR APERTURE WIDTH (Aperture Length is .075")
	mA Min.	Test Conditions		nA Max.	Test Conditions		Volts Max.	Test Conditions		
		I_F mA	V_{CE} Volts		I_F mA	V_{CE} Volts		I_F mA	I_C mA	
VTL23D0A21H	0.2	20	10	100	0	10	0.4	20	0.1	.020" EMIT./.010" DET.
VTL23D0A22H	0.2	20	10	100	0	10	0.4	20	0.1	.020" EMIT. & DET.
VTL23D1A00H	0.5	20	10	100	0	10	0.4	20	0.4	.040" EMIT. & DET.
VTL23D1A22H	**0.5**	**20**	**10**	**100**	**0**	**10**	**0.4**	**20**	**0.4**	**.020" EMIT. & DET.**
VTL23D2A00H	2.5	20	10	100	0	10	0.6	20	1.8	.040" EMIT. & DET. (2)
VTL23D3A00H	1.0	10	10	100	0	10	0.4	10	0.8	.040" EMIT. & DET. (2)

Notes:

1. The dark current is measured with the part totally shielded from ambient light.
2. Contains a visible light blocking dust cover over the apertures.
3. The plastic case can be damaged by chlorinated hydrocarbons and ketones. Methanol isopropanol alcohols are recommended as cleaning agents.
4. VTL23D1A22H accommodates most applications. The other parts in this series are available only for specialized, high volume applications.