Master 750-1961-TAB

DOCUMENTATION CONTROL		
CLASS	EFFECT. DATE	APPROV.
A		
B		
C	8/-/83	
D		
R		

REVISIONS			
LTR.	DESCRIPTION	DATE	APPROVED
A	ECN #C265 CHANGES PER ENG. INPUT A.M.	10-18-83	10-20-83

NOTES:

1. THIS IS A STANDARD HONEYWELL PART.
2. THE HOA-1961 SHALL MEET THE SPECIFICATION OF THIS DOCUMENT.

SEE SHEET 2

-005	-004	-003	-002	-001	ITEM NO	HONEYWELL OPTO.	GOVT OR INDUSTRY	DESCRIPTION OR NOMENCLATURE
QTY. REQ'D						PART OR IDENTIFYING NO.		

NEXT ASSY	USED ON
FINAL	HOA 1961-TAB
APPLICATION	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES:
ANGLES ±1°
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02

MATERIAL:

		DATE
DRAFT.	A. MARPLE	8-4-83
CHECK	M.N. Brown	8-10-83
ENGR	[illegible]	8-8
MANUF	[illegible]	8/8/83
Q.A.	[illegible]	8-8-83

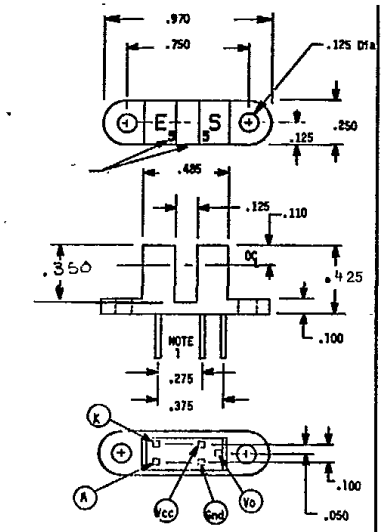
Honeywell
OPTOELECTRONICS

TITLE: OPTO SCHMITT SWITCH

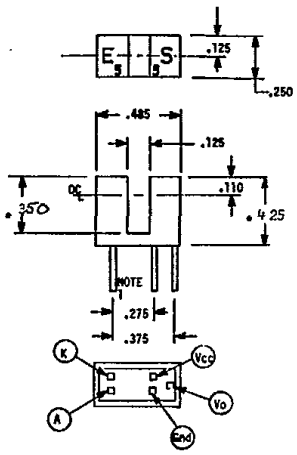
SIZE	FSCM	DWG. NO.
A	32388	750-1961-TAB

SCALE | SHEET 1 OF 6

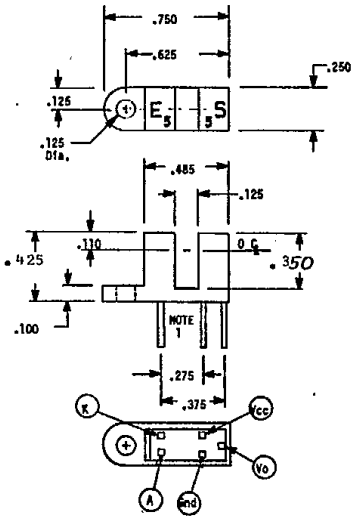
P/N	ASSEMBLY DWG.#	MFG. AND TEST PROCEDURE	QAI
750-1961-051	730-0442-001	751-1961-TAB	753-1961-TAB
750-1961-055	730-0442-002	751-1961-TAB	753-1961-TAB
750-1961-151	730-0442-003	751-1961-TAB	753-1961-TAB
750-1961-155	730-0442-004	751-1961-TAB	753-1961-TAB
750-1961-251	730-0442-005	751-1961-TAB	753-1961-TAB
750-1961-255	730-0442-006	751-1961-TAB	753-1961-TAB
750-1961-351	730-0442-007	751-1961-TAB	753-1961-TAB
750-1961-355	730-0442-008	751-1961-TAB	753-1961-TAB



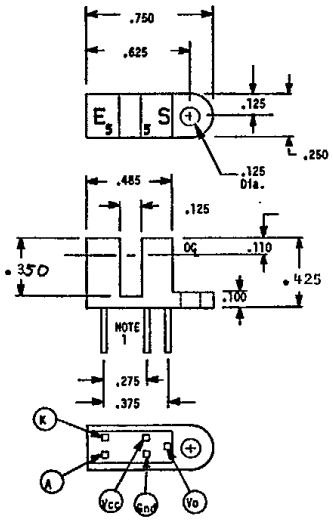
750-1961-251
750-1961-255



750-1961-051
750-1961-055



750-1961-151
750-1961-155



750-1961-351
750-1961-355

NOTES: 1. These Dimensions are controlled at Hsg. surface only.
2. Number indicates aperture size:
1= .010
5= .050
3. Lead length is .40 min.

Honeywell OPTOELECTRONICS	CODE IDENT NO. 32388	SIZE A	DRAWING NO. 750-1961-TAB
			SHEET 3 OF 6

110-0278-00A

PART NUMBER GUIDE

HOA 1961-XXX

SCHMITT DETECTOR

HOUSING MATERIAL
7 = POLYCARBONATE
6 = POLYSULFONE

MECHANICAL AND
ELECTRICAL SPECIFICATIONS
1 = OUTPUT HIGH WITH LIGHT ON
3 = OUTPUT LOW WITH LIGHT ON

APERATURE WIDTH IN FRONT OF SENSOR
1 = .010 in. 5 = 0.050 in.
APERATURE LENGTH IS 0.060 in.

APERATURE WIDTH IN FRONT OF LED
5 = 0.050 in.
APERATURE LENGTH IS 0.060 in.

MOUNTING CONFIGURATION
0 = No tabs
1 = Single tab emitter side
2 = Both tabs
3 = Single tab detector side

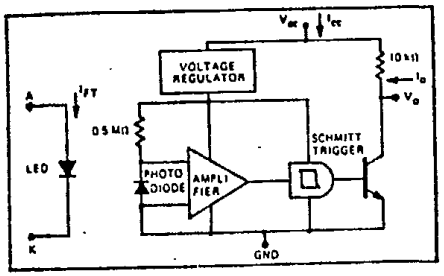
Honeywell OPTOELECTRONICS	CODE IDENT NO. 32388	SIZE A	DRAWING NO. 750-1961-TAB
		SHEET 4 OF 6	

ELECTRICAL CHARACTERISTICS @ T_A = 25° C

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
LED						
Forward Voltage	V_F			1.5	V	I_F = 20 mA
Reverse Leakage Current	I_R			10	μA	V_R = 3.0V
Input Reverse Voltage	V_R			3	V	I_R = 10 μA
DETECTOR						
Operating Supply Voltage Range	V_{CC}	4.5		16		
Output Voltage LOW	V_{OL}		.2	.4	V	−40°C < T_A < 100°C I_O = 16 mA
Output Voltage HIGH	V_{OH}		V_{CC}			Note that output is tied to V_{CC} thru an internal 10kΩ resistor
Supply Current with output low	I_{CCL}		7 6	15 12	mA mA	V_{CC} = 16 V V_{CC} = 5 V
Supply Current with output high	I_{CCH}		5 4	12 10	mA mA	V_{CC} = 16 V V_{CC} = 5 V
Supply Current (50% duty cycle)	I_{CC}		5	11	mA	V_{CC} = 5 V
Propagation delay time output low to high	t_{PLH}		1	5	μ sec	I_F = 10 mA, C_L = 50 pF, R_L = 390Ω
Propagation delay time Output high to low	t_{PHL}		2.5	5	μ sec	I_F = 10 mA, C_L = 50 pF, R_L = 390Ω
Output rise time (10 - 90%)	t_r		60	150	ns	C_L = 50 pF, R_L = 390Ω V_{CC} = 5 V,
Output fall time (90 - 10%)	t_f		6	15	ns	C_L = 50 pF, R_L = 390Ω V_{CC} = 5 V, Figure 1
Hysteresis		5	10	30	%	Note 2,
Required LED Current	I_{FT}			20	mA	Note 1,
Maximum Operating Freq.	Fm			100	KHz	C_L = 50 pF, R_L = 390Ω, V_{CC} = 5 V

NOTES

1. Required LED Current is the forward LED current required to trigger the detector output from LOW to HIGH. Higher LED current may be required for application where optical transmission is reduced.
2. Hysteresis is defined in terms of irradiance (mW/cm^2) transmitted to the detector and is equal to the difference in the threshold point (min. irradiance to switch the output high) to the release point (reduced amount of irradiance to switch the output back low) divided by the threshold point.



ABSOLUTE MAXIMUM RATINGS

(at Standard Atmospheric Conditions unless otherwise specified)

Storage Temperature . . . . . -40°C to 100°C

Operating Temperature. . . . . -40°C to 75°C

Lead Soldering Temperature (10 sec) . . . . . 260°C

Input Diode	Output Sensor
Forward DC Current . . . . . 50 mA	Maximum allowable V_{CC}. 20V
Peak Forward Current . . . . . 3 A	Power dissipation @ 25°C Ambient. . . 250 mW
(1 μs pulse width, 300 pps)	(V_{CC} = 16 V, Output low)
Reverse DC Voltage. . . . . 3 V	Derate linearly from 25°C. . . . . 3.3 mW/°C
Power Dissipation . . . . . 100 mW*	Output sink . . . . . 40 mA

*Derate Linearly 1.33 mW/°C Above 25°C

Honeywell OPTOELECTRONICS	CODE IDENT NO. 32388	SIZE A	DRAWING NO. 750-1961-TAB
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Mouser Electronics

Authorized Distributor

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Honeywell:
HOA1961-055