

*Master 750-1961-TAB*

DOCUMENTATION CONTROL		
CLASS	EFFECT. DATE	APPROV.
A		
B		
C	<i>8/10/83</i>	<i>MM</i>
D		
R		

REVISIONS			
LTR.	DESCRIPTION	DATE	APPROVED
A	ECN #C265 CHANGES PER ENG. INPUT	A.M. 10-18-83	<i>[Signature]</i>

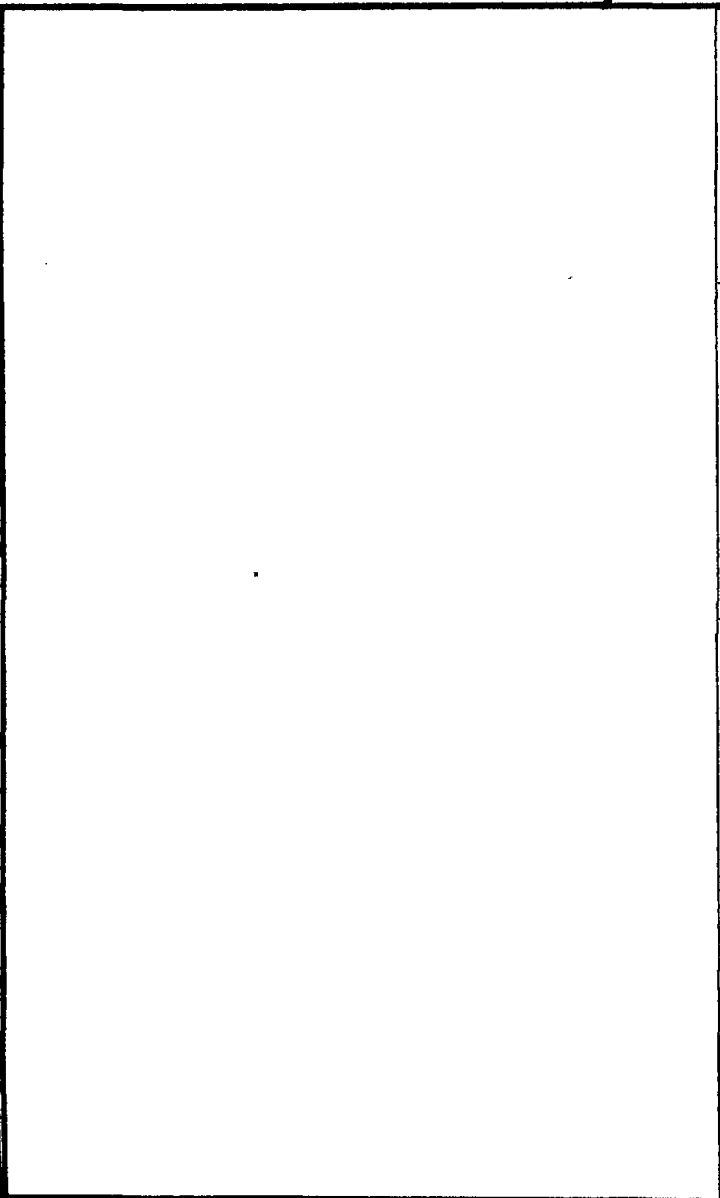
NOTES:

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.				
								<b>Honeywell</b> OPTOELECTRONICS		
						UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES: ANGLES $\pm 1^\circ$ 3 PLACE DECIMAL $\pm .005$ 2 PLACE DECIMAL $\pm .02$	DRAFT. DATE A. MARPLE 8-4-83	TITLE OPTO SCHMITT SWITCH		
							CHECK <i>M.N. Brown</i> 8-10-83 ENGR <i>P. Wark</i> 8-8 MANUF <i>[Signature]</i> 8/8/83 D.S. <i>[Signature]</i> 8-8-83			
						MATERIAL:		SIZE A	FSCM 32388	DWS. NO. 750-1961-TAB
					FINAL NEXT ASSY	HOA 1961-TAB USED ON			SCALE	SHEET 1 OF 6
APPLICATION										

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



<b>Honeywell</b> OPTOELECTRONICS		CODE SHEET NO. <b>32388</b>	SIZE <b>A</b>	DRAWING NO. 750-1961-TAB
		SHEET 2 OF 6		

# Honeywell

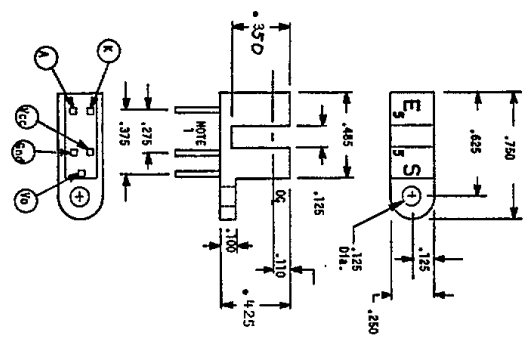
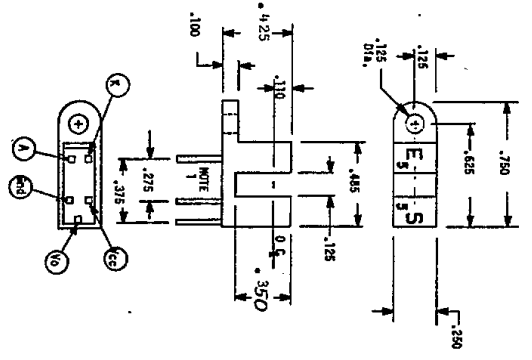
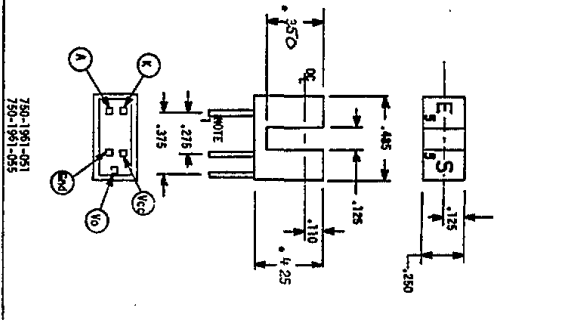
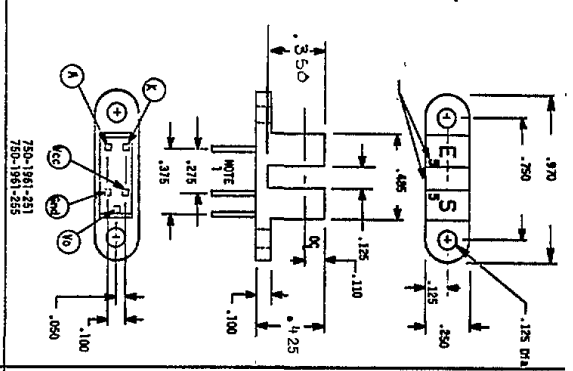
OPTOELECTRONICS

CODE SHEET NO.  
**32300**

SIZE  
**A**

DRAWING NO.  
750-1961-TAB

SHEET 3 OF 6



NOTES: 1. These Dimensions are controlled at Hsg.  
2. Number indicates aperture size.  
3. Standard length is .40 min.

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

COOK SHEET NO. <b>32388</b>	SIZE <b>A</b>	DRAWING NO. 750-1961-TAB
SHEET 4 OF 6		

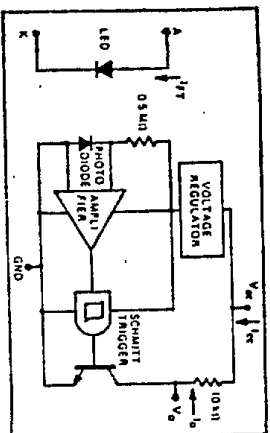
ELECTRICAL CHARACTERISTICS @ T<sub>A</sub> = 25°C

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
LED						
Forward Voltage	V <sub>F</sub>			1.5	V	I <sub>F</sub> = 20 mA
Reverse Leakage Current	I <sub>R</sub>			10	μA	V <sub>R</sub> = 3.0V
Input Reverse Voltage	V <sub>R</sub>			3	V	I <sub>R</sub> = 10 μA
DETECTOR						
Operating Supply Voltage Range	V <sub>CC</sub>	4.5		16		
Output Voltage LOW	V <sub>OL</sub>		.2	.4	V	-40°C < T <sub>A</sub> < 100°C I <sub>O</sub> = 16 mA
Output Voltage HIGH	V <sub>OH</sub>		V <sub>CC</sub>			Note that output is tied to V <sub>CC</sub> thru an internal 10kΩ resistor
Supply Current with output low	I <sub>CCL</sub>		7	15	mA	V <sub>CC</sub> = 16 V
Supply Current with output high	I <sub>CCH</sub>		6	12	mA	V <sub>CC</sub> = 5 V
Supply Current (50% duty cycle)	I <sub>CC</sub>		5	11	mA	V <sub>CC</sub> = 5 V
Propagation delay time output low to high	t <sub>PLH</sub>		1	5	μsec	I <sub>F</sub> = 10 mA, C <sub>L</sub> = 50 pF, R <sub>L</sub> = 390Ω
Propagation delay time Output high to low	t <sub>PHL</sub>		2.5	5	μsec	I <sub>F</sub> = 10 mA, C <sub>L</sub> = 50 pF, R <sub>L</sub> = 390Ω
Output rise time (10 - 90%)	t <sub>r</sub>		60	150	ns	C <sub>L</sub> = 50 pF, R <sub>L</sub> = 390Ω V <sub>CC</sub> = 5 V,
Output fall time (90 - 10%)	t <sub>f</sub>		6	15	ns	C <sub>L</sub> = 50 pF, R <sub>L</sub> = 390Ω V <sub>CC</sub> = 5 V, Figure 1
Hysteresis		5	10	30	%	Note 2,
Required LED Current	I <sub>FT</sub>			20	mA	Note 1,
Maximum Operating Freq.	F <sub>m</sub>			100	KHz	C <sub>L</sub> = 50 pF, R <sub>L</sub> = 390Ω, V <sub>CC</sub> = 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<sup>2</sup>) 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.

<h1>Honeywell</h1> <p>OPTOELECTRONICS</p>		CODE IDENT NO.	SIZE	DRAWING NO.
		<b>32388</b>	<b>A</b>	750-1961-TAB
		SHEET	5	OF
			6	



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

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

<b>Honeywell</b>		CODE IDENT NO.	SIZE	DRAWING NO.
OPTOELECTRONICS		<b>32388</b>	<b>A</b>	750-1961-1AB
		SHEET 6	OF	6

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