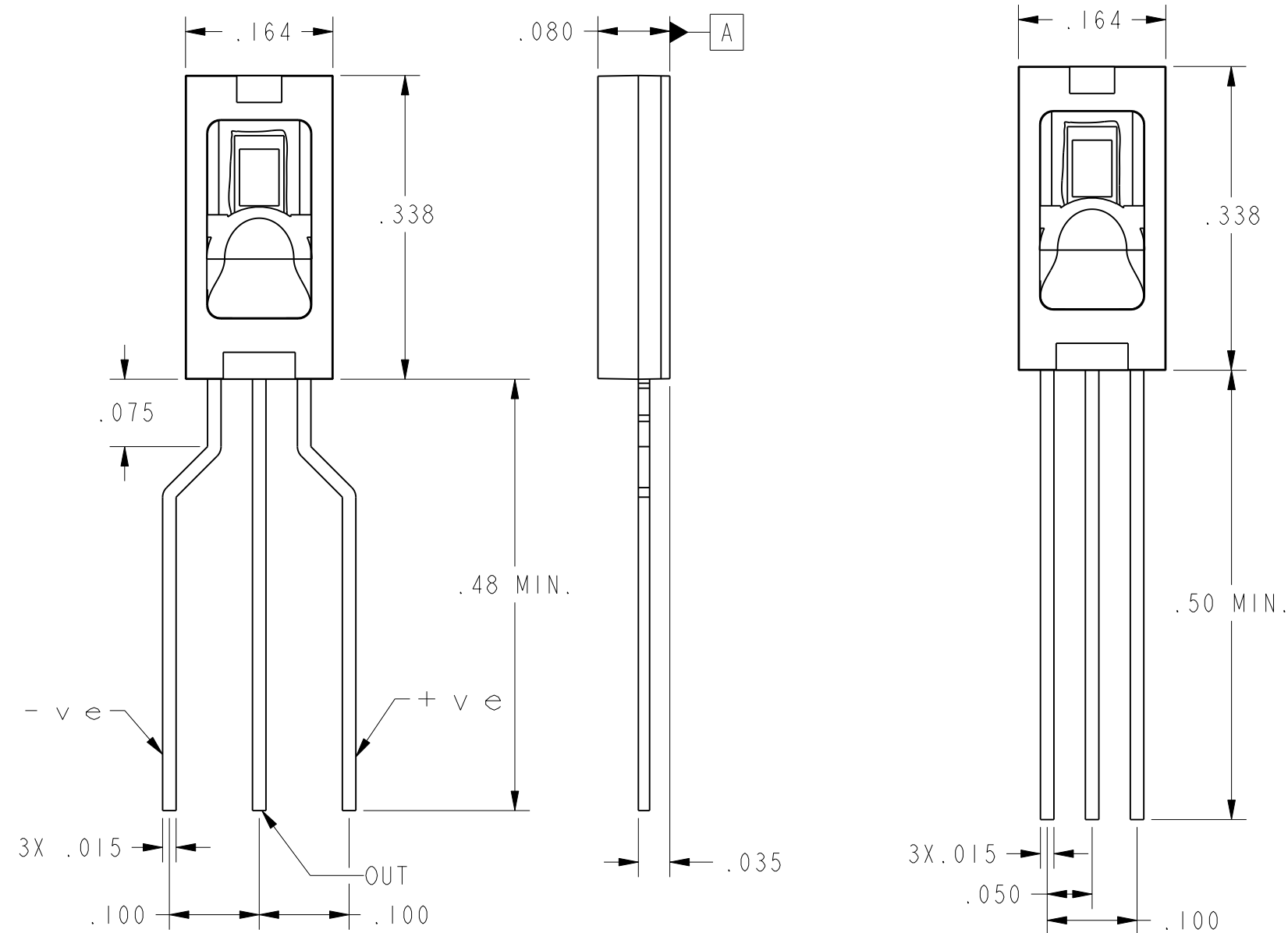


HONEYWELL PART NUMBER
HIH-4010-001
HIH-4010-002
HIH-4010-003
HIH-4010-004

REV	DOCUMENT	CHANGED BY	CHECK
F	0042016	MPH 04AUG08	CMH

HIH-4010-001 / HIH-4010-003

HIH-4010-002 / HIH-4010-004



OPERATING CHARACTERISTICS
at 5.0 VDC AND 25°C UNLESS OTHERWISE NOTED

SPECIFICATION	MIN	TYP	MAX	UNITS
INTERCHANGEABILITY	0 to 59%RH	-5	5	% RH
	60% to 100%RH	-8	8	% RH
ACCURACY, (BFSL)	$\triangle 10$	-3.5	+3.5	% RH
HYSTERESIS		3		% RH
REPEATABILITY		± 0.5		% RH
SETTLING TIME			70	mS
RESPONSE TIME, 1/e IN SLOW MOVING AIR		5		Sec.
STABILITY, AT 50%RH IN 1 YEAR $\triangle 5$		± 1.2		% RH
STABILITY, AT 50%RH IN 1 YEAR $\triangle 6$		± 0.5		% RH
POWER REQUIREMENTS $\triangle 1$ VOLTAGE SUPPLY	4		5.8	VDC
CURRENT SUPPLY		200	500	μ A
VOLTAGE OUTPUT, 1st ORDER CURVE FIT	$V_{out} = (V_{supply})(0.0062(\text{SENSOR RH}) + 0.16)$ TYP at 25°C			
TEMPERATURE COMPENSATION	TRUE RH = (SENSOR RH) / (1.0546 - 0.00216T). T IN °C			
OUTPUT VOLTAGE TEMPERATURE COEFFICIENT AT 50%RH, 5V		-4		mV/°C
OPERATING TEMPERATURE	-40	SEE CHART	85	°C
OPERATING HUMIDITY $\triangle 2$	0	SEE CHART	100	% RH
STORAGE TEMPERATURE	-50		125	°C
STORAGE HUMIDITY $\triangle 2$	SEE CHART			% RH

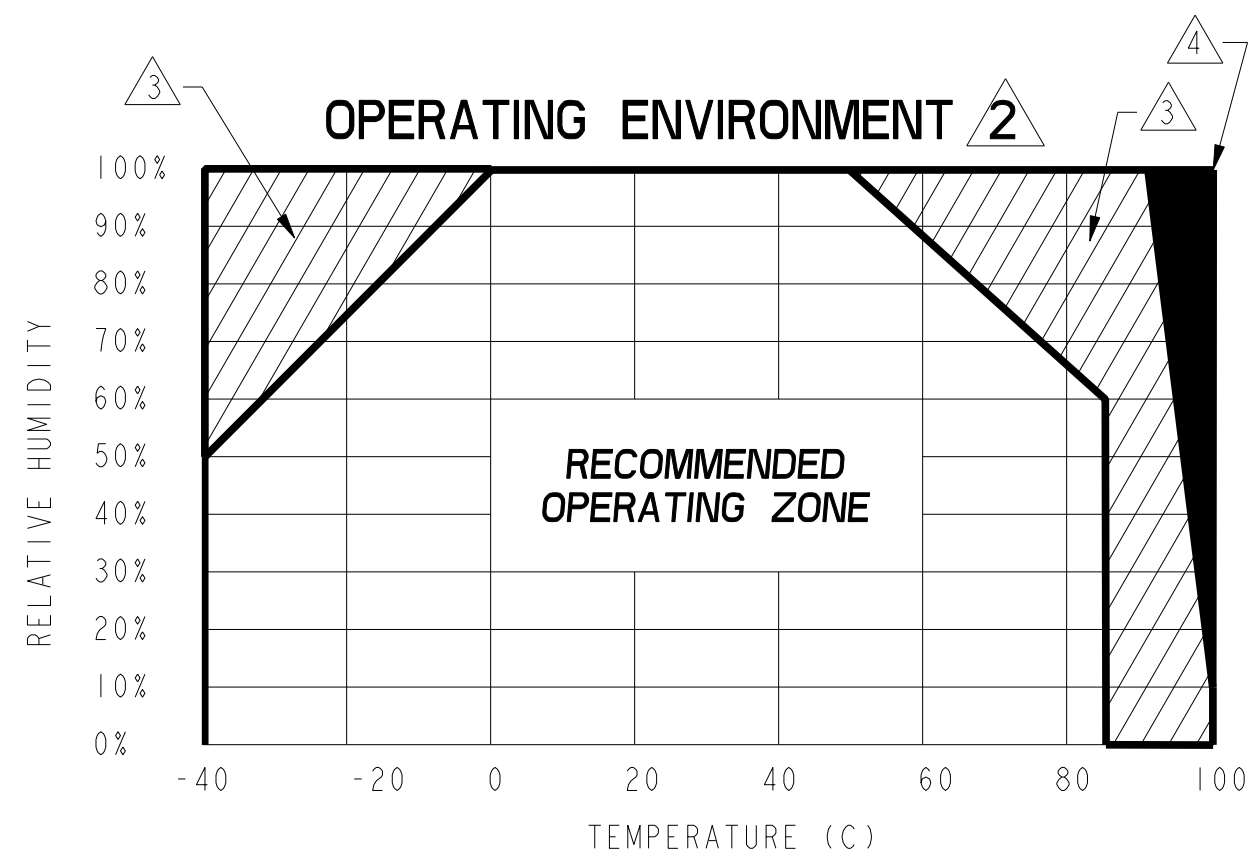
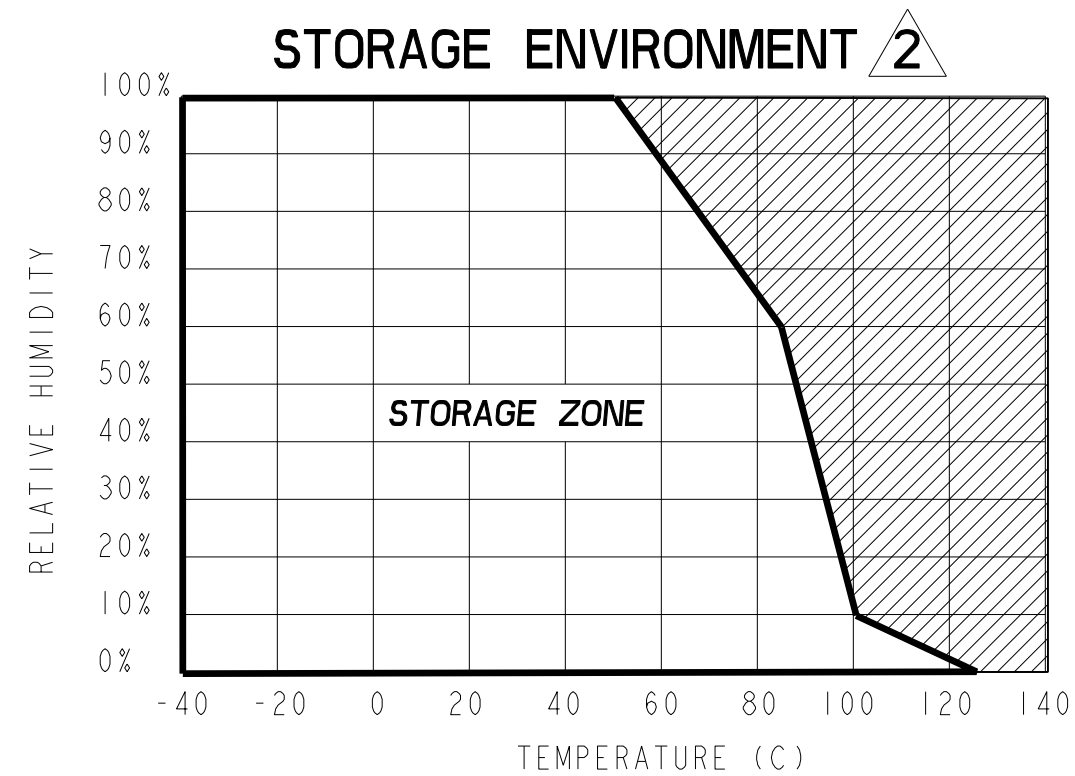
NOTES

- $\triangle 1$ - DEVICE IS CALIBRATED AT 5 VDC AND 25°C
- $\triangle 2$ - NONCONDENSING ENVIRONMENT. WHEN LIQUID WATER FALLS ON THE HUMIDITY SENSOR DIE, OUTPUT GOES TO A LOW RAIL CONDITION INDICATING NO HUMIDITY
- $\triangle 3$ - CROSS-HATCHED OPERATING ZONE LIMITED TO <50 HOURS
- $\triangle 4$ - NO SPECIFICATION ZONE
- $\triangle 5$ - INCLUDES TESTING OUTSIDE OF RECOMMENDED OPERATING ZONE
- $\triangle 6$ - INCLUDES TESTING FOR RECOMMENDED OPERATING ZONE ONLY
- 7 - DEVICE IS RATIO-METRIC TO SUPPLY VOLTAGE
- 8 - EXTENDED EXPOSURE TO $\geq 90\%$ RH CAUSES A REVERSIBLE SHIFT OF 3% RH
- 9 - THIS SENSOR IS LIGHT SENSITIVE AND SHOULD BE SHIELDED FROM BRIGHT LIGHT TO ACHIEVE BEST PERFORMANCE
- $\triangle 10$ - CAN ONLY BE ACHIEVED WITH THE SUPPLIED SLOPE AND OFFSET -003 AND -004 PARTS.



DESIGN UNITS: INCH	DRAWN	TMM	22FEB05	Honeywell			
TOLERANCES UNLESS NOTED:	CHECK	PM	24MAR05				
NO PLACES X \pm 0.040	THIS DRAWING COVERS A PROPRIETARY ITEM AND IS THE PROPERTY OF HONEYWELL. THIS DRAWING IS NOT TO BE COPIED OR USED WITHOUT THE PERMISSION OF HONEYWELL.			TITLE			
ONE PLACE .X \pm 0.030				HIH-4010 SERIES INTEGRATED CIRCUIT HUMIDITY SENSOR			
TWO PLACE .XX \pm 0.015				SIZE	TYPE	DRAWING NAME	REV
THREE PLACE .XXX \pm 0.010				C	I	HIH-4010 SERIES CHART 1	F
FOUR PLACE .XXXX \pm 0.0005				Interpret per ASME Y14.5M-1994 OTHER HONEYWELL ENGINEERING STANDARDS MAY APPLY		SCALE	SHEET
ANGLES X \pm 2	Pro/ENGINEER	3D	6:1	1 OF 2			





PRODUCT DESCRIPTION	
CATALOG LISTING	DESCRIPTION
HIH-4010-001	INTEGRATED CIRCUIT HUMIDITY SENSOR, 0.100 IN LEAD PITCH SIP
HIH-4010-002	INTEGRATED CIRCUIT HUMIDITY SENSOR, 0.050 IN LEAD PITCH SIP
HIH-4010-003	INTEGRATED CIRCUIT HUMIDITY SENSOR, 0.100 IN LEAD PITCH SIP WITH CALIBRATION AND DATA PRINTOUT
HIH-4010-004	INTEGRATED CIRCUIT HUMIDITY SENSOR, 0.050 IN LEAD PITCH SIP WITH CALIBRATION AND DATA PRINTOUT

DATA PRINTOUT (EXAMPLE)	
MODEL	HIH-4010-003
CHANNEL	92
WAFER	030996M
MRP	337313
CALCULATED VALUES AT 5 V	
Vout @ 0% RH	0.958 V
Vout @ 75.3% RH	3.268 V
LINEAR OUTPUT FOR 3.5% RH ACCURACY @ 25 °C	
ZERO OFFSET	0.958 V
SLOPE	30.680 mV/%RH
SENSOR RH	$(V_{out} - \text{ZERO OFFSET}) / \text{SLOPE}$ $(V_{out} - 0.958) / 0.0307$
RATIOMETRIC RESPONSE FOR 0 TO 100% RH	
Vout	$V_{SUPPLY} (0.1915 \text{ TO } 0.8130)$

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		SIZE	DWG TYPE	DRAWING NAME	REV
		C	I	HIH-4010 SERIES CHART 1	F
SCALE 6:1		SHEET 2 OF 2			