

<b>TEMPERATURE SENSOR</b>
NTC THERMISTOR
$R_b = 100 \text{ k ohm} \pm 5\% @ 25^\circ\text{C}$
$\text{Beta} = 4143\text{k}, 0-50^\circ\text{C}$
$R(T) = R_b \exp(B/T - B/298.15), T = ^\circ\text{K}$
ACCURACY = $\pm 3.0^\circ\text{C} @ 25^\circ\text{C}$

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

SPECIFICATION	MIN	TYP	MAX	UNIT
INTERCHANGEABILITY				
0 to 60%RH	-5		5	% RH
60% to 100%RH	-8		8	% RH
ACCURACY, (BFSL)		$\pm 3.5$		% RH
ACCURACY, (2nd ORDER CURVE)		$\pm 2.5$		% RH
HYSTERESIS		3		% RH
REPEATABILITY		$\pm 0.5$		% RH
SETTLING TIME			70	mS
RESPONSE TIME, 1/e IN SLOW MOVING AIR		50		Sec.
STABILITY, AT 50%RH IN 1 YEAR		1.2		% RH
POWER REQUIREMENTS				
VOLTAGE SUPPLY	4		5.8	VDC
CURRENT SUPPLY			500	$\mu\text{A}$
VOLTAGE OUTPUT, 1st ORDER CURVE FIT	$V_{out} = (V_{supply}) (0.0062 (\text{SENSOR RH}) + 0.16)$ TYP at 25°C			
VOLTAGE OUTPUT, 2nd ORDER CURVE FIT	$V_{out} = 0.00003 (\text{SENSOR RH})^2 + 0.0281 (\text{SENSOR RH}) + 0.820$ , TYP at 25°C			
TEMPERATURE COMPENSATION	$V_{out} = (0.0305 + 0.000044T - 0.000011T^2) (\text{SENSOR RH}) + (0.9237 - 0.0041T + 0.000040T^2)$ , T=TEMPERATURE IN °C			
OPERATING TEMPERATURE	-40	SEE CHART	85	°C
OPERATING HUMIDITY	0	SEE CHART	100	% RH
STORAGE TEMPERATURE	-40		125	°C
STORAGE HUMIDITY		SEE CHART		% RH

<b>DATA PRINTOUT (EXAMPLE)</b>	
MODEL	HIH-4602-A
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 2% RH ACCURACY @ 25 °C	
ZERO OFFSET	0.958 V
SLOPE	30.680 mV/%RH
RH	(Vout-ZERO OFFSET)/SLOPE (Vout-0.958)/0.0307
RATIOMETRIC RESPONSE FOR 0 TO 100% RH	
Vout	Vsupply (0.1915 TO 0.8130)

NOTES

- 1 - DEVICE IS CALIBRATED AT 5 VDC AND 25°C
- 2 - NONCONDENSING ENVIRONMENT
- 3 - CROSS-HATCHED OPERATING ZONE LIMITED TO <50 HOURS
- 4 - NO SPECIFICATION ZONE
- 5 - DEVICE IS RATIOMETRIC TO SUPPLY VOLTAGE
- 6 - EXTENDED EXPOSURE TO >=90% CAUSES A REVERSIBLE SHIFT OF 3% RH
- 7 - THIS SENSOR IS LIGHT SENSITIVE AND SHOULD BE SHIELDED FROM BRIGHT LIGHT TO ACHIEVE BEST PERFORMANCE



DESIGN UNITS: INCH TOLERANCES UNLESS NOTED:	DRAWN AS 05NOV04 CHECK AK 05NOV04	<b>Honeywell</b>		
NO PLACE X ± 0.040 ONE PLACE .X ± 0.030 TWO PLACE .XX ± 0.015 THREE PLACE .XXX ± 0.005 FOUR PLACE .XXXX ± 0.0005 ANGLES X ± 2	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 <b>RH SENSOR IN TO-5 CAN HIH-4602 SERIES</b>
THIRD ANGLE PROJECTION	INTERPRET PER ASME Y14.5M-1994 OTHER HONEYWELL ENGINEERING STANDARDS MAY APPLY	SIZE C SCALE 3:1	DRAWING NAME <b>HIH-4602-A</b>	REV <b>A</b>
	RASTER		SHEET 1 OF 2	

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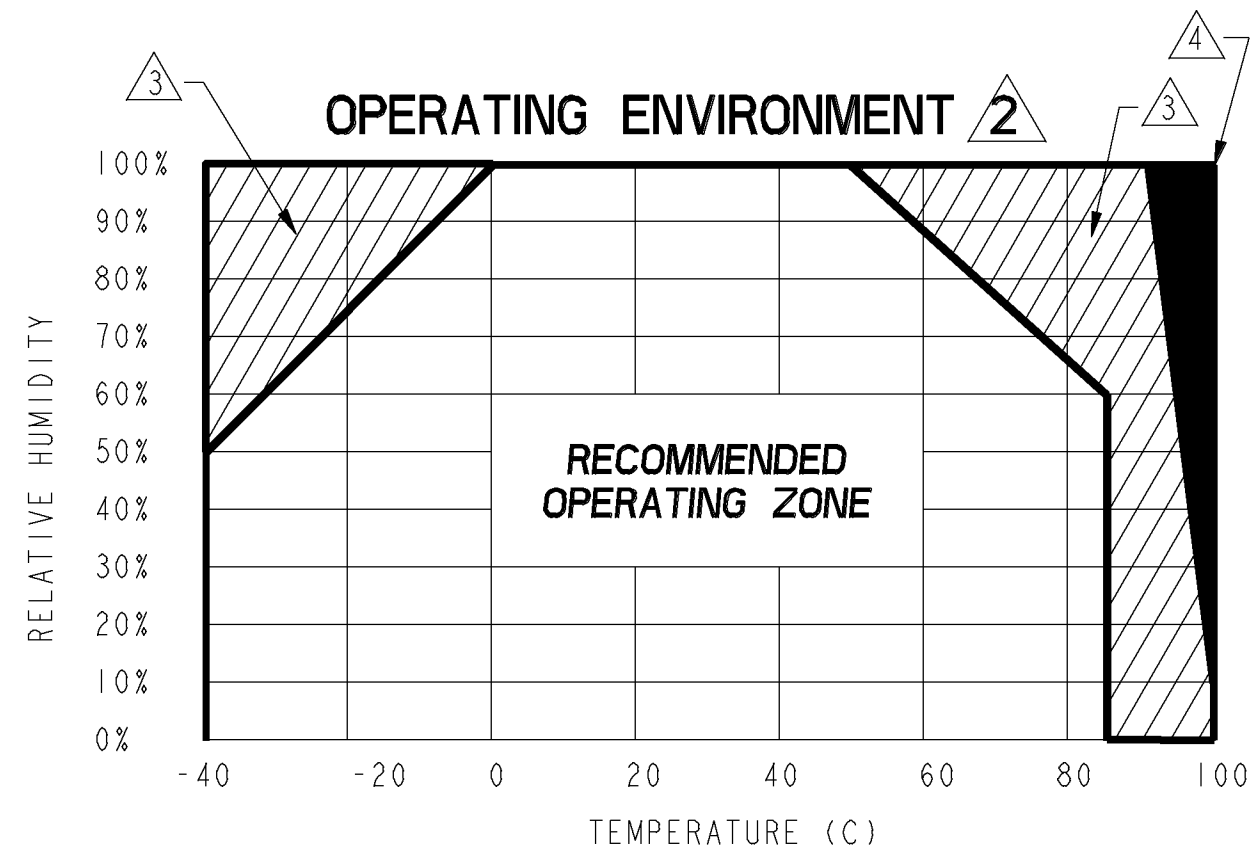
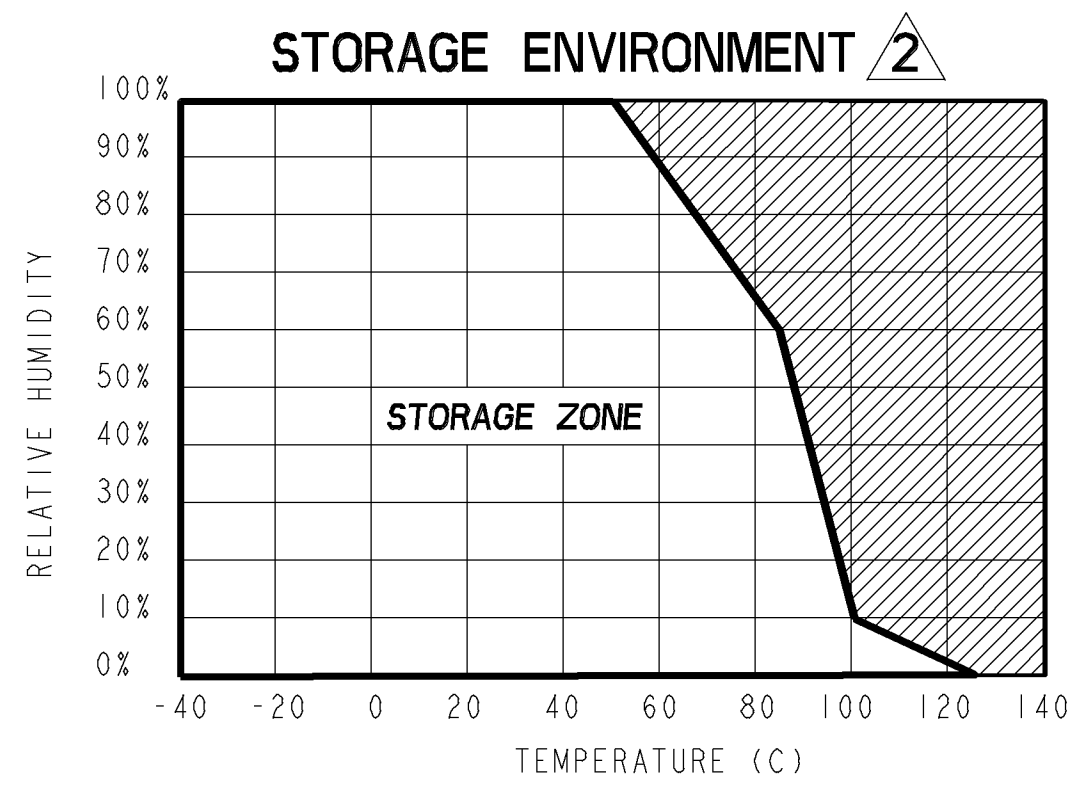
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		SIZE	DWG TYPE	DRAWING NAME	REV
		<b>C</b>	<b>I</b>	<b>HIH-4602-A</b>	<b>A</b>
SCALE		3:1	SHEET	2 OF 2	