

# KXO-EH Series ECL Clock Oscillators

Drive - ECL 10 KH Compatible

$f_o$ : 50 to 135 MHz

## FEATURES:

- 1) ECL 10 KH output
- 2) Hermetically sealed package
- 3) Resistant to mechanical shock
- 4) Crystal technology
- 5) Complementary output or enable/disable function available

## HOW TO ORDER

**KXO-EH 1 - P S C - 100.0000M T**

①      ②   ③   ④   ⑤                      ⑥      ⑦

- ① Type: (Kyocera Crystal Oscillator)
- ② Frequency precision:  
1 =  $\pm 100$ ppm  
0 =  $\pm 50$ ppm
- ③ Power supply voltage:  
P = PLUS specification (PIN 7 Case GND)  
□ = MINUS specification (PIN 14 Case GND)
- ④ Duty cycle:  
S = 45% to 55%  
□ = 40% to 60%
- ⑤ 1 PIN function:  
C = Complementary output  
L = E/D function, 8 PIN output low stop  
H = E/D function, 8 PIN output high stop
- ⑥ Frequency
- ⑦ Packaging:  
□ = tray  
T = tube



## SPECIFICATIONS (KXO-EH)

Classification	Code	Rating (Negative Supply)		Rating (Positive Supply)		Unit	Remarks	
		Min	Max	Min	Max			
Output Frequency	$f_{OUT}$	50	135	50	135	MHz		
Frequency Precision	$\Delta f/f_o$	-100	+100	-100	+100	ppm		
Operating Temperature Range	$T_{OPR}$	0	+70	0	+70	$^{\circ}C$		
Storage Temperature Range		-55	+125	-55	+125	$^{\circ}C$		
Voltage	$V_{EE}$	-5.2 $\pm$ 5%		0 (GND)		VDC		
	$V_{CC}$	0 (GND)		+5.0 $\pm$ 5%				
Electrical Current Consumption	$I_{EE}$	—	50	—	—	mA		
	$I_{CC}$	—	—	—	50			
Output	Duty Cycle	$S_Y$	40	60	40	60	%	
			45	55	45	55		
	"0" Level	$V_{OL}$	-1.95	-1.63	3.05	3.37	V	At 25 $^{\circ}C$
			-1.95	-1.60	3.05	3.4		At 0 $^{\circ}C$ to 70 $^{\circ}C$
	"1" Level	$V_{OH}$	-0.98	-0.81	4.02	4.19	V	At 25 $^{\circ}C$
			-1.02	-0.74	3.98	4.26		At 0 $^{\circ}C$ to 70 $^{\circ}C$
Rise and Fall Time	$T_R, T_F$	—	3.0	—	3.0	nsec	20% to 80% $V_{DD}$	

## ENABLE/DISABLE FUNCTIONS ONLY

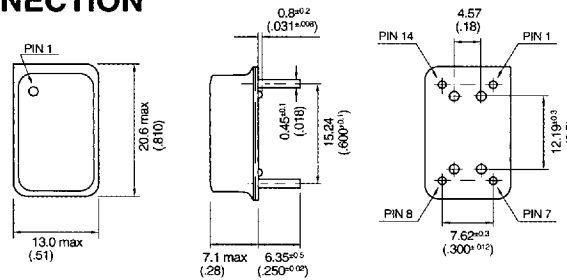
Input Voltage-Low	$V_{IL}$	-1.95	-1.48	3.05	3.52	V	
Input Voltage-High	$V_{IH}$	-1.17	-0.84	3.83	4.16	V	
Input current-Low	$I_{IL}$	—	500	—	500	$\mu A$	
Input Current-High	$I_{IH}$	—	0.5	—	0.5	$\mu A$	
Enable/Disable Time	$t_D$	—	20	—	20	nsec	

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## DIMENSIONS AND PIN CONNECTION



Unit: mm (inch)

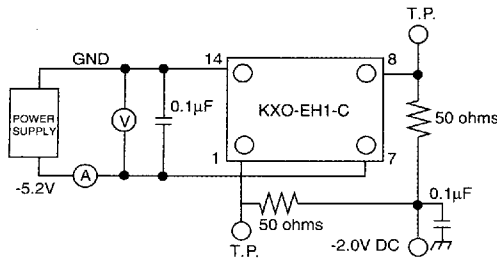
## PIN CONNECTIONS

PIN #	Plus Spec	Minus Spec
1	E/D Function or Complementary Output	
7	Case/GND	$V_{EE}$
8	Output	Output
14	$V_{DD}$	Case/GND

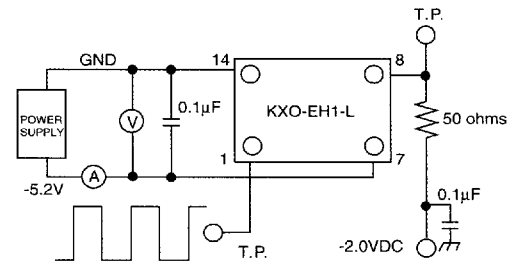
## ENABLE/DISABLE FUNCTION

Option	Pin 1	Pin 8
Low or High	Low or Open	Oscillation
Low	High	Low
High	High	High

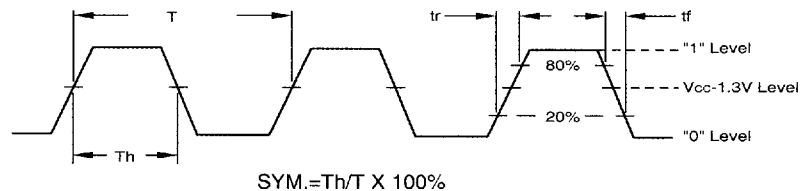
## TEST CIRCUIT COMPLEMENTARY OUTPUT



## ENABLE/DISABLE FUNCTION



## SHAPE OF OUTPUT WAVE



## ABSOLUTE MAXIMUM RATINGS

Item	Symbol	Rated Value	Unit
Negative power supply voltage	$V_{EE}$	-8.0 to 0	V
Positive power supply voltage	$V_{DD}$	0 to 8.0	V
Input voltage	$V_{IN}$	0 to $V_{EE}$	V
Operating temperature	$T_{opr}$	0 to +70	°C
Storage temperature	$T_{stor}$	-55 to +125	°C

## PACKAGING

Tray  
100 pcs/tray  
4 trays/box  
Tube  
25 pieces/tube