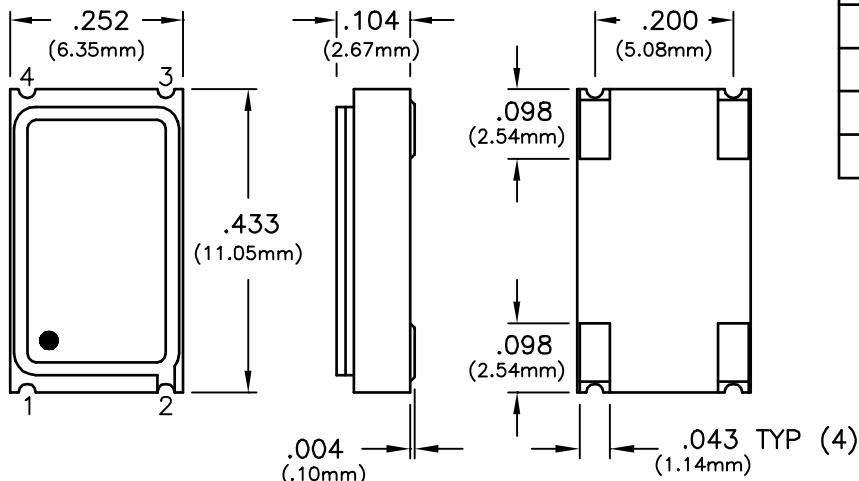


**HCMOS SURFACE MOUNT OSCILLATORS**

SPECIFICATIONS		HSM316		
Frequency Range		1.8MHz to 80MHz		
Frequency Stability		±25ppm		
		(Inclusive of calibration tolerance at 25°C, operating temperature range, input voltage change, load change, aging, shock and vibration)		
Temperature Range		0°C to +85°C		
Output	Waveform	HCMOS Squarewave		
	Load	50pF		
	Voltage	Voh	4.5V Minimum	
		Vol	0.5V Maximum	
	Current	Ioh	-16mA	
		Iol	16mA	
	Duty Cycle	45/55% Maximum		
Rise/Fall Time	5nS Maximum			
Input	Output E/D Time	100nS Maximum		
	Enable	Vih	2.2V Minimum	
		Iih	400uA Maximum , 30uA Typical	
	Disable	Vil	0.8V Maximum	
		Iil	400uA Maximum , 50uA Typical	
Oscillator output is enabled with no connection on pin 1				
Start Up Time		10mS Maximum		
Supply Voltage		+5Vdc ±10%		
Supply Current		80mA Maximum		

Dimensional Tolerance: .005  
(.13mm)



PIN	CONNECTION
1	ENABLE/DISABLE
2	GROUND
3	OUTPUT
4	VDD

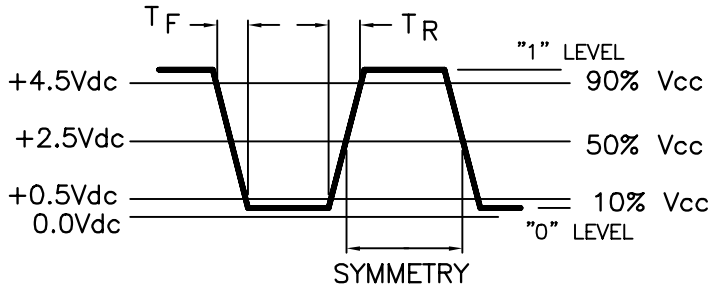
**ORDERING INFORMATION**

HSM316 - 50.00MHz

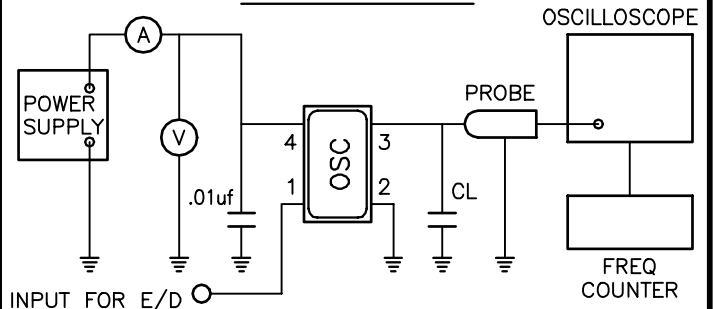
CLOCK  
SERIES

CENTER  
FREQUENCY

**OUTPUT WAVEFORM**



**TEST CIRCUIT**



**MECHANICAL CHARACTERISTICS**

**FREE DROP:**

The specimen shall meet electrical characteristics after tested 3 times Free Drop testing on the hard wooden board from a height of 75cm.

**VIBRATION:**

The specimen shall meet electrical characteristics after tested by the following conditions;  
 10-55Hz 1.5mm Amplitude, 55-2000Hz 20G's, 2 hours for each plane.

**THERMAL SHOCK:**

After applied Thermal Shock of 260 C max x 10 sec max x 2 times, or 230 C max x 180 sec max, the specimen shall meet electrical characteristics.

**SOLDERABILITY: (EIAJ-RCX-0102/101 Condition 1a)**

1. Flux: MIL-F-14256 (WW Rosin=25%, Isopropyl alcohol=75%)
2. Solder: QQ-S-571 (Sn=63%, Pb=37%)
3. Solder bath temperature: 235 C +/-5 C.
4. Depth of immersion: Up to electrical terminal.
5. Immersing time: Within 2 sec +/-0.5 sec into solder bath.

After performing the above procedures, a newly soldered coverage shall be greater than 90%.

**ENVIRONMENTAL CHARACTERISTICS**

**TEMPERATURE CYCLE:**

The specimen shall meet electrical characteristics after tested 5 cycles of -55 C/30 min & +125 C/30 min.

**HERMETICAL**

No bubbles appear in Flourinert (FC-43) at 125 C +/-5 C, for 5 minutes.

**SOLVENT RESISTANCE:**

Marking will withstand immersion in Isopropyl Alcohol or Trichloroethylene.

**SOLDERING**

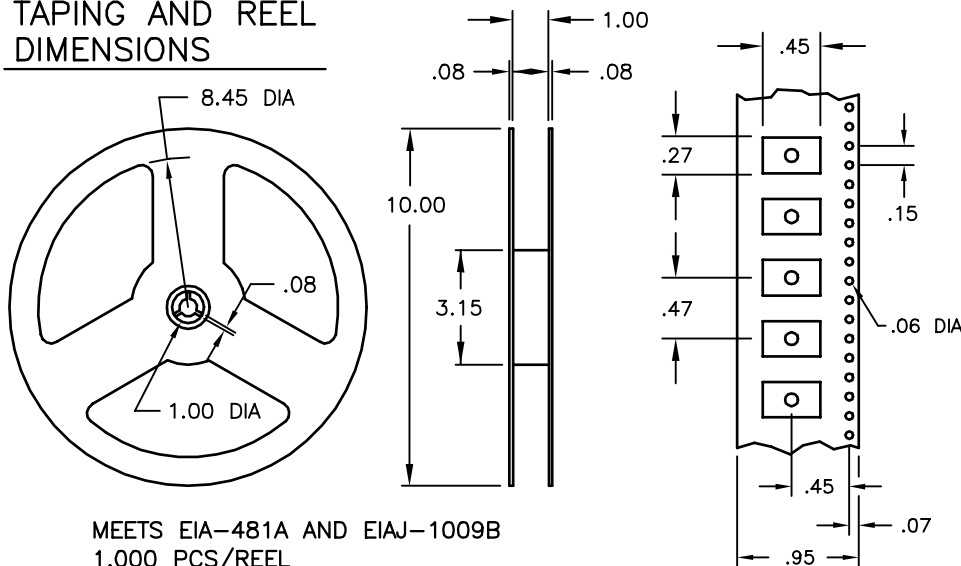
**GENERAL CONDITIONS:**

260°C max x 10 sec max x 2 times max or  
 230°C max x 180 sec max x 1 time.

**TYPICAL OPERATION DATA (Vapor phase reflow)**

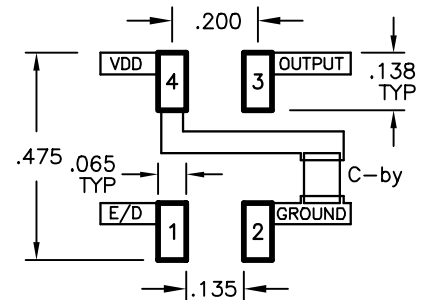
20 to 100 sec up to 215°C, 50 sec at 215°C then down to room temperature per 1 to 5°C/sec

**TAPING AND REEL DIMENSIONS**



MEETS EIA-481A AND EIAJ-1009B  
 1,000 PCS/REEL

**SUGGESTED PAD LAYOUT**



Bypass capacitor, C-by, should be ceramic capacitor  $\geq .01\mu\text{f}$ .