

## CSP SERIES: CLOCK OSCILLATOR, PECL, +2.5 VDC

**DESCRIPTION:** A crystal controlled, high frequency, highly stable oscillator, adhering to Positive Emitter Coupled Logic (PECL) Standards. The output can be Tri-stated to facilitate testing or combined multiple clocks. The device is contained in a sub-miniature, very low profile, leadless ceramic SMD package with 6 gold contact pads. This miniature oscillator is ideal for today's automated assembly environments.

### APPLICATIONS AND FEATURES:

- Infiniband; 10GbE; Network Processors; SOHO Routing; Switches; WAN Interfaces
- Common Frequencies: 106.25 MHz; 125 MHz; 150 MHz; 155.52 MHz; 156.25 MHz; 161.1328 MHz
- +2.5 VDC PECL
- Frequency Range from 50 to 700 MHz
- Miniature Ceramic SMD Package Available on Tape and Reel
- Lead Free and ROHS compliant

### ■ ELECTRICAL PARAMETERS:

PARAMETER	SYMBOL	TEST CONDITIONS <sup>*1</sup>	VALUE	UNIT
Nominal Frequency	fo		50.000 ~ 700.000**	MHz
Supply Voltage	Vcc		+2.5 ±5%	VDC
Supply Current	Is		80.0 MAX	mA
Output Logic Type			PECL	
Load		Connected between each output and Vcc – 2.0 VDC	50	Ω
Output Voltage Levels	Voh Vol		1.365 MIN 0.94 MAX	VDC VDC
Duty Cycle	DC	Measured at 50% of Vcc	40/60 to 60/40 or 45/55 to 55/45	%
Rise / Fall Time	tr / tf	Measured at 20/80% and 80/20% Vcc Levels	1.0 TYP <sup>*2</sup>	ns
Integrated Jitter	J	RMS, Fj = 12 kHz...20 MHz	1 TYP**	ps
Overall Frequency Stability	Δf/fc	Op. Temp., Aging, Load, Supply and Cal. Variations	±25, ±50, or ±100 MAX <sup>*3</sup>	ppm
Pin 1 Output Enabled	En	High Voltage or No Connect	0.7•Vcc MIN	VDC
Pin 1 Output Disabled	Dis	Ground	0.3•Vcc MAX	VDC
Absolute voltage range	Vcc(abs)	Non-Destructive	-0.5...+7.0	VDC

\*1 Test Conditions Unless Stated Otherwise: Nominal Vcc, Nominal Load, +25 ±3°C

\*2 Frequency Dependent

\*3 Not All Stabilities Available With All Temperature Ranges—Please Consult Factory For Availability

### ■ ENVIRONMENTAL PARAMETERS:

PARAMETER	SYMBOL	TEST CONDITIONS <sup>*1</sup>	VALUE	UNIT
Operating temperature range	Ta		SEE PART NUMBER TABLE	°C
Storage temperature range	T(stg)		-55...+90	°C

### ■ PART NUMBERING SYSTEM:

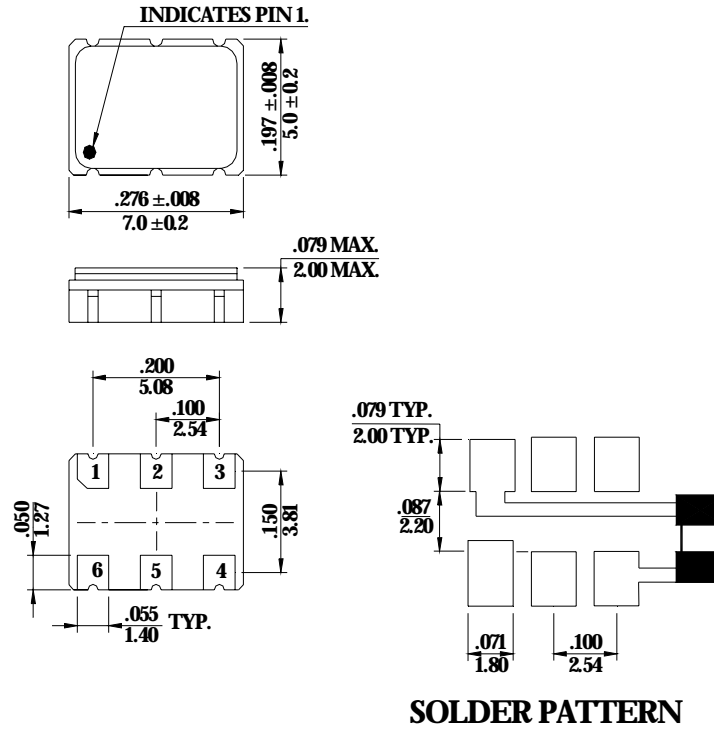
SERIES	SYMMETRY	TEMPERATURE RANGE (°C)	FREQUENCY STABILITY (Overall)	FREQUENCY (MHz)
CSP: Clock with PECL Comp. Output	A: 40/60 to 60/40% T: 45/55 to 55/45%	R: 0...+50 S: 0...+70 U: -20...+70 V: -40...+85**	I: ±25 ppm** H: ±50 ppm J: ±100 ppm	50.000...700.000

### EXAMPLE: CSPASH-155.520

Clock Oscillator, 7x5mm Package, +2.5 VDC Supply Voltage, PECL Output, Standard Symmetry, 0...+70°C Operating Temperature Range, ±50 ppm Total Frequency Stability, 155.520 MHz

\*\*Above 300MHz; extended temp range and ±25ppm stability may not be available, jitter may vary upon spec requirements. Please consult the factory for any custom requirements.

■ **MECHANICAL PARAMETERS:**



**OUTLINE TOLERANCE:**  
 $\pm 0.006'' / 0.15\text{mm}$   
 (Unless otherwise specified)

**PIN FUNCTIONS:**  
 [1] ENABLE/ DISABLE  
 [2] NO CONNECT  
 [3] CASE GROUND  
 [4] OUTPUT  
 [5] COMP. OUTPUT  
 [6] SUPPLY VOLTAGE

**MARKING:**  
 CSPASH  
 155.52  
 RAL D/C

**\*0.01 $\mu\text{F}$  external by-pass filter is recommended as seen on solder pattern.**

## ■ REFLOW PROFILE:

