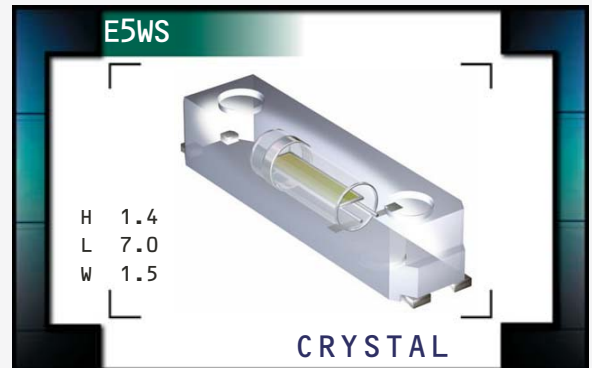


# E5WS Series



- RoHS Compliant
- 32.768kHz watch crystal
- Miniature four pad surface mount package
- $\pm 20$ ppm frequency tolerance
- 7.0pF or 12.5pF Parallel Resonant load capacitance
- Tape and reel available



## NOTES

### ELECTRICAL SPECIFICATIONS

Frequency	32.768kHz
Frequency Tolerance (at 25°C)	$\pm 20$ ppm
Frequency Stability	-0.035ppm / $(\Delta^\circ\text{C})^2$ Maximum, Parabolic; Turn Over Temperature at 25°C $\pm 5^\circ\text{C}$
Operating Temperature Range	-40°C to +85°C
Aging (at 25°C)	$\pm 3$ ppm / year Maximum
Storage Temperature Range	-55°C to +125°C
Shunt Capacitance	0.85pF Typical, 2pF Maximum
Motional Capacitance	1.9fF Typical
Equivalent Series Resistance	65,000 Ohms Maximum
Insulation Resistance	500 Megaohms Minimum at 100V <sub>DC</sub>
Drive Level	1 $\mu$ Watt Maximum
Load Capacitance (C <sub>L</sub> )	12.5pF Parallel Resonant or 7pF Parallel Resonant

MANUFACTURER  
ECLIPTEK CORP.

CATEGORY  
CRYSTAL

SERIES  
E5WS

PACKAGE  
PLASTIC

CLASS  
CR53

REV. DATE  
11/05

# PART NUMBERING GUIDE

## E5WSDC 12 - 32.768K TR

### LOAD CAPACITANCE

07 = 7pF Parallel Resonant  
12 = 12.5pF Parallel Resonant

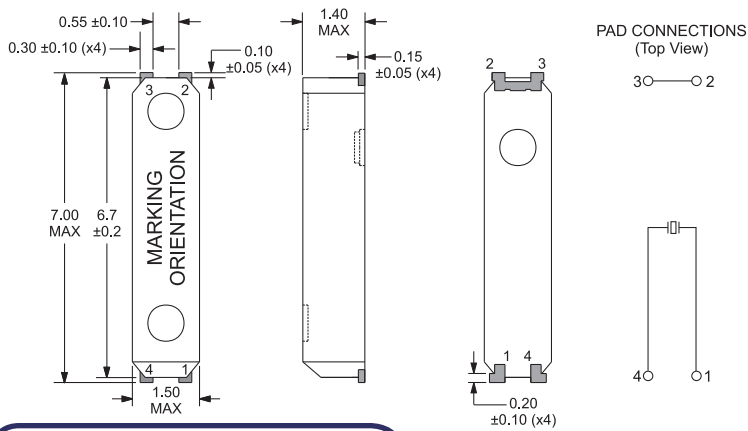
### PACKAGE OPTIONS

Blank = Bulk  
TR = Tape and Reel

## NOTES

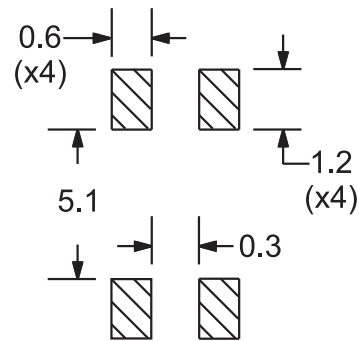
### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



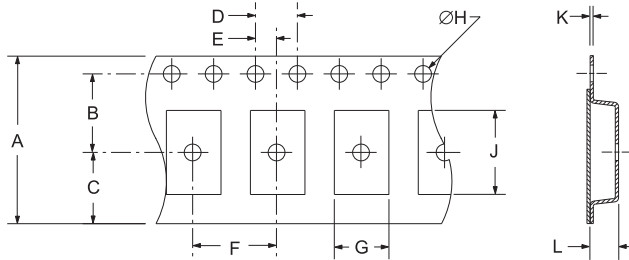
### SUGGESTED SOLDER PAD LAYOUTS

ALL DIMENSIONS IN MILLIMETERS

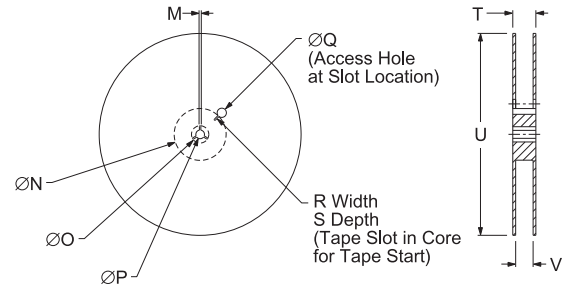


### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



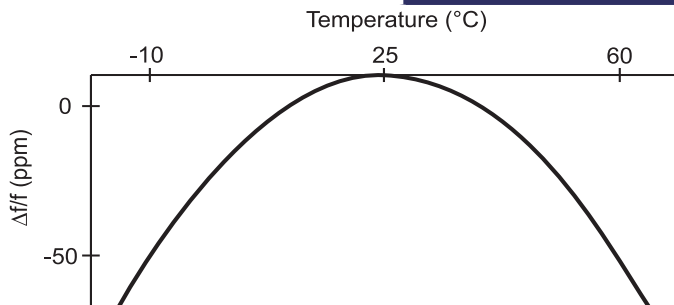
TAPE	A	B	C	D	E
	16±.3	7.5±.1	6.75±.1	4±.2	2±.1
	G	H	J	K	L
	8±.2	A0*	1.5±.1	B0*	K0*



REEL	M	N	O	P	Q
	1.5 MIN	50 MIN	20.2 MIN	13±.5	40 MIN
	R	S	T	U	V
	2.5 MIN	10 MIN	22.4 MAX	360 MAX	16.4+2-0
					QTY/REEL
					3,000

\*Compliant to EIA481A

### PARABOLIC TEMPERATURE CURVE



### MARKING SPECIFICATIONS

Line 1: C Y XXXXX  
 Lot Identifier (5 Characters MAX)  
 Load Capacitance  
 B = 7pF Parallel Resonant  
 F = 12.5pF Parallel Resonant  
 Frequency Code

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