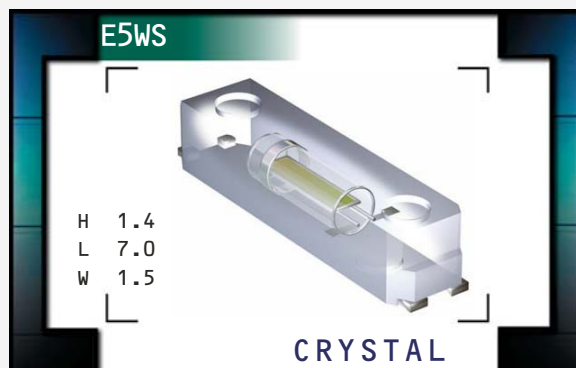


# E5WS Series

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



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ECLIPTEK CORPORATION



## NOTES

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## ELECTRICAL SPECIFICATIONS

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

MANUFACTURER  
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CATEGORY  
CRYSTAL

SERIES  
E5WS

PACKAGE  
PLASTIC

CLASS  
CR53

REV. DATE  
02/06

### PART NUMBERING GUIDE

## E5WSDC 12 - 32.768K TR

#### LOAD CAPACITANCE

07=7pF  
12=12.5pF

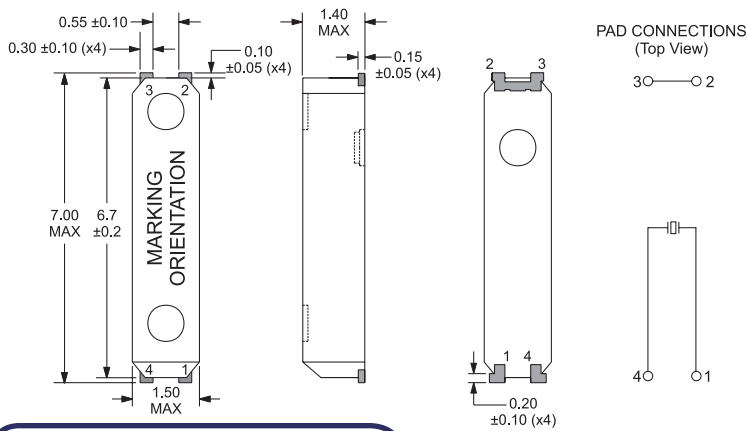
#### PACKAGE OPTIONS

Blank=Bulk, TR=Tape and Reel

### NOTES

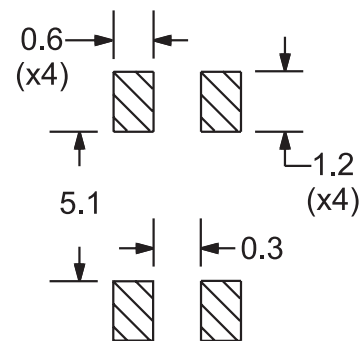
#### MECHANICAL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



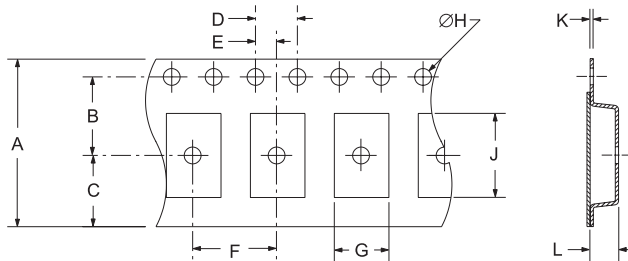
#### SUGGESTED SOLDER PAD LAYOUTS

ALL DIMENSIONS IN MILLIMETERS

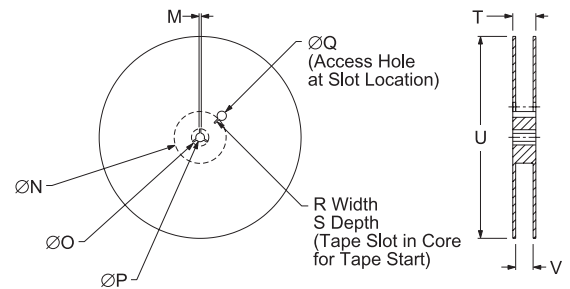


#### TAPE AND REEL DIMENSIONS

ALL DIMENSIONS IN MILLIMETERS



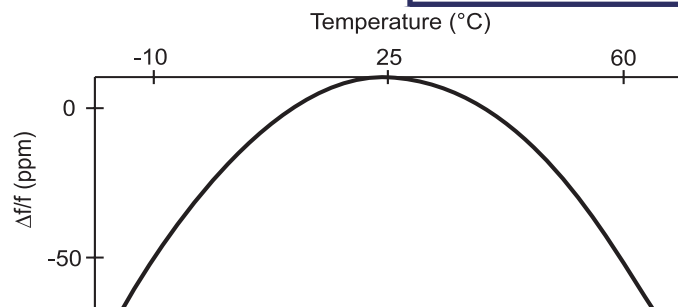
TAPE	A	B	C	D	E
	16±.3	7.5±.1	6.75±.1	4±.2	2±.1
	G	H	J	K	L
	8±.2	A0*	1.5±.1	B0*	K0*



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  
 F = 12.5pF  
 Frequency Code

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