

# E2UAA18-29.4912M TR



**ECLIPTEK**  
CORPORATION

<b>Series</b> RoHS Compliant (Pb-free) Resistance Welded HC-49/US Crystal	<b>E2U A A 18 -29.4912M TR</b>	<b>Packaging Options</b> Tape & Reel
<b>Frequency Tolerance/Stability</b> ±50ppm at 25°C, ±100ppm over 0°C to +70°C	<b>Nominal Frequency</b> 29.4912MHz	
<b>Mode of Operation</b> AT-Cut Fundamental	<b>Load Capacitance</b> 18pF Parallel Resonant	

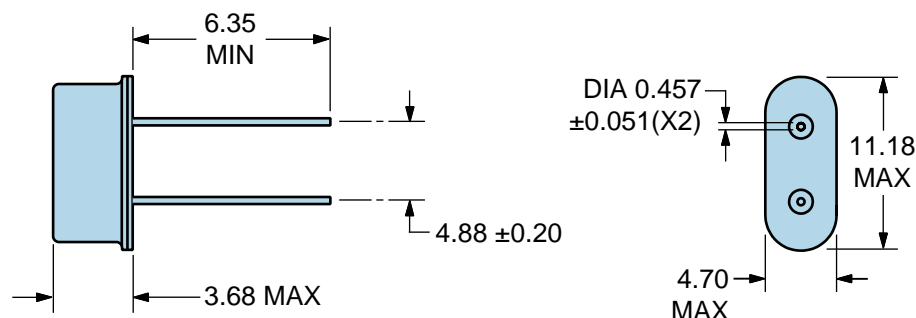
## ELECTRICAL SPECIFICATIONS

<b>Nominal Frequency</b>	29.4912MHz
<b>Frequency Tolerance/Stability</b>	±50ppm at 25°C, ±100ppm over 0°C to +70°C
<b>Aging at 25°C</b>	±5ppm/year Maximum
<b>Load Capacitance</b>	18pF Parallel Resonant
<b>Shunt Capacitance (C0)</b>	7pF Maximum
<b>Equivalent Series Resistance</b>	40 Ohms Maximum
<b>Mode of Operation</b>	AT-Cut Fundamental
<b>Drive Level</b>	1mWatt Maximum
<b>Storage Temperature Range</b>	-40°C to +125°C
<b>Insulation Resistance</b>	500 Megaohms Minimum at 100Vdc

## ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

<b>Fine Leak Test</b>	MIL-STD-883, Method 1014 Condition A
<b>Gross Leak Test</b>	MIL-STD-883, Method 1014 Condition C
<b>Lead Integrity</b>	MIL-STD-883, Method 2004
<b>Lead Termination</b>	Sn 2µm - 6µm
<b>Mechanical Shock</b>	MIL-STD-202, Method 213 Condition C
<b>Resistance to Soldering Heat</b>	MIL-STD-202, Method 210
<b>Resistance to Solvents</b>	MIL-STD-202, Method 215
<b>Solderability</b>	MIL-STD-883, Method 2003
<b>Temperature Cycling</b>	MIL-STD-883, Method 1010
<b>Vibration</b>	MIL-STD-883, Method 2007 Condition A

## MECHANICAL DIMENSIONS (all dimensions in millimeters)

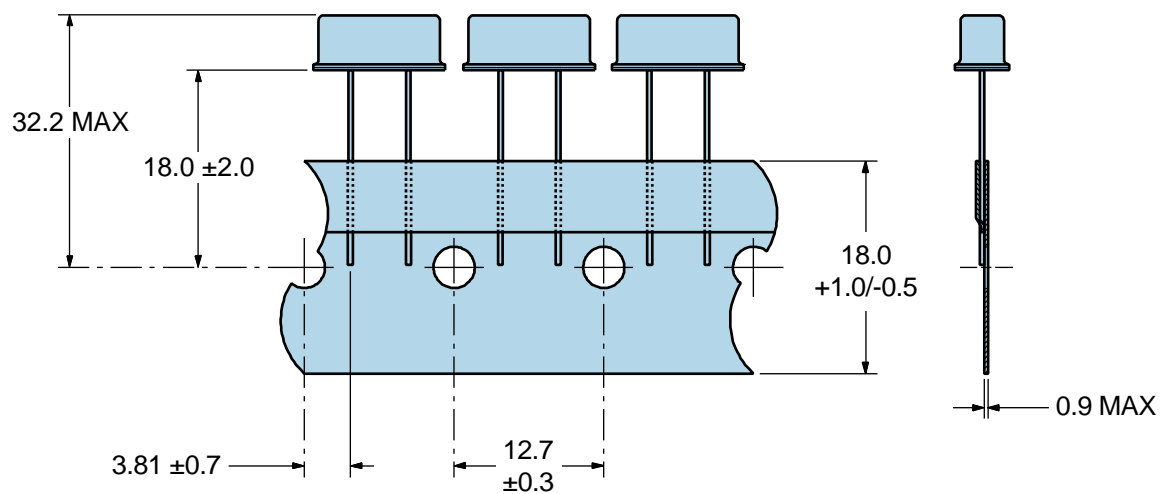


LINE	MARKING
1	<b>E29.491M</b> E=EclipseTek Designator M=MHz

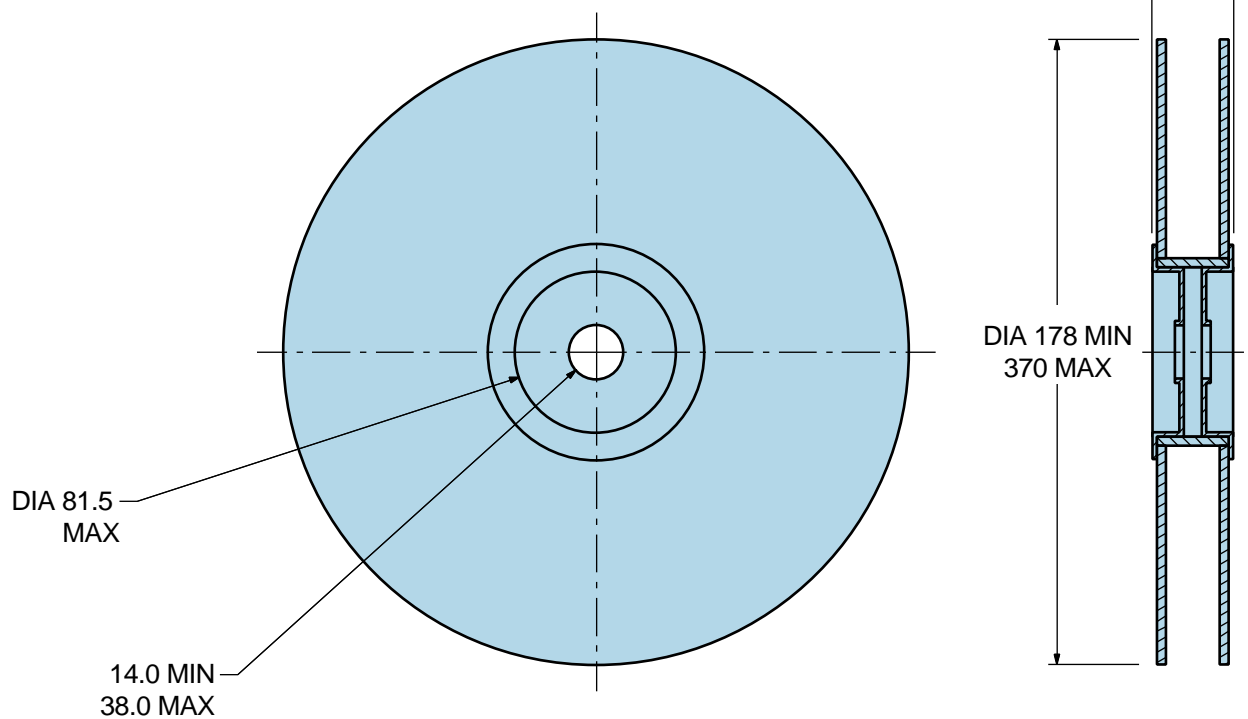
# E2UAA18-29.4912M TR

## Tape & Reel Dimensions

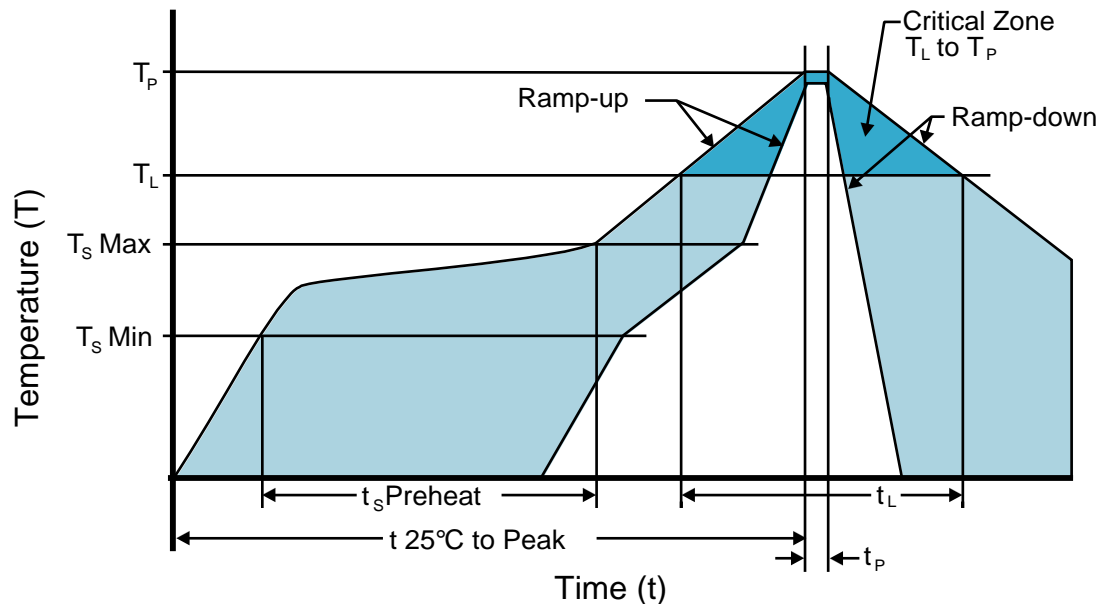
Quantity Per Reel: 1,000 Pieces



\*Compliant to EIA 468B



## Recommended Solder Reflow Methods



### High Temperature Solder Bath (Wave Solder)

$T_S$ MAX to $T_L$ (Ramp-up Rate)	3°C/second Maximum
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#### Preheat

- Temperature Minimum ( $T_S$ MIN)	150°C
- Temperature Typical ( $T_S$ TYP)	175°C
- Temperature Maximum ( $T_S$ MAX)	200°C
- Time ( $t_s$ MIN)	60 - 180 Seconds

Ramp-up Rate ( $T_L$ to $T_P$ )	3°C/second Maximum
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#### Time Maintained Above:

- Temperature ( $T_L$ )	217°C
- Time ( $t_L$ )	60 - 150 Seconds

Peak Temperature ( $T_P$ )	260°C Maximum for 10 Seconds Maximum
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Target Peak Temperature ( $T_P$ Target)	250°C +0/-5°C
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Time within 5°C of actual peak ( $t_p$ )	20 - 40 seconds
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Ramp-down Rate	6°C/second Maximum
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Time 25°C to Peak Temperature (t)	8 minutes Maximum
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Moisture Sensitivity Level	Level 1
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## Recommended Solder Reflow Methods



### Low Temperature Solder Bath (Wave Solder)

$T_S$  MAX to  $T_L$  (Ramp-up Rate) 5°C/second Maximum

#### Preheat

- Temperature Minimum ( $T_S$  MIN) N/A  
 - Temperature Typical ( $T_S$  TYP) 150°C  
 - Temperature Maximum ( $T_S$  MAX) N/A  
 - Time ( $t_s$  MIN) 30 - 60 Seconds

Ramp-up Rate ( $T_L$  to  $T_P$ ) 5°C/second Maximum

#### Time Maintained Above:

- Temperature ( $T_L$ ) 150°C  
 - Time ( $t_L$ ) 200 Seconds Maximum

Peak Temperature ( $T_P$ ) 245°C Maximum

Target Peak Temperature ( $T_P$  Target) 245°C Maximum 1 Time / 235°C Maximum 2 Times

Time within 5°C of actual peak ( $t_p$ ) 5 seconds Maximum 1 Time / 15 seconds Maximum 2 Times

Ramp-down Rate 5°C/second Maximum

Time 25°C to Peak Temperature (t) N/A

Moisture Sensitivity Level Level 1

### Low Temperature Manual Soldering

185°C Maximum for 10 seconds Maximum, 2 times Maximum.

### High Temperature Manual Soldering

260°C Maximum for 5 seconds Maximum, 2 times Maximum.