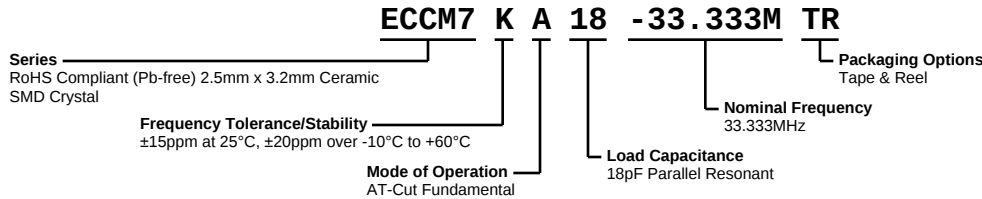


ECCM7KA18-33.333M TR



ECLIPTEK
CORPORATION



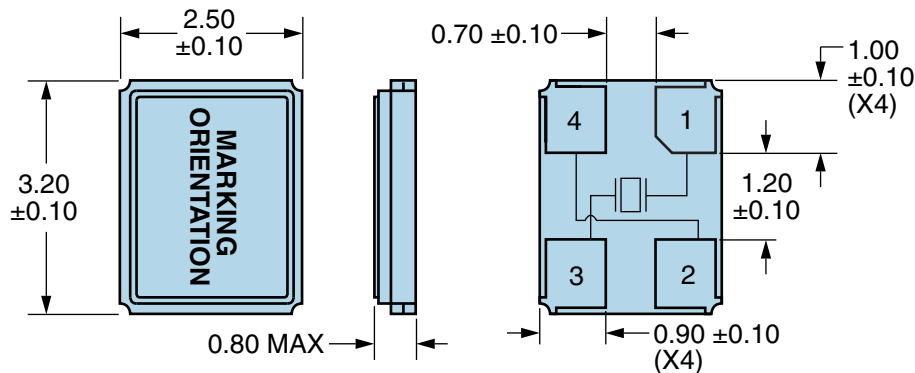
ELECTRICAL SPECIFICATIONS

Nominal Frequency	33.333MHz
Frequency Tolerance/Stability	±15ppm at 25°C, ±20ppm over -10°C to +60°C
Aging at 25°C	±3ppm/Year Maximum
Load Capacitance	18pF Parallel Resonant
Shunt Capacitance (C0)	5pF Maximum
Equivalent Series Resistance	60 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	100µWatts Maximum
Crystal Cut	AT-Cut
Spurious Response	>3dB (from Fo to Fo +5000ppm)
Storage Temperature Range	-40°C to +85°C
Insulation Resistance	500 Megaohms Minimum at 100Vdc

ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

MECHANICAL DIMENSIONS (all dimensions in millimeters)



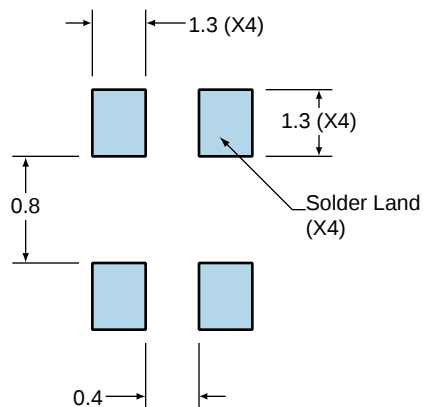
PIN	CONNECTION
1	Crystal
2	Cover/Ground
3	Crystal
4	Cover/Ground

LINE	MARKING
1	E33.3 E=EclipseTek Designator
2	XXXXX XXXXX=EclipseTek Manufacturing Identifier

ECCM7KA18-33.333M TR

Suggested Solder Pad Layout

All Dimensions in Millimeters

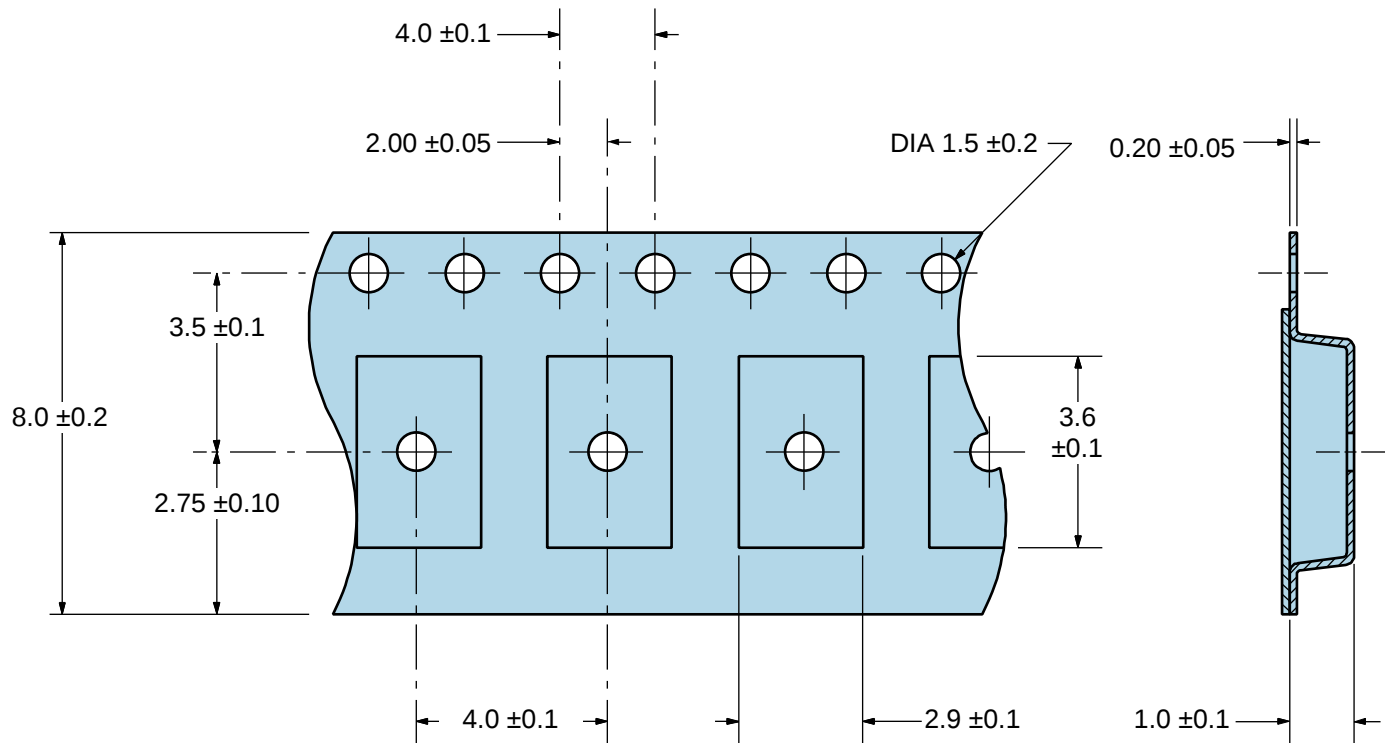


All Tolerances are ± 0.1

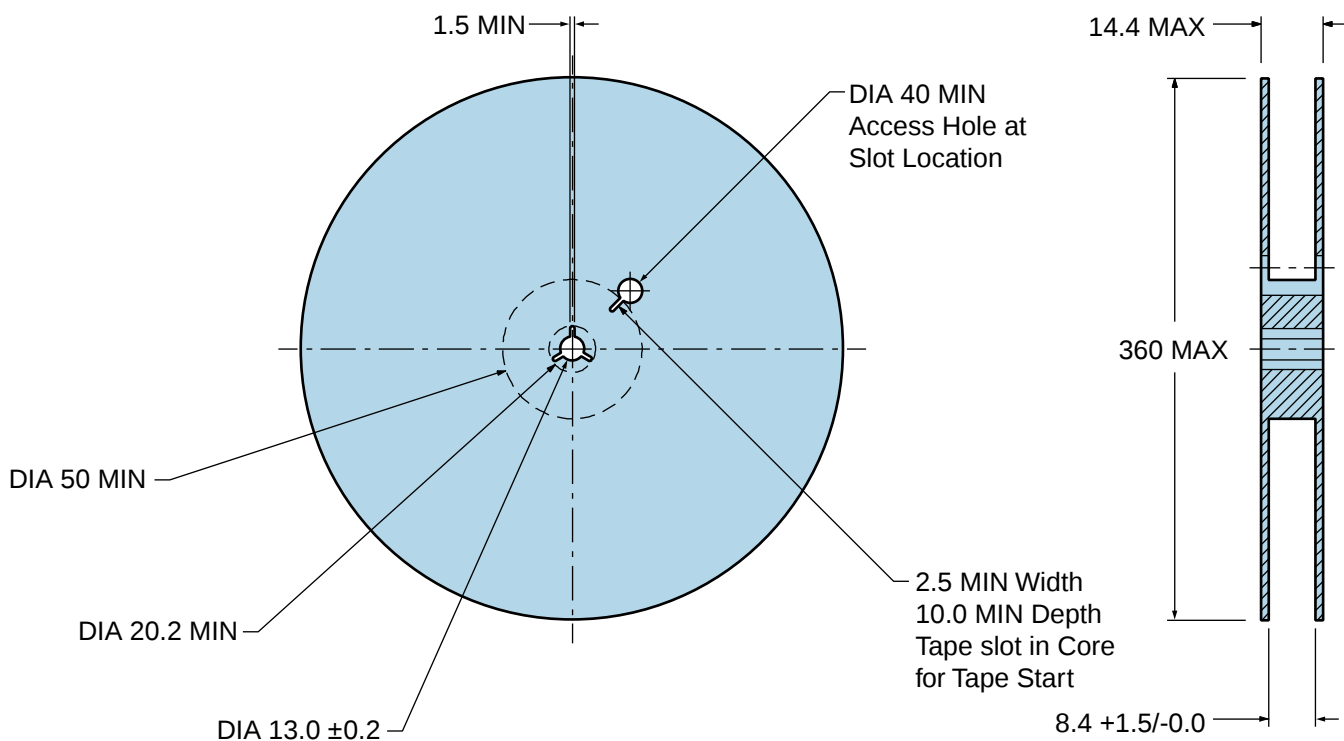
ECCM7KA18-33.333M TR

Tape & Reel Dimensions

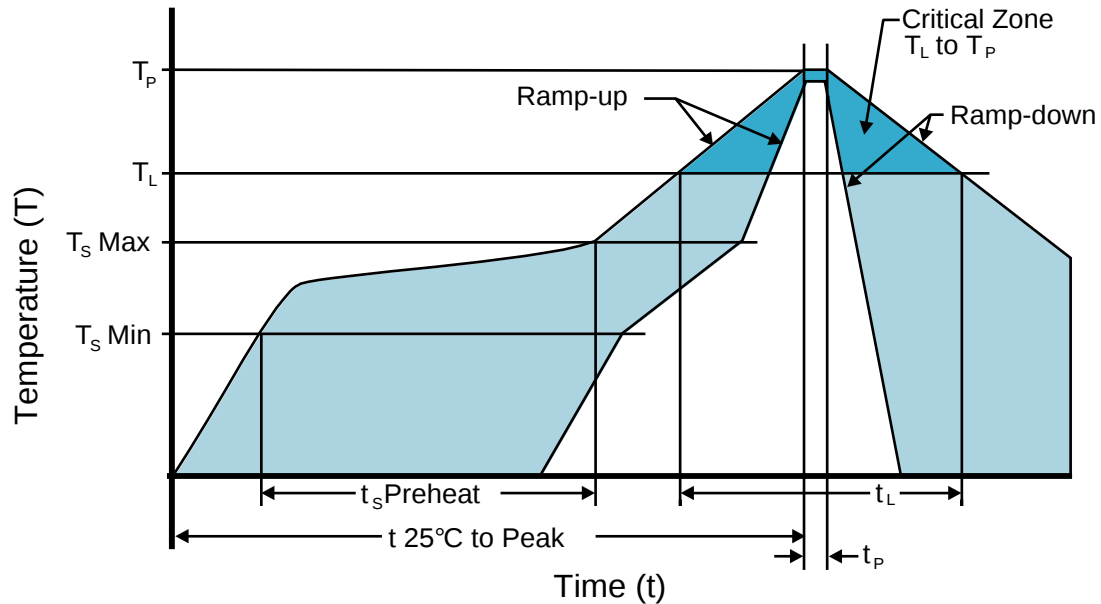
Quantity Per Reel: 3,000 units



*Compliant to EIA 481A



Recommended Solder Reflow Methods



High Temperature Infrared/Convection

Ts MAX to Tl (Ramp-up Rate)	3°C/second Maximum
------------------------------------	--------------------

Preheat

- Temperature Minimum (Ts MIN)	150°C
- Temperature Typical (Ts TYP)	175°C
- Temperature Maximum (Ts MAX)	200°C
- Time (ts MIN)	60 - 180 Seconds

Ramp-up Rate (Tl to Tp)	3°C/second Maximum
--------------------------------	--------------------

Time Maintained Above:

- Temperature (Tl)	217°C
- Time (tL)	60 - 150 Seconds

Peak Temperature (Tp)	260°C Maximum for 10 Seconds Maximum
------------------------------	--------------------------------------

Target Peak Temperature (Tp Target)	250°C +0/-5°C
--	---------------

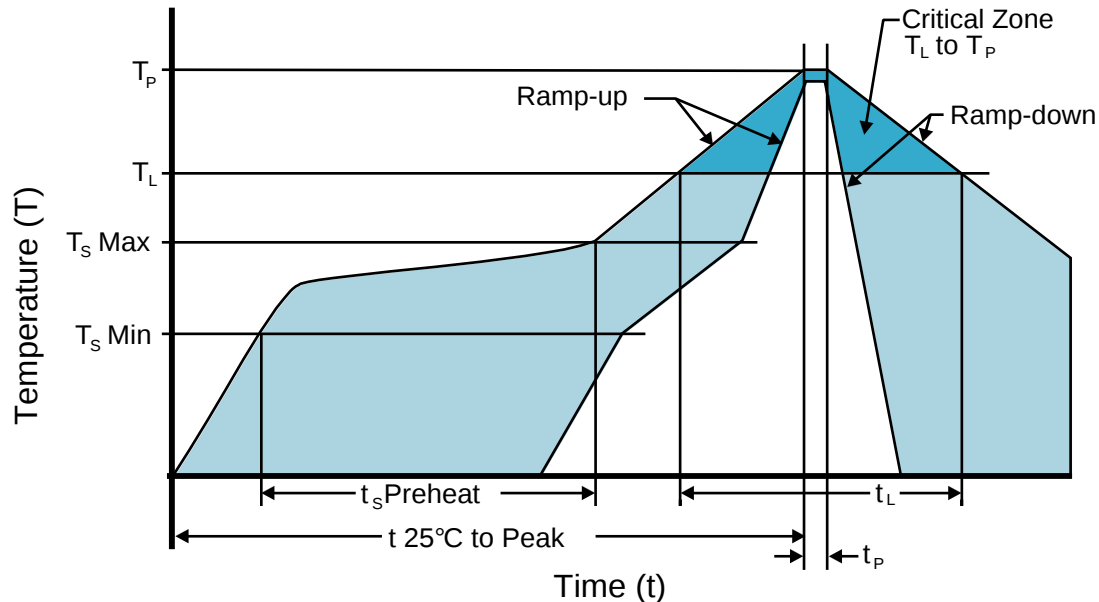
Time within 5°C of actual peak (tp)	20 - 40 seconds
--	-----------------

Ramp-down Rate	6°C/second Maximum
-----------------------	--------------------

Time 25°C to Peak Temperature (t)	8 minutes Maximum
--	-------------------

Moisture Sensitivity Level	Level 1
-----------------------------------	---------

Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 245°C

Ts MAX to TL (Ramp-up Rate) 5°C/second Maximum

Preheat

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

Ramp-up Rate (TL to Tp) 5°C/second Maximum

Time Maintained Above:

- Temperature (TL) 150°C
- Time (tL) 200 Seconds Maximum

Peak Temperature (Tp) 245°C Maximum

Target Peak Temperature (Tp Target) 245°C Maximum 2 Times / 230°C Maximum 1 Time

Time within 5°C of actual peak (tp) 10 seconds Maximum 2 Times / 80 seconds Maximum 1 Time

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.