REGULATORY COMPLIANCE

Lead Free COMPLIANT | EU RoHS 2011/65 + 2015/863 COMPLIANT | China RoHS COMPLIANT | REACH SVHC COMPLIANT | DRC CONFLICT FREE

ITEM DESCRIPTION

Quartz Crystal Resonator 5.0mm x 7.0mm x 1.3mm 4 Pad Ceramic Surface Mount (SMD)

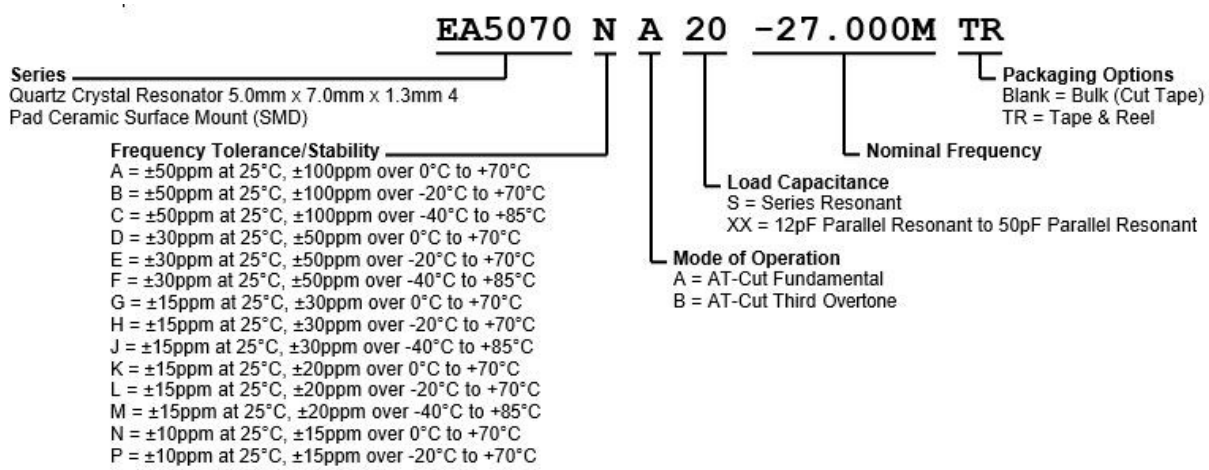
ELECTRICAL SPECIFICATIONS

Nominal Frequency	6MHz to 66MHz
Frequency Tolerance/Stability	±50ppm at 25°C, ±100ppm over 0°C to +70°C ±50ppm at 25°C, ±100ppm over -20°C to +70°C ±50ppm at 25°C, ±100ppm over -40°C to +85°C ±30ppm at 25°C, ±50ppm over 0°C to +70°C ±30ppm at 25°C, ±50ppm over -20°C to +70°C ±30ppm at 25°C, ±50ppm over -40°C to +85°C ±15ppm at 25°C, ±30ppm over 0°C to +70°C ±15ppm at 25°C, ±30ppm over -20°C to +70°C ±15ppm at 25°C, ±30ppm over -40°C to +85°C ±15ppm at 25°C, ±20ppm over 0°C to +70°C ±15ppm at 25°C, ±20ppm over -20°C to +70°C ±15ppm at 25°C, ±20ppm over -40°C to +85°C ±10ppm at 25°C, ±15ppm over 0°C to +70°C ±10ppm at 25°C, ±15ppm over -20°C to +70°C
Aging at 25°C	±3ppm/year Maximum
Load Capacitance	Series Resonant, 12pF Parallel Resonant to 50pF Parallel Resonant
Shunt Capacitance	7pF Maximum
Equivalent Series Resistance	See the Equivalent Series Resistance (ESR), Mode of Operation, and Crystal Cut Table Below
Mode of Operation	AT-Cut Fundamental (Only available over Nominal Frequency range of 6MHz to 40MHz) AT-Cut Third Overtone (Only available over Nominal Frequency range of 35.328MHz to 66MHz)
Drive Level	50µWatts Maximum
Spurious Response	Measured from Fo to Fo +5000ppm -3dB Minimum
Storage Temperature Range	-40°C to +85°C
Insulation Resistance	Measured at 100Vdc 500 Megaohms Minimum

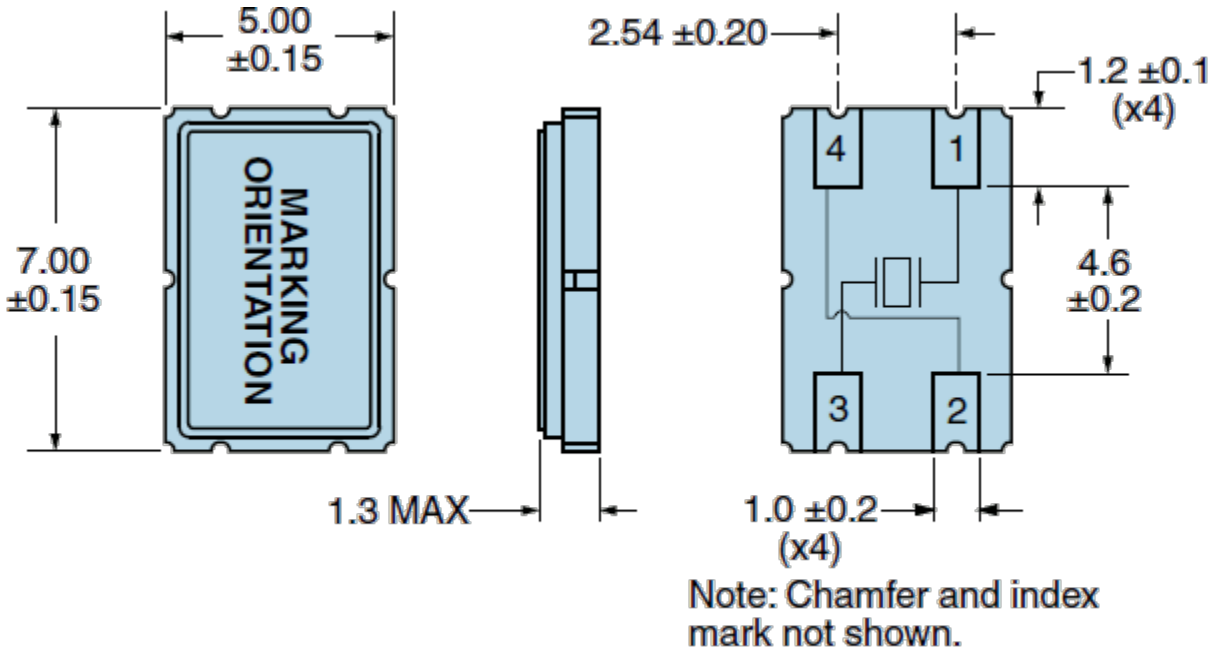
EQUIVALENT SERIES RESISTANCE (ESR), MODE OF OPERATION AND CRYSTAL CUT

Frequency Range	ESR (Ohms Max)	Mode	Frequency Range	ESR (Ohms Max)	Mode
6MHz to 9.999999MHz	90	AT-Cut Fundamental	16MHz to 40MHz	30	AT-Cut Fundamental
10MHz to 10.999999MHz	60	AT-Cut Fundamental	35.328MHz to 39.999999MHz	100	AT-Cut Third Overtone
11MHz to 13.999999MHz	50	AT-Cut Fundamental	40MHz to 59.999999MHz	80	AT-Cut Third Overtone
14MHz to 15.999999MHz	40	AT-Cut Fundamental	60MHz to 66MHz	80	AT-Cut Third Overtone

PART NUMBERING GUIDE

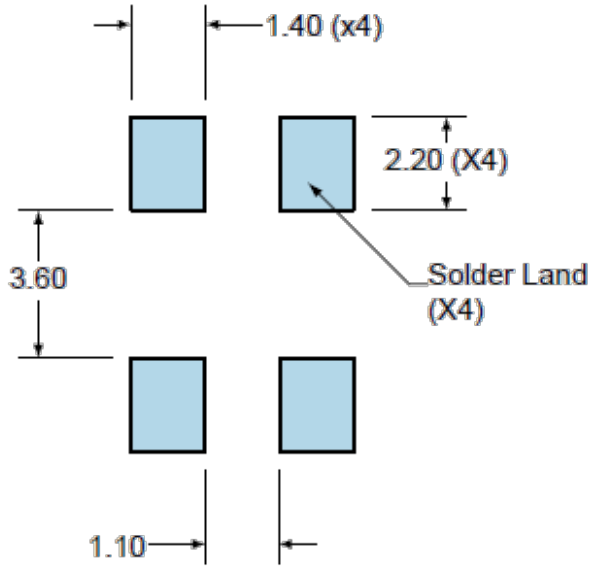


MECHANICAL DIMENSIONS



Terminal Plating Thickness: Gold (0.3 to 1.0µm). Nickel (1.27 to 8.89µm).

SUGGESTED SOLDER PAD LAYOUT



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

All Tolerances are ±0.1

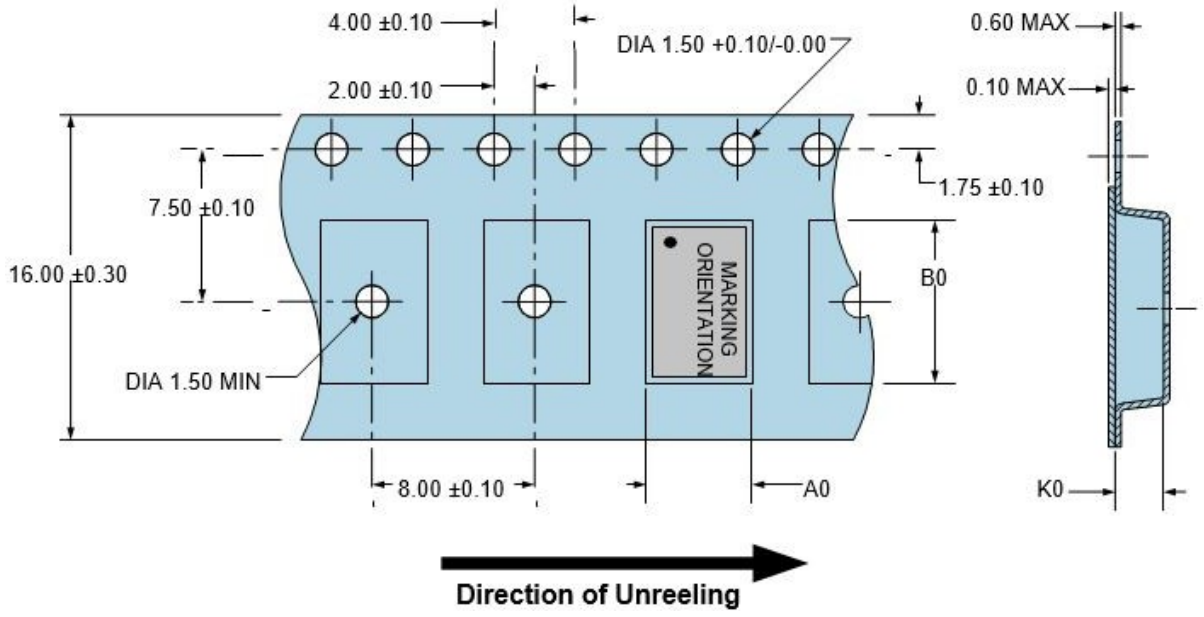
All Dimensions in Millimeters

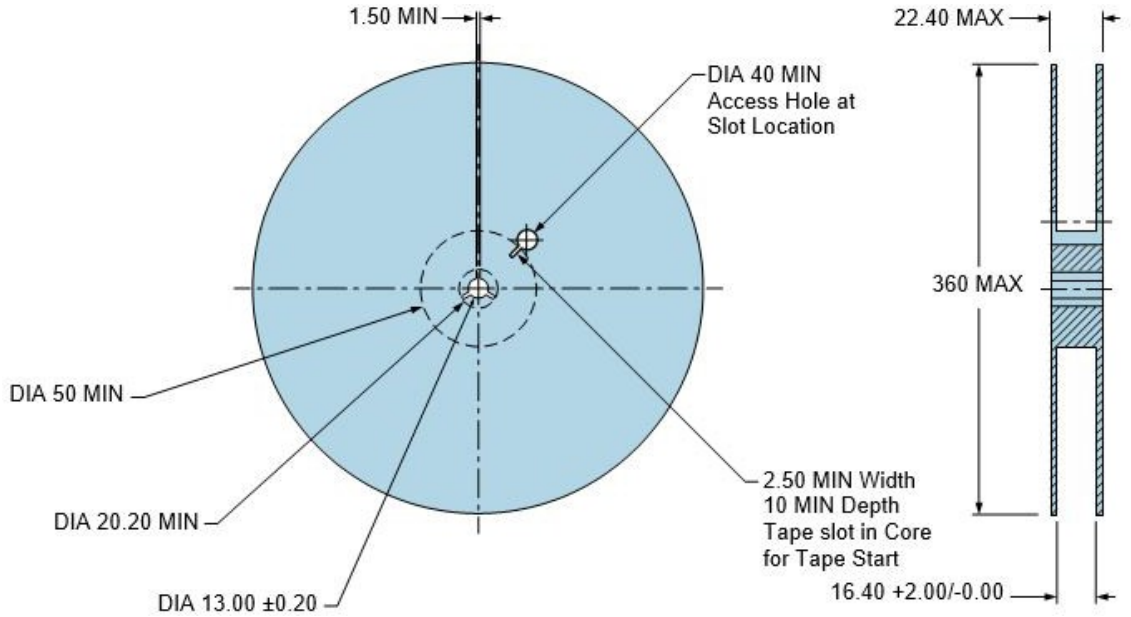
TAPE & REEL DIMENSIONS

Quantity per Reel: 1,000 Units

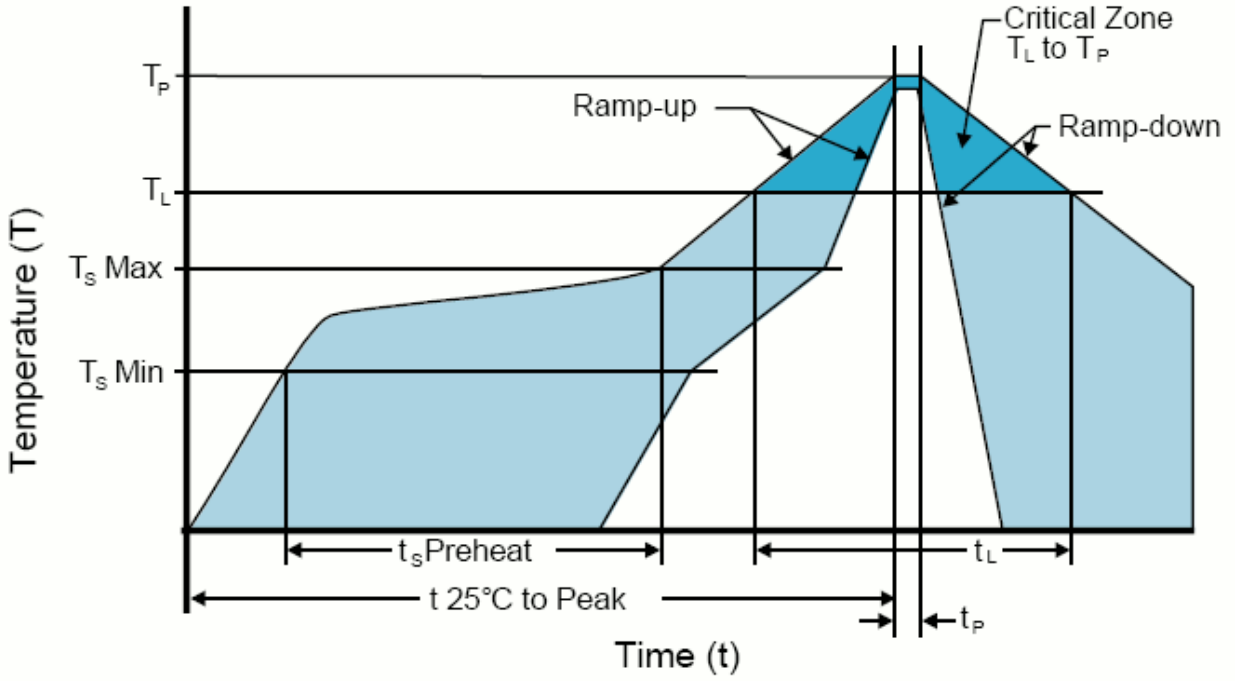
All Dimensions in Millimeters

Compliant to EIA-481





RECOMMENDED SOLDER REFLOW METHOD

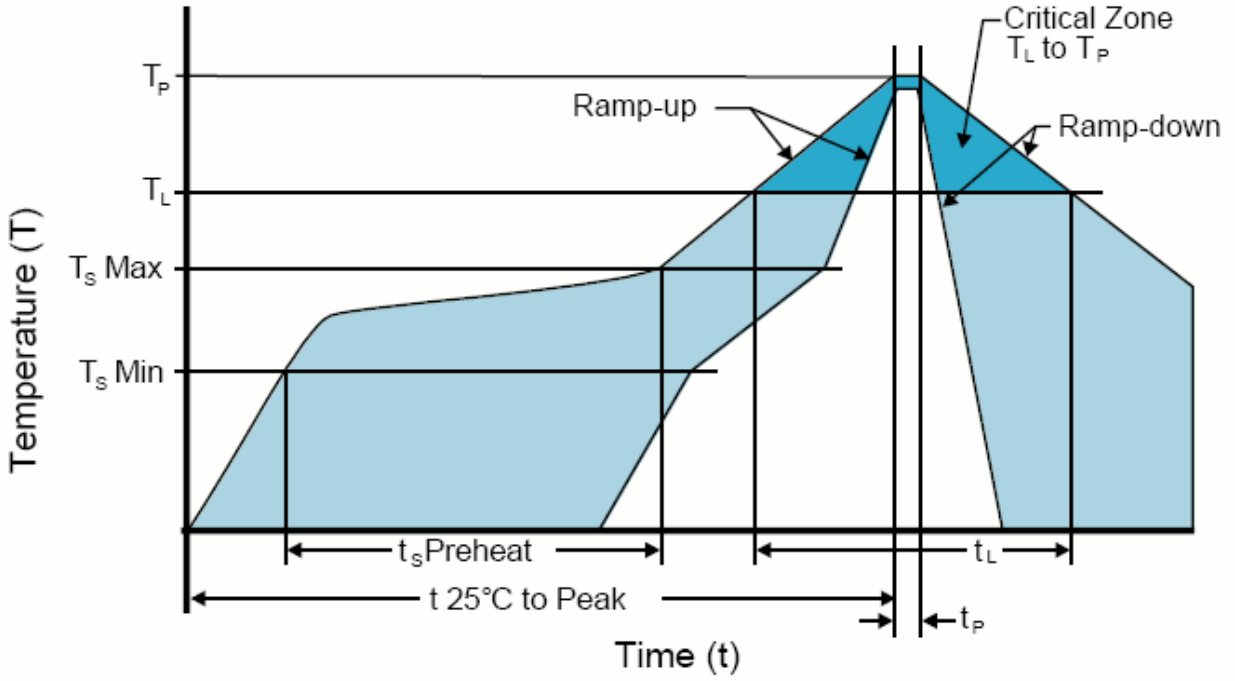


HIGH TEMPERATURE INFRARED/CONVECTION	
T_S MAX to T_L (Ramp-up Rate)	3°C/Second Maximum
Preheat **- Temperature Minimum (T_S MIN)** **- Temperature Typical (T_S TYP)** **- Temperature Maximum(T_S MAX)** **- Time (t_S)**	 150°C 175°C 200°C 60 - 180 Seconds
Ramp-up Rate (T_L to T_P)	3°C/Second Maximum
Time Maintained Above: **- Temperature (T_L)** **- Time (t_L)**	 217°C 60 - 150 Seconds
Peak Temperature (T_P)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature(T_P Target)	250°C +0/-5°C
Time within 5°C of actual peak (t_p)	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
Additional Notes	Temperatures shown are applied to body of device.

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum. (Temperatures shown are applied to body of device.)

RECOMMENDED SOLDER REFLOW METHOD



LOW TEMPERATURE INFRARED/CONVECTION	
T_S MAX to T_L (Ramp-up Rate)	5°C/Second Maximum
Preheat **- Temperature Minimum (T_s MIN)** **- Temperature Typical (T_s TYP)** **- Temperature Maximum(T_s MAX)** **- Time (t_s)**	 N/A 150°C N/A 30 - 60 Seconds
Ramp-up Rate (T_L to T_P)	5°C/Second Maximum
Time Maintained Above: **- Temperature (T_L)** **- Time (t_L)**	 150°C 200 Seconds Maximum
Peak Temperature (T_P)	245°C Maximum
Target Peak Temperature (T_P Target)	245°C Maximum 2 Times / 230˚C Maximum 1 Time
Time within 5°C of actual peak (t_p)	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
Additional Notes	Temperatures shown are applied to body of device.

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum. (Temperatures shown are applied to body of device.)

Mouser Electronics

Authorized Distributor

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ABRACON:

EA5070PA16-25.000M TR