

● **FEATURES**

- COMPACT DESIGN
- HIGH ACCURACY
- EXCELLENT FOR HIGH DENSITY SURFACE MOUNTING



● **SPECIFICATIONS**

PARAMETER	VALUE
FREQUENCY RANGE*	12.00 MHz to 80.00 MHz
MODE OF OSCILLATION	Fundamental
FREQUENCY TOLERANCE AT 25°C	±50 ppm max (±10, ±20, ±30ppm available)
FREQUENCY STABILITY OVER TEMPERATURE*	±50 ppm max (±10, ±20, ±30ppm available)
OPERATING TEMPERATURE RANGE*	-10°C to +60°C Standard <sup>1</sup> -40°C to +85°C Extended <sup>1</sup>
STORAGE TEMPERATURE RANGE	-40°C to +85°C
AGING	±2 ppm 1st year max
LOAD CAPACITANCE	8 pF to 32 pF or Series
EQUIVALENT SERIES RESISTANCE	See Table 1
SHUNT CAPACITANCE	3.5 pF max
DRIVE LEVEL	100 µW max
SHOCK RESISTANCE	±5 ppm max 75 cm drop test onto a hard wood surface
REFLOW CONDITIONS	260°C for 10s max



\*Not any Combination Frequency-Operating Temperature Range- Stability is available. Please consult factory.

FREQUENCY (MHz)	MODE	MAX ESR (Ω)
12.000 to 15.999	FUND	180
16.000 to 20.999	FUND	150
21.000 to 30.999	FUND	100
31.999 to 80.000	FUND	60

**■ PART NUMBERING SYSTEM**

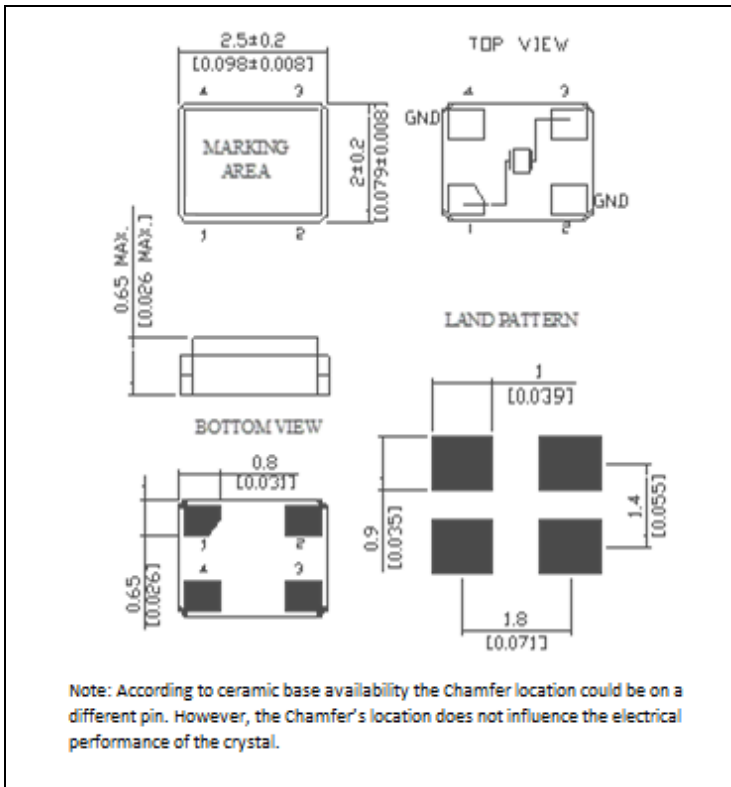
TYPE	-	FREQUENCY	-	LOAD CAPACITANCE	-	MODE	-	TOLERANCE/STABILITY (PPM/PPM)
R2520	-	IN MHz	-	10 TO 32 pF FOR PARALLEL S FOR SERIES	-	Blank FOR < 24.576 MHz F FOR ≥ 24.576 MHz	-	Blank FOR MAXIMUM PPM/PPM Example: 1020, 2050

-	EXTENDED TEMPERATURE	-	TAPE & REEL
-	Blank FOR STANDARD EXT FOR EXTENDED	-	TR

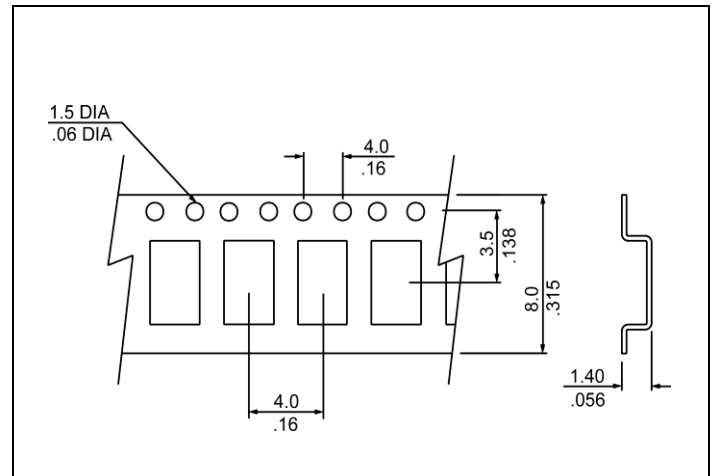
**EXAMPLE: R2520-20.000-10-2020-TR**

Surface Mount Crystal, 2.5 mm x 2.0 mm package, 20.000 MHz, 10 pF load, ±20 ppm Tolerance, ±20 ppm Stability over the Operating Temperature from -10°C to +60°C, Tape and Reel packaging

**● MECHANICAL SPECIFICATION**



**● CARRIER TAPE DIMENSIONS**



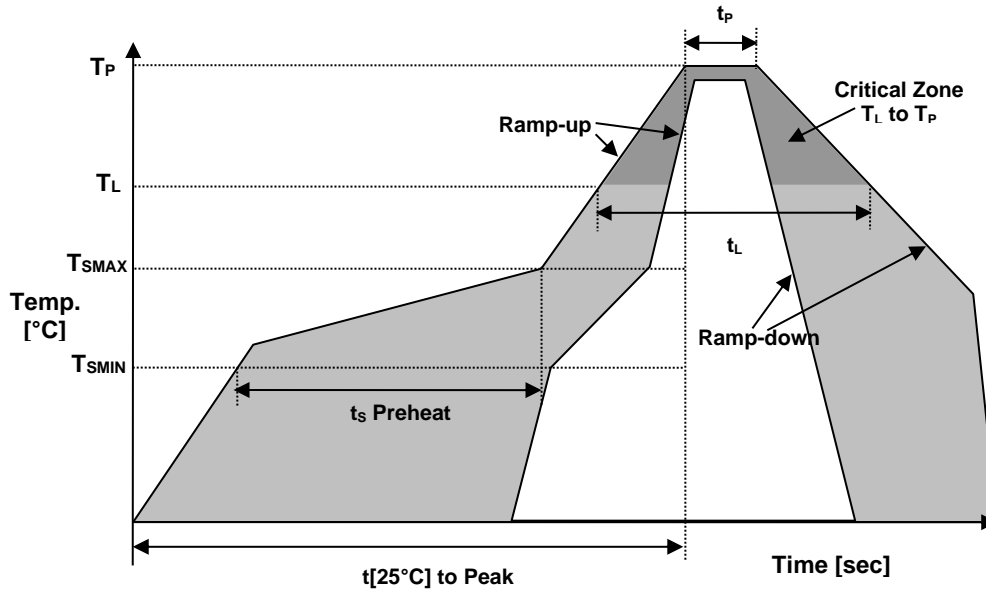
NOTE: REFER TO EIA-481 FOR DIMENSIONS

**● PACKAGING**

178 mm REEL DIAMETER  
8 mm TAPE WIDTH, 4 mm PITCH  
QUANTITY: 3000 PIECES PER REEL

IN ACCORDANCE WITH EIA-481

● REFLOW PROFILE



Reflow profile		
Temperature Min Preheat	$T_{SMIN}$	150°C
Temperature Max Preheat	$T_{SMAX}$	200°C
Time ( $T_{SMIN}$ to $T_{SMAX}$ )	$t_s$	60-180 sec.
Temperature	$T_L$	217°C
Peak Temperature	$T_P$	260°C
Ramp-up rate	$R_{UP}$	3°C/sec max.
Ramp-down rate	$R_{DOWN}$	6°C/sec max.
Time within 5°C of Peak Temperature	$t_p$	10 sec.
Time $t[25^\circ\text{C}]$ to Peak Temperature	$t[25^\circ\text{C}]$ to Peak	480 sec.
Time	$t_L$	60-150 sec.

● ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	COMPLIANT
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au

