

● **FEATURES**

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



● **SPECIFICATIONS**

PARAMETER	VALUE
FREQUENCY RANGE	12.00 MHz to 55.00 MHz
MODE OF OSCILLATION	FUNDAMENTAL ONLY
FREQUENCY TOLERANCE AT 25°C	±50 PPM MAXIMUM (±10, AND ±20 PPM AVAILABLE)
FREQUENCY STABILITY OVER TEMPERATURE	±50 PPM MAXIMUM (±10, AND ±20 PPM 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	±3 PPM PER YEAR MAXIMUM
LOAD CAPACITANCE	8 pF to 32 pF OR SERIES
EQUIVALENT SERIES RESISTANCE	SEE TABLE 1
SHUNT CAPACITANCE	7 pF MAXIMUM
DRIVE LEVEL	500 µW MAXIMUM
SHOCK RESISTANCE	±5 PPM MAXIMUM 75 cm DROP TEST IN 3 AXES ONTO A HARD SURFACE
REFLOW CONDITIONS	260°C ±5°C FOR 10s MAXIMUM



<sup>1</sup> NOTE: NOT ALL STABILITIES ARE AVAILABLE FOR ALL OPERATING TEMPERATURE RANGES. CONTACT FACTORY FOR AVAILABILITY.

**TABLE 1**

FREQUENCY (MHz)	MODE	MAX ESR (OHMS)
16.000 TO 18.999	FUND	90
19.000 TO 24.999	FUND	80
25.000 TO 31.999	FUND	60
32.000 TO 50.000	FUND	50

**■ PART NUMBERING SYSTEM**

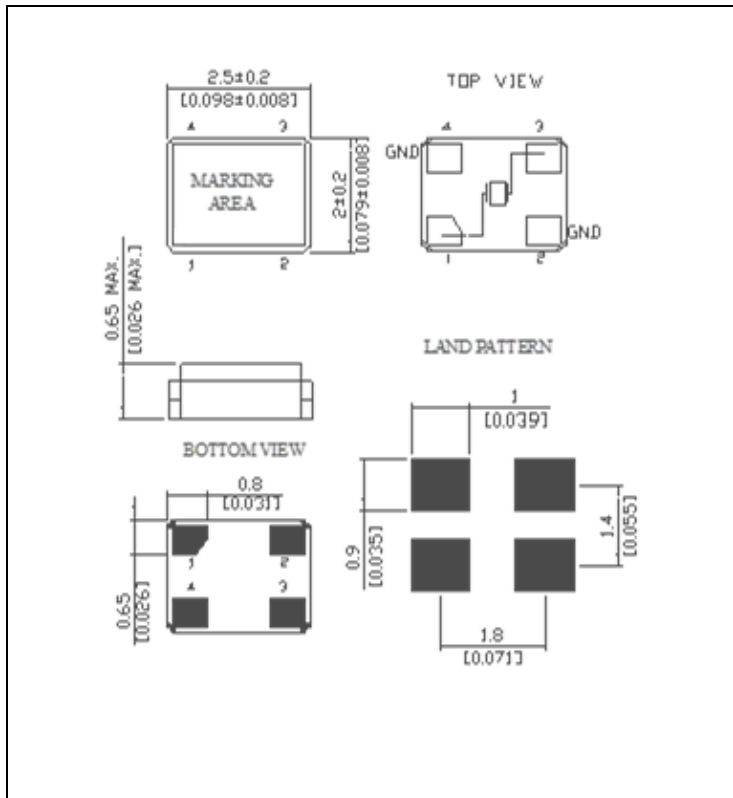
TYPE	-	FREQUENCY	-	LOAD CAPACITANCE	-	MODE	-	TOLERANCE/STABILITY (PPM/PPM)
R2520	-	IN MHz	-	10 TO 32 pF FOR PARALLEL S FOR SERIES	-	Blank FOR < 24.576 MHz F FOR ≥ 24.576 MHz	-	Blank FOR MAXIMUM PPMPPM Example: 1020, 2050

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

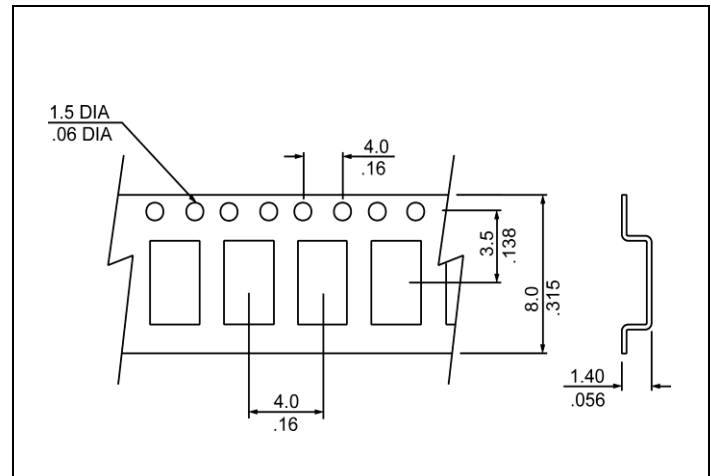
**EXAMPLE: R2520-20.000-10-2020-TR**

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**



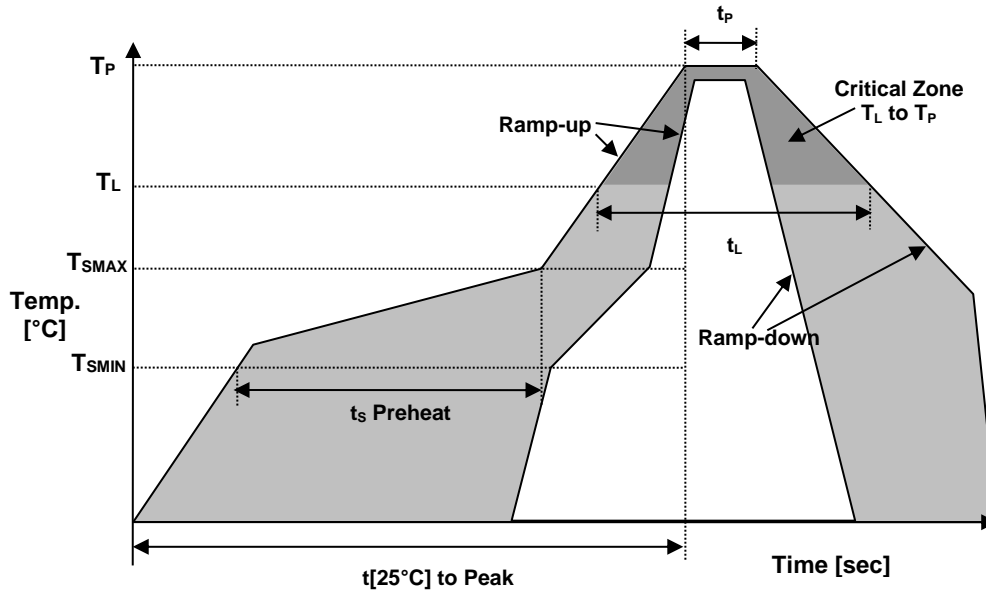
NOTE: REFER TO EIA-481 FOR DIMENSIONS

**● PACKAGING**

178 mm REEL DIAMETER  
8 mm TAPE WIDTH, 4 mm PITCH  
QUANTITY: 1000 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-2	6/6 COMPLIANT & LEAD FREE
REACH SVHC	COMPLIANT
HALOGEN-FREE	COMPLIANT
ESD CLASSIFICATION LEVEL	N/A
TERMINATION FINISH	Au

