

SERIES RSM200S

● FEATURES

- SUITABLE FOR TIME OF DAY CLOCKS
- COMPACT PACKAGE
- IDEAL FOR PICK AND PLACE ASSEMBLY

● SPECIFICATIONS

PARAMETER	VALUE
NOMINAL FREQUENCY	32.768 kHz
FREQUENCY TOLERANCE AT 25°C	±20 ppm max
TURNOVER TEMPERATURE	+25°C ±5°C
PARABOLIC CURVATURE CONSTANT	(-0.034 ±0.006) ppm/°C ²
OPERATING TEMPERATURE RANGE	-40°C to +85°C
STORAGE TEMPERATURE RANGE	-55°C to +125°C
AGING (FIRST YEAR)	±3 ppm max
LOAD CAPACITANCE	6, 7, 8, 9, 12.5 pF
EQUIVALENT SERIES RESISTANCE	50 kΩ max
SHUNT CAPACITANCE	1.35 pF typ, 2 pF max
MOTIONAL CAPACITANCE	0.003 pF typ
CAPACITANCE RATIO	450 typ
DRIVE LEVEL	1 μW max
INSULATION RESISTANCE	500 MΩ min
SHOCK RESISTANCE	±5 ppm max 75 cm drop test onto a hard surface or 3000 g x 0.3 ms x ½ sinewave in 3 axes
REFLOW CONDITIONS	260°C for 10 s max



■ PART NUMBERING SYSTEM

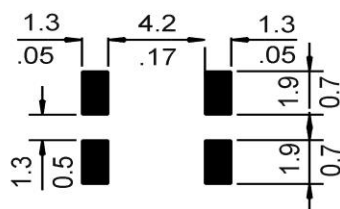
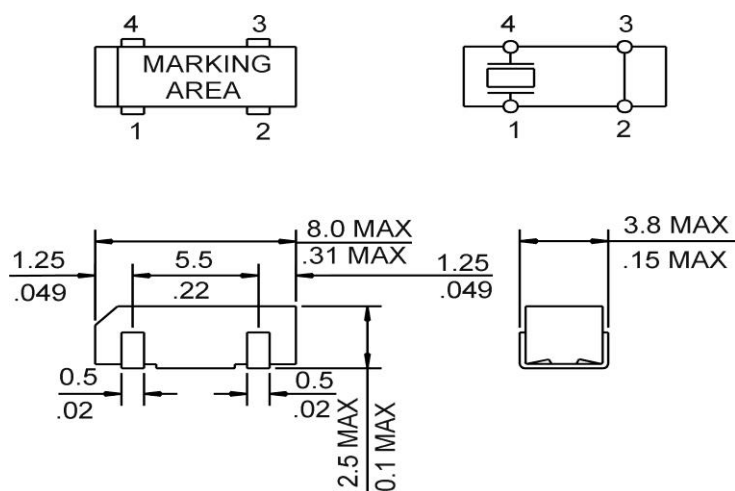
TYPE	-	FREQUENCY (kHz)	-	LOAD CAPACITANCE (pF)	-	TAPE & REEL
RSM200S	-	32.768	-	6 to 12.5	-	TR

EXAMPLE: RSM200S-32.768-12.5-TR

Surface Mount Tuning Fork Crystal, 8.0 x 3.8 mm, 32.768 kHz, 12.5 pF Load, ±20 ppm Tolerance, Operating Temperature Range from -40°C to +85°C, Tape and Reel Packaging

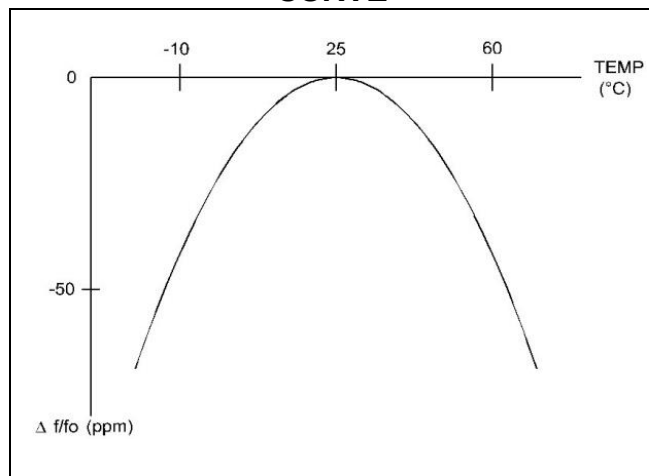
SERIES RSM200S

MECHANICAL SPECIFICATION

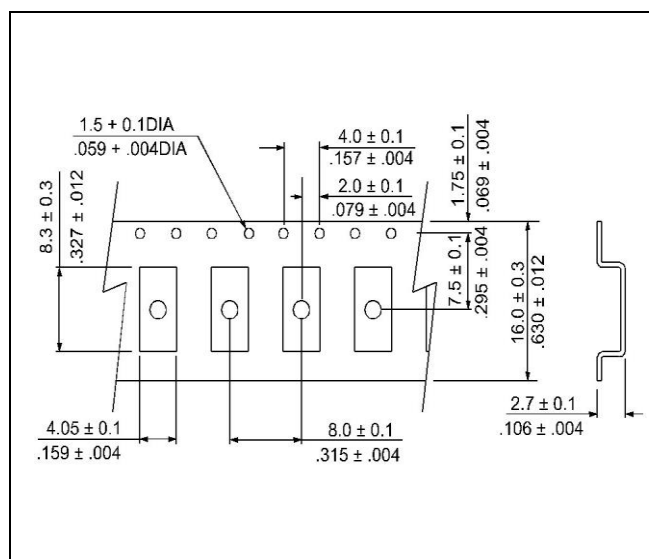


SOLDER PATTERN

FREQUENCY vs. TEMPERATURE CURVE



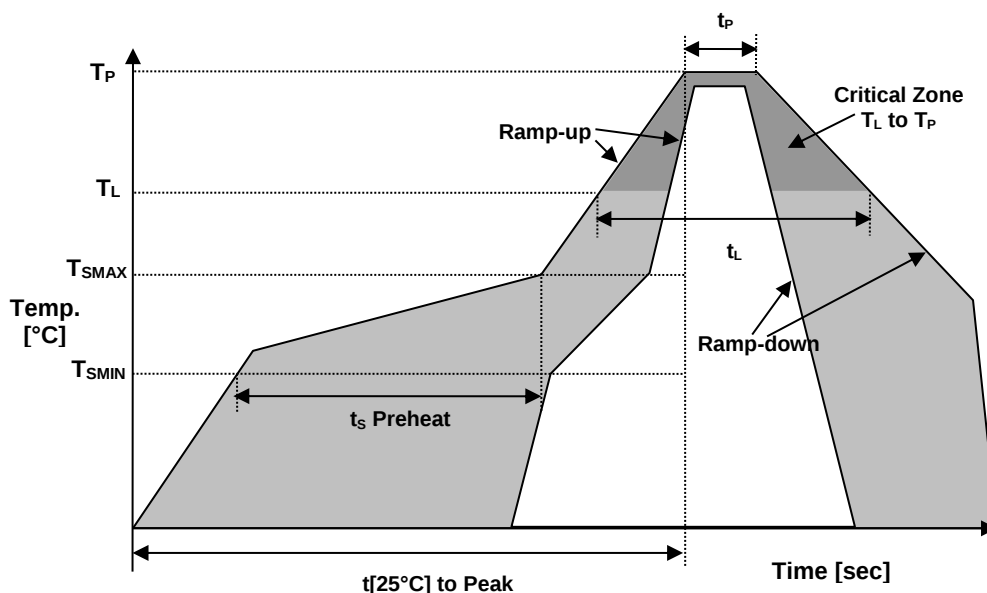
CARRIER TAPE DIMENSIONS



PACKAGING

Reel Diameter: 330mm
Tape Width: 16 mm, Pitch: 8 mm
Quantity: 3000 pcs/reel

REFLOW PROFILE



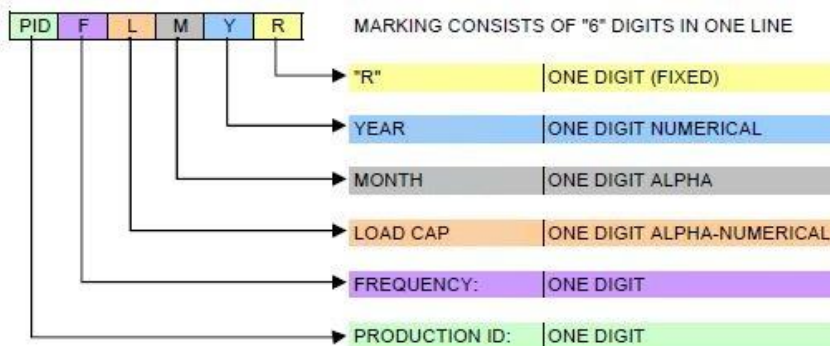
Reflow profile		
Temperature Min Preheat	T_{SMIN}	150°C
Temperature Max Preheat	T_{SMAX}	200°C
Time (T_{SMIN} to T_{SMAX})	t_s	60-180 s
Temperature	T_L	217°C
Peak Temperature	T_P	260°C
Ramp-up rate	R_{UP}	3°C/s max.
Ramp-down rate	R_{DOWN}	6°C/s max.
Time within 5°C of Peak Temperature	t_p	10 s
Time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

ENVIRONMENTAL

PARAMETER	VALUE
MOISTURE SENSITIVITY LEVEL	1
RoHS	Exemption 7A
HALOGEN-FREE	Compliant
TERMINATION FINISH	SnAg Plating
UNIT WEIGHT	0.14 g



● MARKING



FREQUENCY CODE: 3

LOAD CAP CODE	
Capacitance (pF)	Code
6	Q
7	7
8	8
9	9
12.5	F

MONTH CODE	
MONTH	CODE
JANUARY	A
FEBRUARY	B
MARCH	C
APRIL	D
MAY	E
JUNE	F
JULY	G
AUGUST	H
SEPTEMBER	J
OCTOBER	K
NOVEMBER	L
DECEMBER	M

YEAR CODE	
Year	Code
2011	1
2012	2
2013	3
2014	4
2015	5
2016	6
2017	7
2018	8
2019	9

EXAMPLE: J3FC7R

February 2017