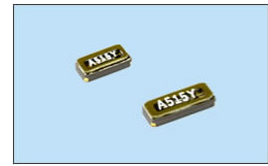


**SURFACE MOUNT CRYSTAL UNITS (Rohs Compliant / Lead Free)**  
**Tuning Fork Crystal SMD4.1x1.5 & 3.2x1.5mm**  
**(APT-SMD4115 & 3215 Series)**



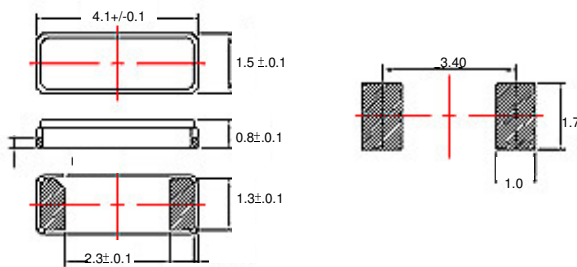
**- SPECIFICATIONS**

FREQUENCY	32.768KHz
MODE OF OSCILLATION	FUNDAMENTAL
FREQUENCY TOLERANCE AT 25°C	±20PPM MAXIMUM
OPERATING TEMPERATURE RANGE	-40°C TO +85°C
STORAGE TEMPERATURE RANGE	-55°C TO +125°C
SHUNT CAPACITANCE	Typ 1.2pF
MOTIONAL CAPACITANCE	Typ 3.4fF
TEMPERATURE COEFFICIENT	-4.0X10 <sup>-8</sup> / °C <sup>2</sup> MAXIMUM
LOAD CAPACITANCE	12.5pF or 9pF
EQUIVALENT SERIES RESISTANCE (ESR)	70K OHM MAXIMUM
DRIVE LEVEL	100µW
INSULATION RESISTANCE	≥500M Ω / 100 ± 10VDC
AGING PER YEAR	±3PPM MAXIMUM

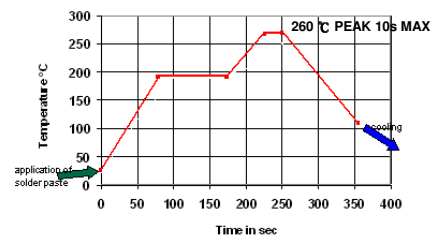


**- OUTLINE DIMENSIONS**

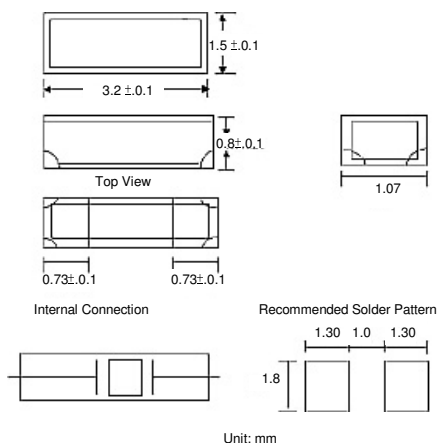
**4115 type**



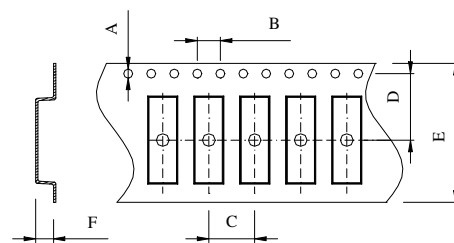
**- SOLDER REFLOW PROFILE**



**3215 type**



**- CARRIER TAPE DIMENSIONS (3,000 pcs/reel)**



A	B	C	D	E	F
1.5 ± 0.1	4.0 ± 0.1	2.5 ± 0.1	3.5 ± 0.1	8.0 ± 0.3	1.5 ± 0.1

ORDERING CODE SYSTEM (VERSION 1.1 UPDATED MAY 2008)			EXAMPLE:
SERIES	FREQUENCY	LOAD CAPACITANCE	APT-SMD4115-32.768-12.5
APT-SMD4115, 3215	32.768KHZ	12.5pF or 9pF	

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*Specifications are subject to change without notice*