

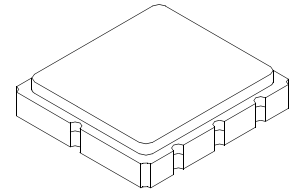


AEC-Q200

This component was always RoHS compliant from the first date of manufacture.

**RO3101C**

**433.92 MHz  
SAW  
Resonator**



**SM5050-8 Case  
5 X 5**

- **Ideal for European 433.92 MHz Remote Control and Security Transmitters**
- **Very Low Series Resistance**
- **Quartz Stability**
- **Complies with Directive 2002/95/EC (RoHS)**
- **Tape and Reel Standard per ANSI/EIA-481**



The RO3101C is a true one-port, surface-acoustic-wave (SAW) resonator in a surface-mount ceramic case. It provides reliable, fundamental-mode, quartz frequency stabilization of fixed-frequency transmitters operating at 433.92 MHz. This SAW is designed specifically for remote control and wireless security transmitters operating in Europe under ETSI I-ETS 300 220.

**Absolute Maximum Ratings**

Rating	Value	Units
Input Power Level	0	dBm
DC Voltage	12	VDC
Storage Temperature	-40 to +85	°C
Operating Temperature	-40 to +85	°C
Soldering Temperature (10 seconds / 5 cycles maximum)	260	°C

**Electrical Characteristics**

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency, +25 °C	Absolute Frequency	$f_C$		433.845		433.995	MHz
	Tolerance from 433.920 MHz	$\Delta f_C$				±75	kHz
Insertion Loss		IL			1.2	2.5	dB
Quality Factor	Unloaded Q	$Q_U$			9000		
	50Ω Loaded Q	$Q_L$			1200		
Temperature Stability	Turnover Temperature	$T_O$		10	25	40	°C
	Turnover Frequency	$f_O$			$f_C$		
	Frequency Temperature Coefficient	FTC			0.032		ppm/°C <sup>2</sup>
Frequency Aging	Absolute Value during the First Year	$ f_A $			≤10		ppm/yr
DC Insulation Resistance between Any Two Terminals				1.0			MΩ
RF Equivalent RLC Model	Motional Resistance	$R_M$			15	33	Ω
	Motional Inductance	$L_M$			48.6		μH
	Motional Capacitance	$C_M$			2.8		fF
	Shunt Static Capacitance	$C_O$			2.6		pF
Test Fixture Shunt Inductance		$L_{TEST}$			52.1		nH
Lid Symbolization (in addition to Lot and/or Date Codes)				703, <u>YWWS</u>			
Standard Reel Quantity	Reel Size 7 Inch		500 Pieces/Reel				
	Reel Size 13 Inch		3000 Pieces/Reel				



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**

**NOTES:**

1. The design, manufacturing process, and specifications of this device are subject to change.
2. US or International patents may apply.



## Recommended Reflow Profile

1. Preheating shall be fixed at 150~180°C for 60~90 seconds.
2. Ascending time to preheating temperature 150°C shall be 30 seconds min.
3. Heating shall be fixed at 220°C for 50~80 seconds and at 260°C +0/-5°C peak (10 seconds).
4. Time: 5 times maximum.

