

- **Ideal for European 868.35 MHz Transmitters**
- **Very Low Series Resistance**
- **Quartz Stability**

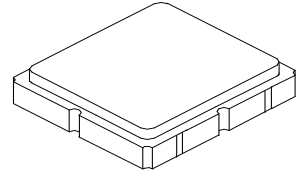
The RO3164D is a true one-port, surface-acoustic-wave (SAW) resonator in a surface-mount ceramic case. It provides reliable, fundamental-mode, quartz frequency stabilization of fixed-frequency transmitters operating at 868.35 MHz. This SAW is designed specifically for remote-control and wireless security transmitters operating under ETSI-ETS 300 220 in Europe and under FTZ 17 TR 2100 in Germany.

Absolute Maximum Ratings

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

RO3164D/D-1/D-2

**868.35 MHz
SAW Resonator**



**SM3838-6 Case
3.8 X 3.8**

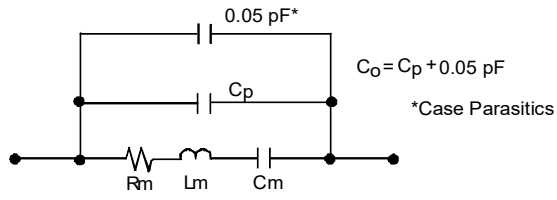
Electrical Characteristics

Characteristic	Sym	Notes	Minimum	Typical	Maximum	Units	
Frequency (+25 °C) Nominal Frequency	RO3164D RO3164D-1 RO3164D-2	f_C	2,3,4,5	868.150		868.550	MHz
				868.200		868.500	
				868.250		868.450	
Tolerance from 868.35 MHz	RO3164D RO3164D-1 RO3164D-2	Δf_C				±200	kHz
						±150	
						±100	
Insertion Loss	IL	2,5,6		1.3	2.0	dB	
Quality Factor	Unloaded Q	Q_U	5,6,7		7100		
	50 Ω Loaded Q	Q_L			970		
Temperature Stability	Turnover Temperature	T_O		10	25	40	°C
	Turnover Frequency	f_O	6,7,8		f_C		kHz
	Frequency Temperature Coefficient	FTC			0.032		ppm/°C ²
Frequency Aging	Absolute Value during the First Year	fA	1		<±10		ppm/yr
DC Insulation Resistance between Any Two Terminals			5	1.0			MΩ
RF Equivalent RLC Model	Motional Resistance	R_M	5, 6, 7, 9		15.8		Ω
	Motional Inductance	L_M			20.5		μH
	Motional Capacitance	C_M			1.6		fF
	Shunt Static Capacitance	C_O		5, 6, 9		1.7	
Test Fixture Shunt Inductance	L_{TEST}	2, 7			19.4		nH
Lid Symbolization (in addition to Lot and/or Date Codes)	RO3164D 685, RO3164D-1 771, RO3164D-2 772 / YWWS						
Standard Reel Quantity	Reel Size 7 Inch					500 Pieces / Reel	
	Reel Size 13 Inch					3000 Pieces / Reel	



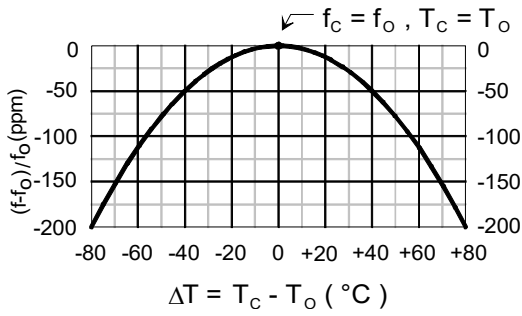
CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Equivalent LC Model



Temperature Characteristics

The curve shown on the right accounts for resonator contribution only and does not include LC component temperature contributions.



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