



深圳市凯越翔电子有限公司

声表谐振器规格书

产品名称:	声表谐振器
产品型号:	D11-R315M(SMD-2)
产品参数:	±75 KHZ
原厂型号:	KD1R3150
凯越翔技术部:	董宗全

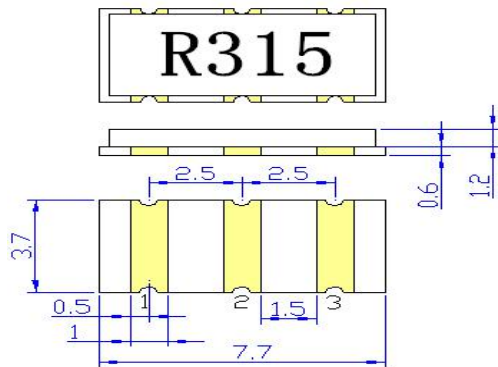
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The YRR315 is a true one- port , surface- acoustic- wave(SAW) resonator in a low-profile D -11 case. It provides reliable , fundamental- mode , quartz frequency stabilization of fixed- frequency transmitters operating at 315 MHz.

1. Package Dimension (SMD-2)

Pin	Connection
1	Input
2	Case Ground
3	Output

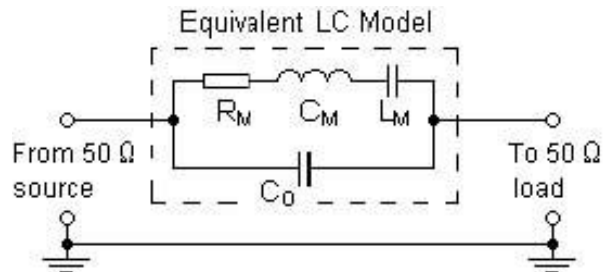


2. Marking Circuit

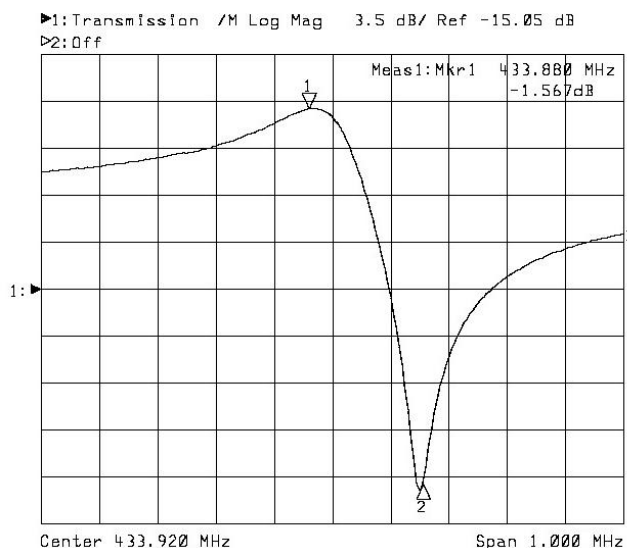
R315

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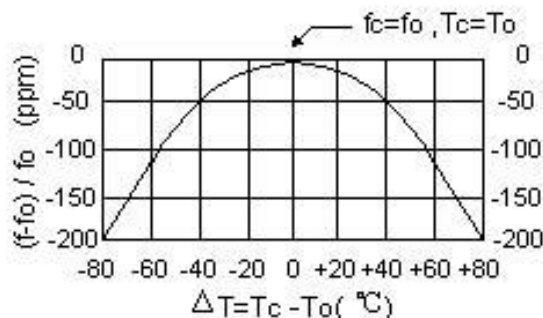
3. Equivalent LC Model and Test



5. Typical Frequency Response



6. Temperature Characteristics



The curve shown above accounts for resonator contribution only and does not include oscillator temperature characteristics.

7. Performance

7-1. Maximum Rating

Rating	Value	Units
CW RF Power Dissipation	+10	dBm
DC Voltage Between Any Two Pins	±30V	VDC
Case Temperature	-40 to +85	°C

7-2. Electronic Characteristics

Characteristic		Sym	Minimum	Typical	Maximum	Units
Center Frequency (+25°C)	Absolute Frequency	f_c	314.25		315.75	MHz
	Tolerance from 315 MHz	Δf_c		±75		kHz
Insertion Loss		I_L		1.5	1.8	dB
Quality Factor	Unloaded Q	Q_U		15974		
	50 Ω Loaded Q	Q_L		1900		
Temperature Stability	Turnover Temperature	T_o	25	40	55	°C
	Turnover Frequency	f_o		f_c		kHz
	Frequency Temperature Coefficient	FTC		0.037		ppm/°C ²
Frequency Aging Absolute Value during the First Year		$ f_A $		≤10		ppm/yr
DC Insulation Resistance Between Any Two Pins			1.0			MΩ
RF Equivalent RLC Model	Motional Resistance	R_M		19	23	Ω
	Motional Inductance	L_M		79.137		μH
	Motional Capacitance	C_M		1.8019		fF
	Pin 1 to Pin 2 Static Capacitance	C_o		1.9		pF

CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

Notes:

1. Frequency aging is the change in f_c with time and is specified at $+65^\circ\text{C}$ or less. Aging may exceed the specification for prolonged temperatures above $+65^\circ\text{C}$. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
2. The center frequency, f_c , is measured at the minimum insertion loss point, IL_{MIN} , with the resonator in the $50\ \Omega$ test system ($VSWR \leq 1.2: 1$). The shunt inductance, L_{TEST} , is tuned for parallel resonance with C_o at f_c .
3. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
4. Unless noted otherwise, case temperature $T_c = +25^\circ\text{C} \pm 2^\circ\text{C}$.
5. Derived mathematically from one or more of the following directly measured parameters: f_c , IL , 3dB bandwidth, f_c versus T_c , and C_o .
6. Turnover temperature, T_o , is the temperature of maximum (or turnover) frequency, f_o . The nominal frequency at any case temperature, T_c , may be calculated from: $f = f_o [1 - FTC(T_o - T_c)^2]$. Typically, *oscillator* T_o is 20°C less than the specified *resonator* T_o .
7. This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance C_o is the static (nonmotional) capacitance between Pin 1 and Pin 2 measured at low frequency (10 MHz) with a capacitance meter. The measurement includes parasitic capacitance with floating case. For usual grounded case applications (with ground connected to either pin 1 or pin 2 and to the case), add approximately 0.25pF to C_o .

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