

Discontinued

RFM products are now
Murata products.

- **Ideal for 345.0 MHz Transmitters**
- **Very Low Series Resistance**
- **Quartz Stability**
- **Rugged, Hermetic, TO39-3 Package**

The RO3075 is a true one-port, surface-acoustic-wave (SAW) resonator in TO39-3 case. It provides reliable, fundamental-mode, quartz frequency stabilization of fixed-frequency transmitters operating at 345.0 MHz.

Absolute Maximum Ratings

Rating	Value	Units
CW RF Power Dissipation	+5	dBm
DC Voltage Between Any Two Pins (Observe ESD Precautions)	±30	VDC
Case Temperature	-40 to +85	°C
Soldering Temperature (10 seconds / 5 cycles max.)	260	°C

RO3075

345.0 MHz SAW Resonator



TO39-3 Case

Electrical Characteristics

Characteristic		Sym	Notes	Minimum	Typical	Maximum	Units
Center Frequency at +25 °C	Absolute Frequency	f_C	2, 3, 4, 5	344.930		345.070	MHz
	Tolerance from 345.0 MHz	Δf_C			±70	±100	kHz
Insertion Loss	IL	2, 5, 6			0.9	1.8	dB
Quality Factor	Unloaded Q	Q_U	5, 6, 7	7900			
	50 Ω Loaded Q	Q_L		750			
Temperature Stability	Turnover Temperature	T_O	6, 7, 8	10	25	40	°C
	Turnover Frequency	f_O			$f_C \cdot 5$		kHz
	Frequency Temperature Coefficient	FTC		0.037			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, 7, 9		10.5		Ω
	Motional Inductance	L_M		38			μH
	Motional Capacitance	C_M		5.6			fF
	Pin 1 to Pin 2 Static Capacitance	C_O		5, 6, 9	4.2		pF
Test Fixture Shunt Inductance	C_P	5, 6, 7, 9			4.0		pF
Lid Symbolization	L_{TEST}	2, 7			50.7		nH
				RFM / 3075			



CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.

NOTES:

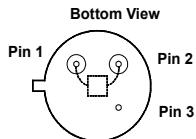
1. Lifetime (10 year) frequency aging.
2. The center frequency, f_C , is measured at the minimum insertion loss point, IL_{MIN} , with the resonator in the 50 Ω test system ($VSWR \leq 1.2:1$). The shunt inductance, L_{TEST} , is tuned for parallel resonance with C_O at f_C .
3. One or more of the following United States patents apply: 4,454,488 and 4,616,197.
4. Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
5. Unless noted otherwise, case temperature $T_C = +25^\circ\text{C} \pm 2^\circ\text{C}$.
6. The design, manufacturing process, and specifications of this device are subject to change without notice.
7. Derived mathematically from one or more of the following directly measured parameters: f_C , IL, 3 dB bandwidth, f_C versus T_C , and C_O .
8. 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: $f = f_O [1 - FTC (T_O - T_C)]^2$.
9. 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 the two terminals measured at low frequency (10 MHz) with a capacitance meter. The measurement includes parasitic capacitance with a floating case. Case parasitic capacitance is approximately 0.25pF. Transducer parallel capacitance can be calculated as: $C_P \approx C_O - 0.25pF$.

Discontinued

Electrical Connections

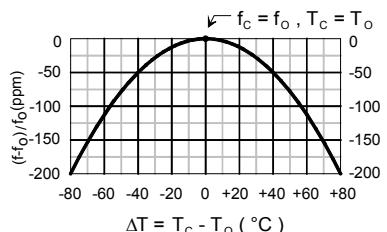
This one-port, two-terminal SAW resonator is bidirectional. The terminals are interchangeable with the exception of circuit board layout.

Pin	Connection
1	Terminal 1
2	Terminal 2
3	Case Ground



Temperature Characteristics

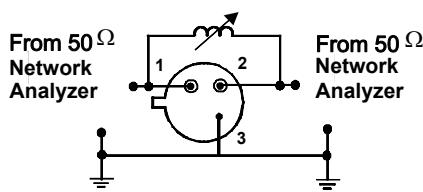
The curve shown on the right accounts for resonator contribution only and does not include oscillator temperature characteristics.



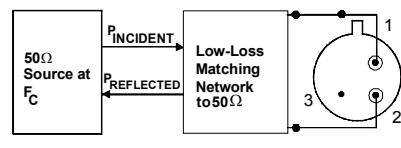
Typical Test Circuit

The test circuit inductor, L_{TEST}, is tuned to resonate with the static capacitance, C_O at F_C.

Electrical Test:



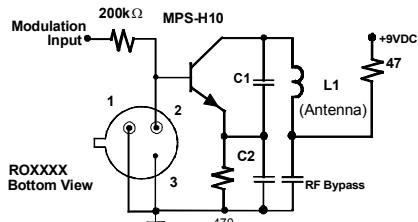
Power Test:



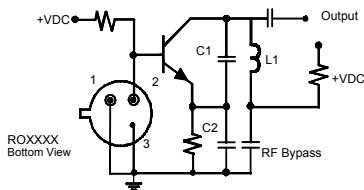
$$\text{CW RF Power Dissipation} = P_{\text{INCIDENT}} - P_{\text{REFLECTED}}$$

Typical Application Circuits

Typical Low-Power Transmitter Application:

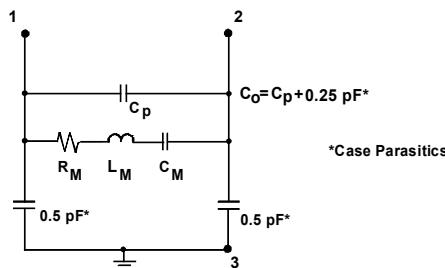


Typical Local Oscillator Application:

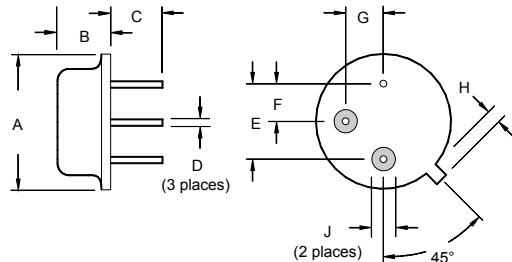


Equivalent LC Model

The following equivalent LC model is valid near resonance:



Case Design



Dimensions	Millimeters		Inches	
	Min	Max	Min	Max
A		9.30		0.366
B		3.18		0.125
C	2.50	3.50	0.098	0.138
D	0.46 Nominal		0.018 Nominal	
E	5.08 Nominal		0.200 Nominal	
F	2.54 Nominal		0.100 Nominal	
G	2.54 Nominal		0.100 Nominal	
H		1.02		0.040
J	1.40		0.055	

ООО "ЛайфЭлектроникс"

"LifeElectronics" LLC

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибуторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибуторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помочь разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)
Email: org@lifeelectronics.ru