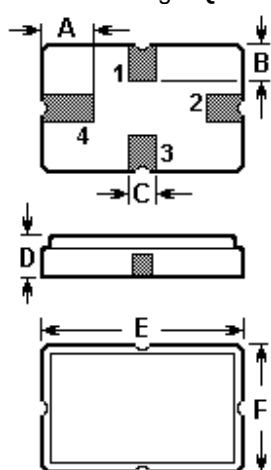


ONE PORT SAW RESONATOR: ACTR8021A/868.35/±75kHz

- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators
- Surface Mounted Technology (SMT)
- Lead-free production and RoHS compliance

Package Dimensions

Ceramic Package: QCC4A

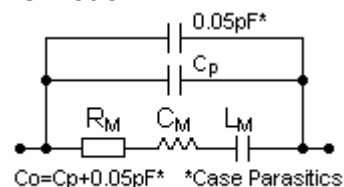


Pin		Configuration	
1		Input / Output	
3		Output / Input	
2/4		Case Ground	
Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	1.2	D	1.4
B	0.8	E	5.0
C	0.5	F	3.5

Marking : Top View,

Laser Marking

Equivalent LC Model



Maximum Ratings

Rating		Value	Unit
CW RF power dissipation	P	+10	dBm
DC voltage between any terminals	V_{DC}	±30	V
Operating temperature range	T_A	-40 ~ +85	°C
Storage temperature range	T_{stg}	-40 ~ +85	°C

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>

Electrical Characteristics

Characteristic		Sym	Minimum	Typical	Maximum	Unit
Centre Frequency (+25°C)	Absolute Frequency	f_c	868.275		868.425	MHz
	Tolerance from 868.350 MHz	Δf_c			±75	kHz
Insertion Loss		I_L		1.7	2.3	dB
Quality Factor	Unloaded Q	Q_U		8,300		
	50 Ω Loaded Q	Q_L		1,500		
Temperature Stability	Turnover Temperature	T_0	10		30	°C
	Turnover Frequency	f_0		f_c		kHz
	Frequency Temperature Coefficient	FTC		0.032		ppm/°C ²
Frequency Aging	Absolute Value during the First Year	$ f_A $		≤10		ppm/yr
DC Insulation Resistance Between Any Two Terminals			1.0			M Ω
RF Equivalent RLC Model	Motional Resistance	R_M		22	30	Ω
	Motional Inductance	L_M		33.5580		μ H
	Motional Capacitance	C_M		1.0021		fF
	Shunt Static Capacitance	C_0	2.3	2.6	2.9	pF

 **RoHS Compliant**

 **Electrostatic Sensitive Device**

NOTE:

1. Unless noted otherwise, case temperature $T_C = +25^\circ\text{C} \pm 2^\circ\text{C}$.
2. The centre frequency, f_c , is measured at the minimum insertion loss point with the resonator in the 50 Ω test system.
3. Frequency aging is the change in f_c with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
4. Turnover temperature, T_0 , is the temperature of maximum (or turnover) frequency, f_0 . The nominal frequency at any case temperature, T_C , may be calculated from: $f = f_0 [1 - \text{FTC} (T_0 - T_C)^2]$.
5. This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance C_0 is the static capacitance between the two terminals measured at low frequency (10MHz) with a capacitance meter. The measurement includes case parasitic capacitance.

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered

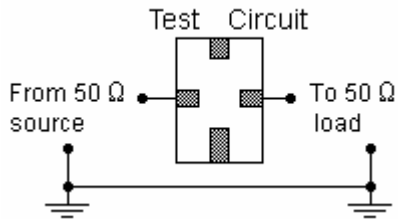
For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

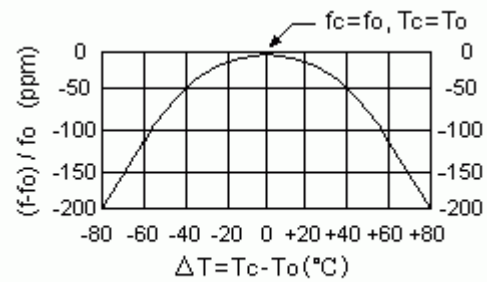
<http://www.actcrystals.com>

Issue 1 24-08-12

Test Circuit



Temperature Characteristics



The curve shown above accounts for resonator contribution only.

In keeping with our ongoing policy of product evolution and improvement, the above specification is subject to change without notice.

ISO9001: 2000 Registered

For quotations or further information please contact us at:

3 The Business Centre, Molly Millars Lane, Wokingham, Berks, RG41 2EY, UK

<http://www.actcrystals.com>