



Features and Benefits

Meets all Medium-term stability requirements of COSPAS SARSAT : Class 2
12.688656 MHz AT-strip resonator optimized for this application
CMOS output
+3.3V; 4 mA max.
Less than 1E-10 ADEV @ tau = 0.1 to 10 seconds
Less than +/- 200 ppb over -20°C to +55°C
Tri-state function

Typical Applications

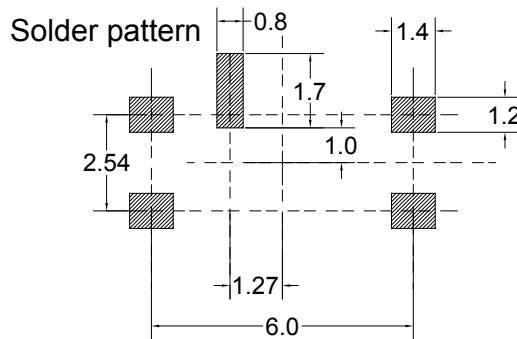
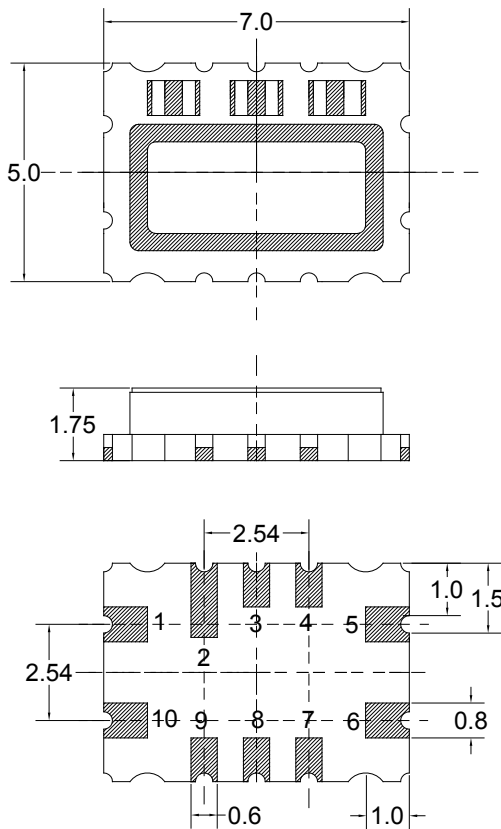
ELT Emergency Beacons
Other frequencies available for EPIRB and PLB beacon systems

Description

5 x 7 mm smd. TCXO platform optimized for crystal angle and compensation technique to meet the specific stability requirements of ELT (Emergency Locator Transmitter) applications.

Mechanical Drawing & Pin Connections

Drawing No: MD150075-1



Pin function

- #1 Do not connected
- #5 GND
- #6 Output
- #9 Tri-state(Enable)
- #10 Vdc

Do not connect #2, #3, #4, #7, #8



Specifications

TCXO Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F _{nom}			12.6886560		MHz	
Output Waveform			CMOS				
Output Level High			2.97			V	
Output Level Low					0.33	V	
Output Load		+/-5%		15		pF	
Symmetry (Duty)		@ 1/2 Vdc	45		55	%	
Tri-state function		pin # 6: oscillation pin # 6: high impedance	pin # 9 high or open pin # 9 low				
Power Supply							
Supply Voltage	V _{cc}		3.135	3.3	3.465	V	
Supply Current					4	mA	
Frequency Stability							
VS. Temperature		From -20°C to +55°C Ref. to (F _{MAX} + F _{MIN})/2			+/-0.2	ppm	
Tolerance at +25°C		@+25°C			+/-0.5	ppm	
Tolerance after Reflow		Measured 8hours after reflow			+/-1	ppm	
VS. Supply Voltage		+/-5% change at 25°C			+/-0.1	ppm	
VS. Load Change		+/-5% change at 25°C			+/-0.1	ppm	
Year Aging		First year			+/-1.0	ppm	
		10 years			+/-3.0	ppm	
Allan Variance (ADEV)		@ τ = 0.1 ~ 10 sec.			0.1	ppb	
Medium-Term Stability			IAW C/S T.007 and C/S IP TCXO				
Mean Slope ΔF/dt after 15 min Power-up		Steady state			0.7	ppb/min.	T = const
		During temperature ramp			1.7	ppb/min.	Δ T/dt = ± 5 °C/hour
Residual ΔF (r.m.s.) from Slope					2.0	ppb	Over 18 points
Environmental Conditions							
Parameter	Reference Std.		Test Condition				
Operating Temperature range	-20°C to +55°C						
Storage Temperature range	-55°C to +105°C						
Vibration sinusoidal	IEC 60028-2-6	IEC 60679-1-5.6.7	Test Fc, 30 min per axis 10 Hz – 55 Hz 0.75mm, 55 Hz – 2 KHz 10g				
Shock	IEC 60028-2-27	IEC 60679-1-5.6.8	Test Ea, 3 x per axes 100 g, 6 ms half-sine pulse				
Soldering	IEC 60028-2-20 IEC 60028-2-58	IEC 60679-5..6.3	Test Ta 260°C Method 1 Test Tb Method 1A, 5s				