

Typical Applications

*PCS Base Stations
Cellular Base Stations
Synthesizers
Test Equipment
Digital Switching*

Features

*Standard Package
High Stability
AT-Cut Crystal*



Frequency range

10 MHz – 30 MHz

Standard frequencies

10 MHz

Frequency stabilities

Frequency Stabilities			
Parameter	Code	Frequency stability	Operating temp range
vs. operating temperature range	B48	± 40 ppb	0....50°C
	B28	± 20 ppb	
	C58	± 50 ppb	0.....70°C
	C38	± 30 ppb	
	D17	± 100 ppb	-20....+70°C
	D88	± 80 ppb	
	E27	± 200 ppb	-40....+70°C
	E17	± 100 ppb	
Parameter		Value	Condition
vs. aging /daily ¹		< ± 2 ppb	after 72 hours of operation
vs. aging /1 Year		< ± 0.5 ppm	
		< + 0.75 ppm	
			> 20 MHz

Frequency tuning

Parameter	Value	Condition
Electrical frequency control (EFC):	> ± 8 ppm Typ.	Sufficient for > 15 Yrs.
Voltage range	0 V to 4 V	
Pulling slope	Positive	

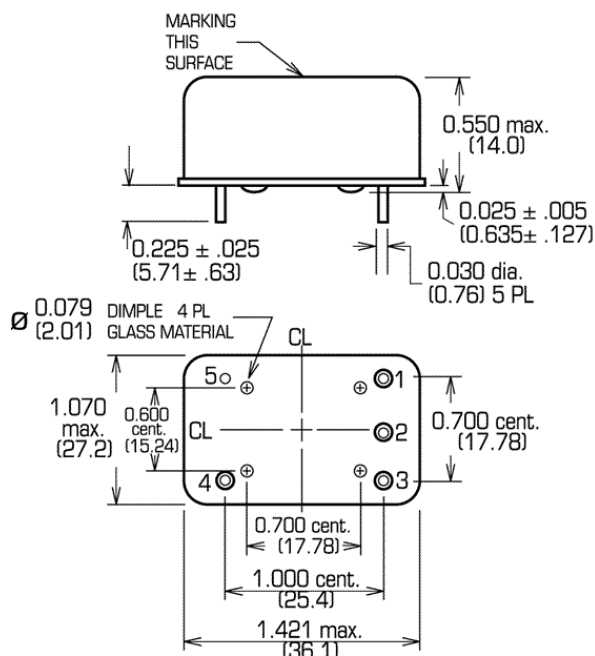
RF output

Parameter	Value	Condition
Signal	Sinewave/ HCMOS ²	
Load	50 Ω	
Duty cycle	45 to 55 %	
Output power min	+ 3 dBm	
Output power max	+ 8 dBm	
Harmonics	< - 30 dBc	

Supply Voltage

Parameter	Value	Condition
Supply voltage (Vs)	+ 5 V $\pm$ 5 %	@ 25°C
Supply voltage B (Vs B)	+ 12 V	
Supply voltage C (Vs C)	+ 3.3 V	
Power consumption steady state	< 1.0 W	
Power consumption during warm up	< 3.0 W	
Reference Voltage output	4 V	

Enclosure



Pin Connections

Pin	1	EFC
Pin	2	Reference Voltage Output or N/C
Pin	3	Supply Voltage
Pin	4	RF Output
Pin	5	GND/Case GND

Additional Parameters

Parameter	Value	Condition
Phase Noise	<- 75 dBc	1Hz Note 1
	<-100 dBc	10Hz
	<-130 dBc	100Hz
	<-140dBc	1kHz
	<-150dBc	10kHz
Warm-up time	< 3 min	@25°C to final frequency within ± 0.1ppm
Processing	Tech_Note_1	
Packaging	Tech_Note_2	

Notes

- Typical values @ 10 MHz
 - can drive TTL, ACMOS and CMOS
- Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)