AXTAL ADVANCED XTAL PRODUCTS

Specification	AXIS45	Issue: 01	Date: 2006-07-11

Oscillator type : Wideband VCXO in double-sealed DIL package

Direct replacement of Fujitsu M2 (F100)

Parameter	min.	typ.	max.	Unit	Condition
Frequency range	5		30	MHz	
Standard frequencies	16.384 / 24.576 / 27.000 / 28.224			MHz	
Frequency stability				ppm	
Initial tolerance				ppm	
vs. temperature in operating temperature range		± 100		ppm	-20°C ~+70°C
vs. supply voltage variation			± 10	ppm	
vs. load change			± 5	ppm	
long term (aging)			± 10	ppm/year	@ 40°C
Frequency adjustment range					
Electronic Frequency Control (EFC) (Pulling range) See Note 2	± 500 ± 1000 ± 1500* ± 2000* ± 2500* ± 3000*			ppm ppm ppm ppm ppm ppm	Option 2 = " " Option 2 = "1000" Option 2 = "1500" * Option 2 = "2000" * Option 2 = "2500" * Option 2 = "3000" *
EFC voltage V_C	0.25 0.15		4.75 3.15	V v	Option 1 = "50" (5 V) Option 1 = "33" (3.3 V)
EFC slope ($\Delta f / \Delta V_C$)	positive				
EFC linearity				%	
EFC input impedance	100			kΩ	
RF output					
Signal waveform	HCMOS				
Load	15			pF	
Rise & decay time			10	ns	
Symmetry (duty cycle)	40		60	%	@ $V_S/2$
Start-up time			4	ms	
Supply voltage V_S	4.75 3.13	5.0 3.3	5.25 3.47	V V	Option 1 = "50" (5 V) Option 1 = "33" (3.3 V)
Current consumption			30	mA	@ +25°C
Operating temperature range	-20		+70	°C	
Operable temperature range	-40		+85	°C	
Storage temperature range	-45		+90	°C	
Enclosure (see drawing) LxWxH	20.7x13.1x7.5 max.			mm	IEC 60679-3 CO 02
Weight			3	gram	
Packing	sticks				IEC 60286-3
ESD Sensitivity	1500			V	HBM, IEC 61000-4-2
RoHS compliance	Full				

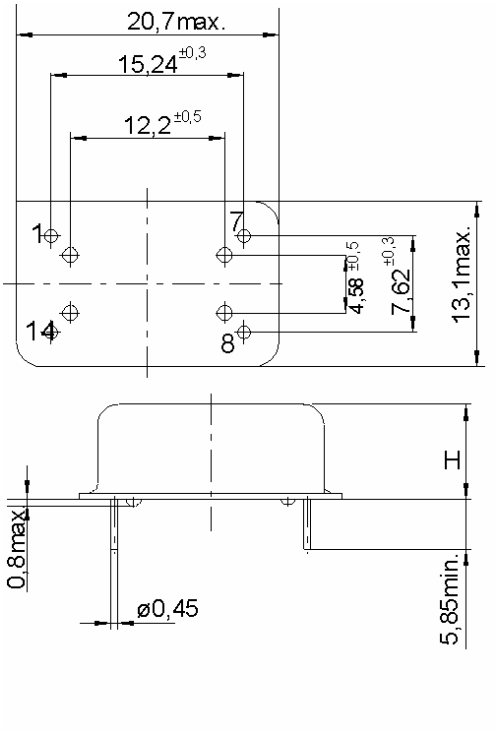
Notes:

1. Terminology and test conditions are according to IEC standard IEC60679-1, unless otherwise stated
2. *Pulling Range Option 3 > 1000 only possible with EFC voltage 0.25V ~ 4.75 V

Ordering Code:

Model (Specification)	Option 1	Option 2	Frequency [MHz]
	Supply	Pulling Range	
AXIS45	50	2000	28.224

Enclosure drawing



Pin connections

Pin #	Symbol	Function
1	V_C	Control Voltage (EFC)
7	GND	Ground
8	RF OUT	RF Output
14	V_S	Supply Voltage

Environmental conditions

Test	IEC 60068 Part ...	IEC 60679-1 clause ...	Test conditions
Visual inspection, dimensions		4.3	Enclosure styles as in IEC 60679-3 or 61837, if applicable
Sealing tests (if applicable)	2-17	4.6.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	4.6.3	Test Ta (235 ± 5)°C Method 1 Test Tb Method 1A, 5s
Shock*	2-27	4.6.8	Test Ea, 3 x per axes 100g, 6 ms half-sine pulse
Bump*	2-29	4.6.6	Test Eb, 4000 bumps per Axes, 40g, 6 ms
Free fall*	2-32	4.6.9	Test Ed procedure 1, 2 drops from 1m height
Vibration, sinusoidal*	2-6	4.6.7	Test Fc, 30 min per axes, 10 Hz - 55 Hz 0,75mm; 55 Hz - 2 kHz, 10g
Rapid change of temperature	2-14	4.6.5	Test Na, 10 cycles at extremes of operating temperature range
Dry heat	2-2	4.6.14	Test Ba, 16 h at upper temperature indicated by climatic category
Damp heat, cyclic*	2-30	4.6.15	Test Db variant 1 severity b), 55°C/95% r.H., 6 cycles
Cold	2-1	4.6.16	Test Aa, 2 h at lower temperature indicated by climatic category
Climatic sequence*	1-7	4.6.17	Sequence of 4.6.14, 4.6.15 (1st cycle), 4.6.16, 4.6.15 (5 cycles)
Damp heat, steady state*	2-3	4.6.18	Test Ca, 56 days
Endurance tests - ageing - extended aging		 4.7.1 4.7.2	 30 days @ 85°C, OCXO @25°C 1000h, 2000h, 8000h @85°C