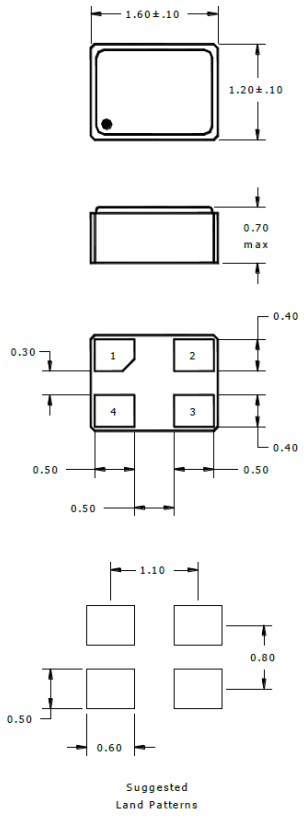
ISM16 Series

Product Feature:
CMOS Output
Low Jitter, Non-PPL Based Output Wide Range of Supply Voltage (1.8 to 3.3V)
Stand-by Function on Pin 1
RoHS Compliant
Compatible Leadfree Processing

Applications:
Fibre Channel
Server & Storage
802.11 / Wifi
Sonet/SDH
T1/E1, T3/E3

Frequency	3.000000 MHz to 80.000000 MHz
Output Level CMOS	Logic "0" = 0.4 V max Logic "1" = Vcc – 0.4 V min
Duty Cycle	See Duty Cycle Table in Part Number Guide
Rise / Fall Time	4.5 nSec max (10% to 90% of waveform)
Output Load	15pF max
Frequency Stability	See Frequency Stability Table in Part Number Guide (Note 1)
Start-up time	2.0 mSec max with Vcc = +3.30 VDC 5.0 mSec max with Vcc = +1.80 VDC
Stand By Terminal Function (Pin 1)	0.7 Vcc min = Output enable 0.3 Vcc max = Oscillation stop and High impedance output
Supply Voltage (Vcc)	See Input Voltage Table in Part Number Guide (Tolerance = ±10%)
Current **During Standby** **During Operation**	 10 µA max 2.5 typ., 3.5 mA max (1.8 V, 15 pF load @ 50.000MHz) 3.5 typ., 5.0 mA max (1.8 V, 15 pF load @ 80.000MHz) 4.2 typ., 6.0 mA max (3.3 V, 15 pF load @ 50.000MHz) 6.0 typ., 8.5 mA max (3.3 V, 15 pF load @ 80.000MHz)
Aging	± 3.0 ppm max @ +25ºC First Year
Operating Temperature Range	See Operating Temperature Table in Part Number Guide
Storage Temperature Range	-40ºC to +85ºC
Random Jitter (RJ)	2.9 pSec typical
Total Jitter (TJ)	40.0 pSec typical TJ = n x RJ were n ≈ 14.1, BER = 10^{-12}
Phase Jitter	1.0 pSec max Offset frequency = 12 kHz to 5.000MHZ



Dimensions: mm

Pin Connections	
Pin 1	Stand-by
Pin 2	Ground
Pin 3	Output
Pin 4	Supply Voltage (Vcc)

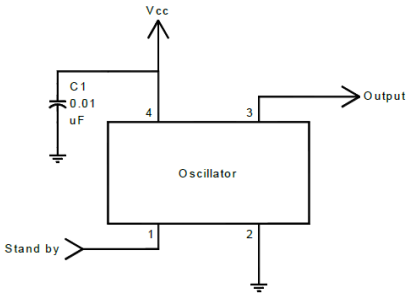
Notes:
1. Includes room temperature tolerance and stability over operating temperature.
2. A 0.01 F bypass capacitor is recommended between Vcc (Pin 4) and GND (Pin 2) to minimize power supply noise

Part Number Guide **Sample Part Number: ISM16-3153A-20.000 MHz**

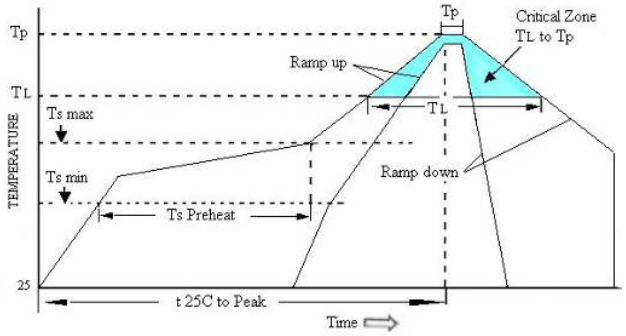
Package	Input Voltage	Operating Temperature	Symmetry (Duty Cycle)	Output	Stability (in ppm)	Frequency
ISM16 -	1 = 1.8 V	1 = 0° C to +70° C	5 = 45 / 55 Max.	3 = 15 pF	*A = ±25	-20.0000 MHZ
	3 = 3.3 V	2 = -40° C to +85° C	6 = 40 / 60 Max.		B = ±50	
	6 = 2.5 V	3 = -20° C to +70° C			C = ±100	
		5 = -30° C to +85° C			*F = ±20	
					G = ±30	

*Note available for all temperature ranges

Typical Application:



Pb Free Solder Reflow Profile:



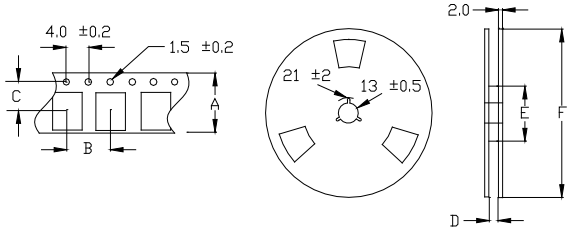
Units are backward compatible with 240°C reflow processes

Ts max to T_L (Ramp-up Rate)	3ºC / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150ºC 175ºC 200ºC 60 to180 seconds
Ramp-up Tate (T_L to Tp	3ºC / second max
Time Maintained Above Temperature (T_L) Time (T_L)	 217ºC 60 to 150 seconds
Peak Temperature (Tp)	260ºC max for 10 seconds
Time within 5ºC to Peak Temperature (Tp)	20 to 40 seconds
Ramp-down Rate	6ºC / second max
Tune 25ºC to Peak Temperature	8 minutes max

Package Information:

MSL = N.A. (package does not contain plastic; storage life is unlimited under normal room conditions).
Termination = e4 (Au over Ni over W base metallization).

Tape and Reel Information:



Quantity per Reel	3000
A	8.0 ±0.2
B	4.0 ±0.1
C	3.5 ±0.05
D	9.0 ±0.3
E	60 / 80
F	180 / 250

Dimensions: mm

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

ABRACON:

ISM16-3353A-5.000MHz ISM16-3353A-50.000MHz ISM16-3353A-52.000MHz ISM16-3353B-20.000MHz ISM16-3353B-25.000MHz ISM16-3353B-5.000MHz ISM16-3353F-20.000MHz ISM16-3353F-22.000MHz ISM16-3353F-24.000MHz ISM16-3353F-4.000MHz ISM16-3353F-40.000MHz ISM16-3353F-44.000MHz ISM16-6253B-22.000MHz ISM16-6253B-37.400MHz ISM16-6253B-38.400MHz ISM16-6353A-19.200Mhz ISM16-6353A-36.000MHz ISM16-6353A-4.000MHz ISM16-6353B-16.000MHz ISM16-6353F-12.500MHz ISM16-6353F-15.000MHz ISM16-6353F-30.000MHz ISM16-1253B-9.600MHz ISM16-1353A-13.500MHz ISM16-1353A-15.000MHz ISM16-1353A-25.000MHz ISM16-1353A-64.000MHz ISM16-1353B-13.000MHz ISM16-1353B-20.000MHz ISM16-1353B-36.000MHz ISM16-1353B-37.400MHz ISM16-1353B-50.000MHz ISM16-1353B-55.000MHz ISM16-1353F-11.000MHz ISM16-1353F-22.000MHz ISM16-1353F-32.000MHz ISM16-3253B-3.125MHz ISM16-3353A-11.000MHz ISM16-3353A-3.000MHz ISM16-3353A-4.000MHz ISM16-3353A-8.000MHz ISM16-3353B-29.4912MHz ISM16-3353B-3.125MHz ISM16-3353B-37.200Mhz ISM16-3353B-64.000MHz ISM16-6253B-12.500MHz ISM16-6253B-26.000MHz ISM16-6353A-13.500MHz ISM16-6353A-25.000MHz ISM16-6353A-30.000MHz ISM16-6353B-18.000MHz ISM16-6353B-8.000MHz ISM16-6353F-19.200Mhz ISM16-6353F-37.200Mhz ISM16-6353F-64.000MHz ISM16-1253B-13.500MHz ISM16-1253B-15.000MHz ISM16-1253B-25.000MHz ISM16-1253B-38.400MHz ISM16-1253B-8.000MHz ISM16-1353B-24.000MHz ISM16-1353F-19.200Mhz ISM16-1353F-29.4912MHz ISM16-3253B-12.000MHz ISM16-1253B-24.000MHz ISM16-1253B-64.000MHz ISM16-1253B-9.000MHz ISM16-1353A-1.000MHz ISM16-1353A-14.7456MHz ISM16-1353A-37.400MHz ISM16-1353B-12.500MHz ISM16-1353B-52.000MHz ISM16-1353F-13.000MHz ISM16-1353F-36.000MHz ISM16-3253B-13.500MHz ISM16-3253B-19.200Mhz ISM16-3253B-25.000MHz ISM16-3253B-30.000MHz ISM16-3253B-48.000MHz ISM16-3353A-12.500MHz ISM16-3353A-18.000MHz ISM16-3353A-20.000MHz ISM16-3353A-3.6864MHz ISM16-3353A-44.000MHz ISM16-3353A-6.000MHz ISM16-3353B-19.200Mhz ISM16-3353B-38.400MHz ISM16-3353B-52.000MHz ISM16-3353F-15.000MHz ISM16-3353F-25.000MHz ISM16-3353F-50.000MHz ISM16-6253B-14.7456MHz ISM16-6253B-44.000MHz ISM16-6253B-5.000MHz ISM16-6353A-40.000MHz ISM16-6353B-12.500MHz ISM16-6353B-20.000MHz ISM16-6353B-24.000MHz ISM16-1253B-1.000MHz ISM16-1253B-14.7456MHz