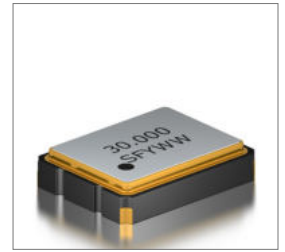


Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• CMOS
• Programmed VCXO
• Tape and Reel

Applications
• Micro Processors
• FPGA
• Storage Area/Networking
• Digital Video
• Portable Computers



Part Numbering Guide

SQV 32 C 3 A 48 A 2 - 30.000M

SUNTSU QUICK TURN VCXO

3.2mm x 2.5mm

CMOS

Cage Code: 4GUT4
To customize your parameters contact a Suntsu representative.
* For frequency stability option E contact a Suntsu representative.

SUPPLY VOLTAGE

2 : 2.5V $\pm 5\%$
3 : 3.3V $\pm 5\%$

FREQUENCY STABILITY

A : ± 50 ppm
B : ± 30 ppm
C : ± 25 ppm
D : ± 20 ppm
*E : ± 15 ppm

OPERATING TEMPERATURE RANGE

07 : 0°C - +70°C
16 : -10°C - +60°C
17 : -10°C - +70°C
27 : -20°C - +70°C
38 : -30°C - +85°C
48 : -40°C - +85°C

FREQUENCY
MHz

TRI-STATE (ENABLE/DISABLE)
BLANK : No Connect
2 : Pin 2

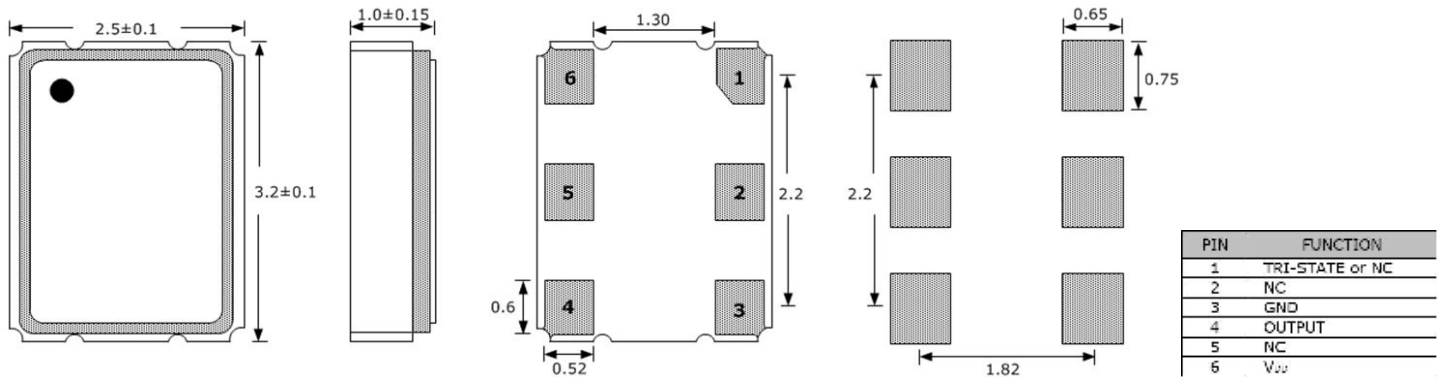
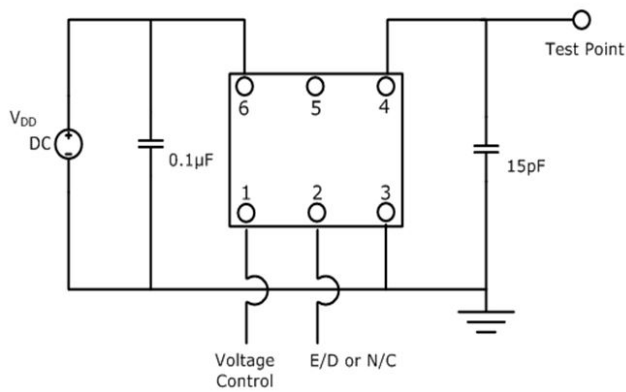
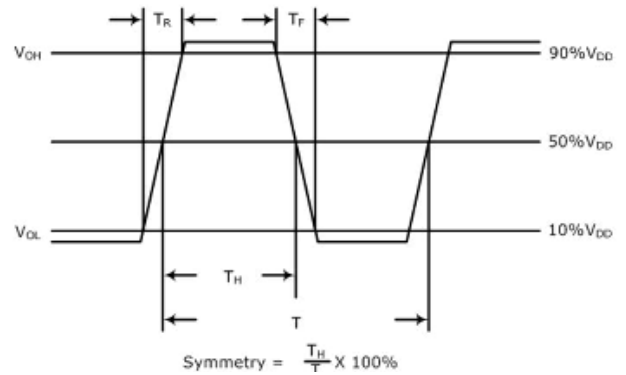
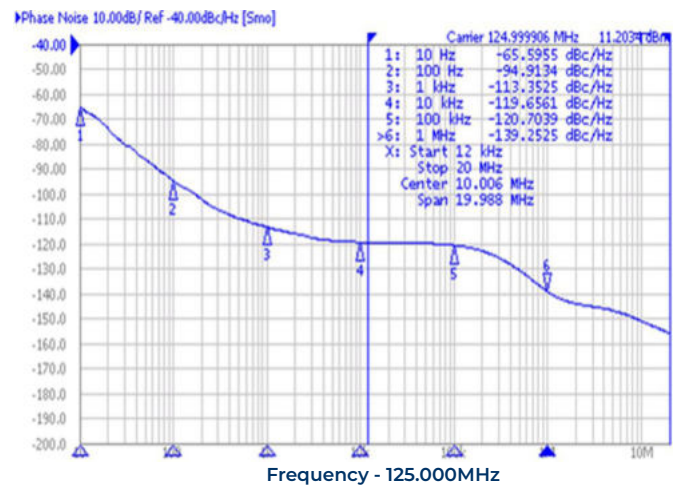
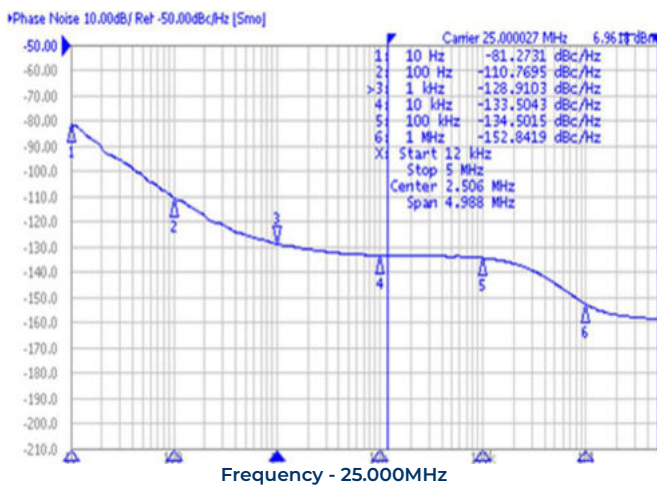
PULLABILITY

A : ± 150 ppm
B : ± 100 ppm
C : ± 80 ppm
D : ± 50 ppm

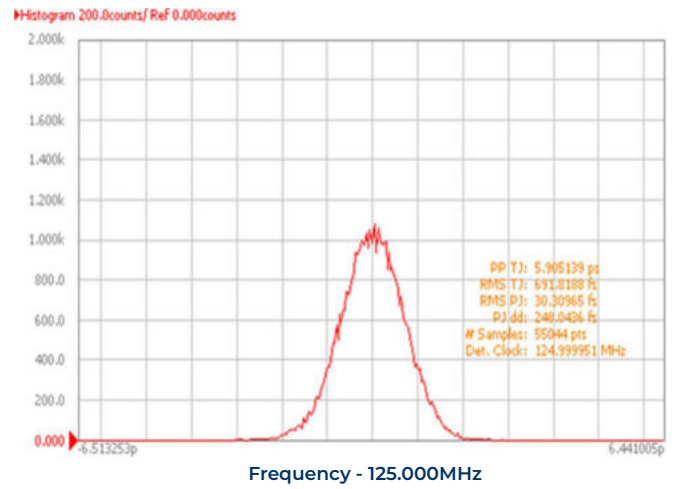
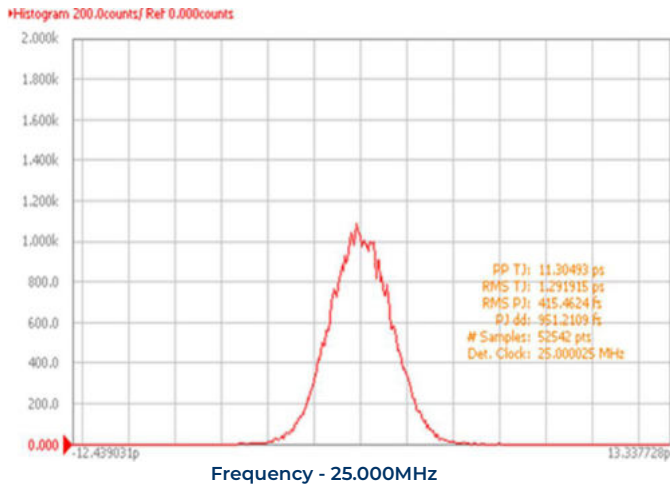
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Current (I _{DD}) 2.5V Option	mA			35	
Current (I _{DD}) 3.3V Option	mA			45	
Current Voltage (V _C) 2.5V Option	V	0		2.5	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Pullability	ppm	± 50	± 100	± 150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			3	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

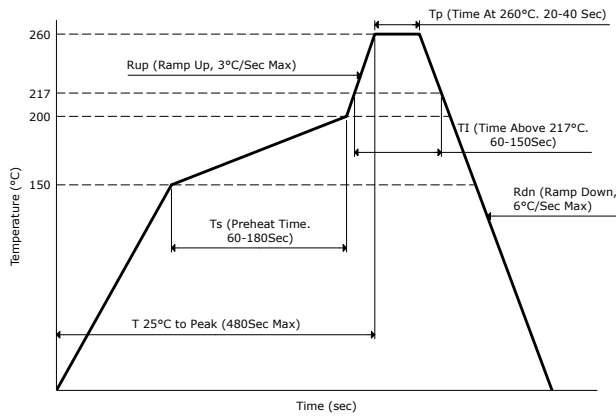
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (CMOS)

Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


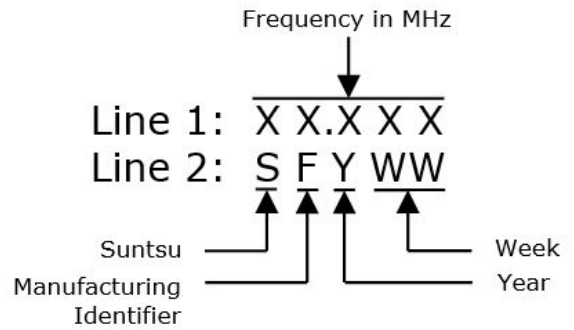
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



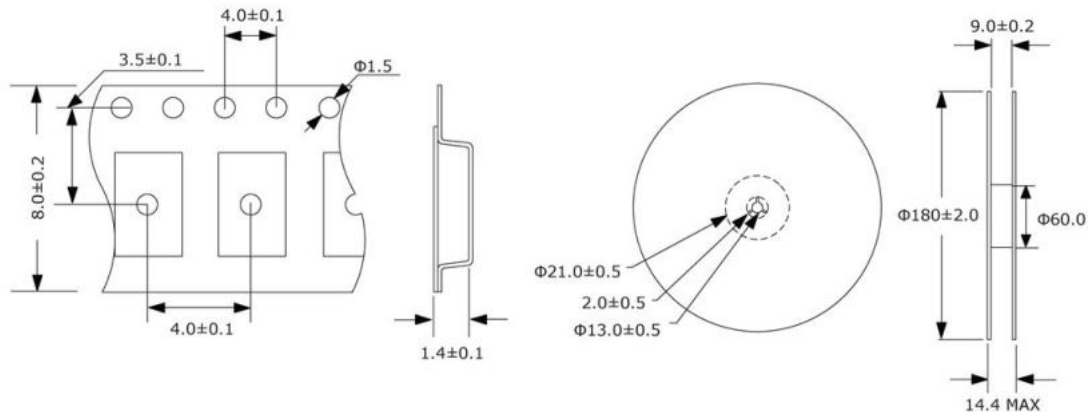
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

3,000pcs/Reel



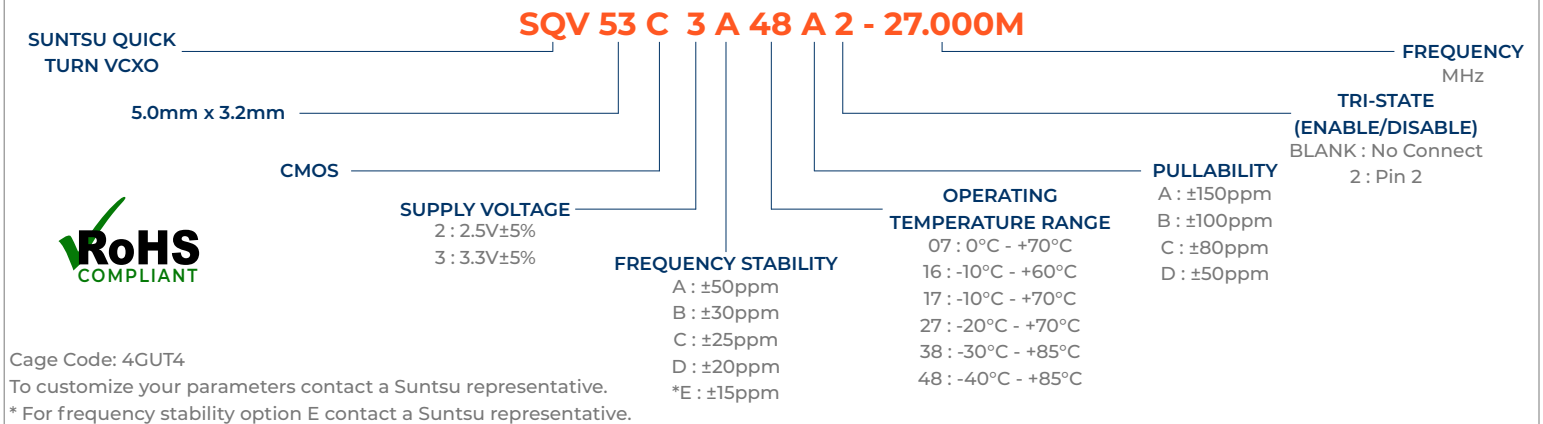
Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Ceramic Package CMOS Programmed VCXO Tape and Reel

Applications
<ul style="list-style-type: none"> Micro Processors FPGA Storage Area/Networking Digital Video Portable Computers



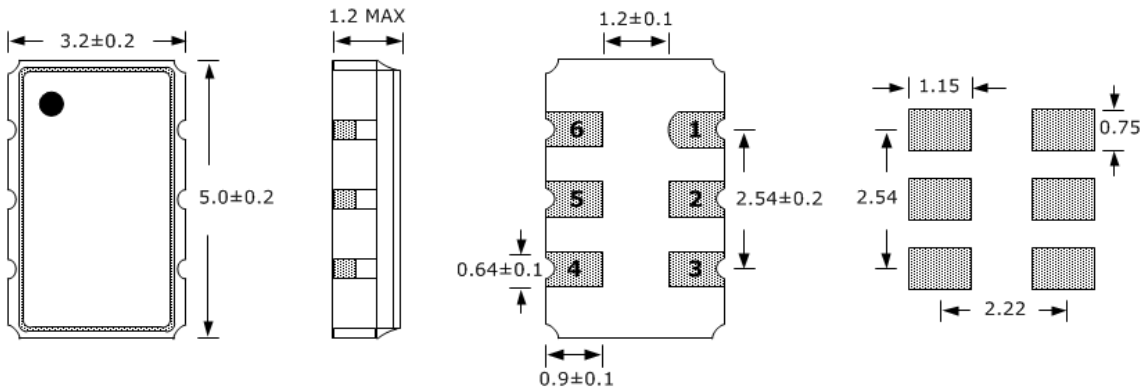
Part Numbering Guide



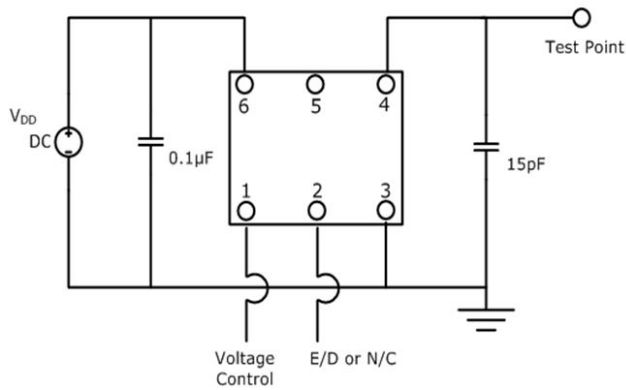
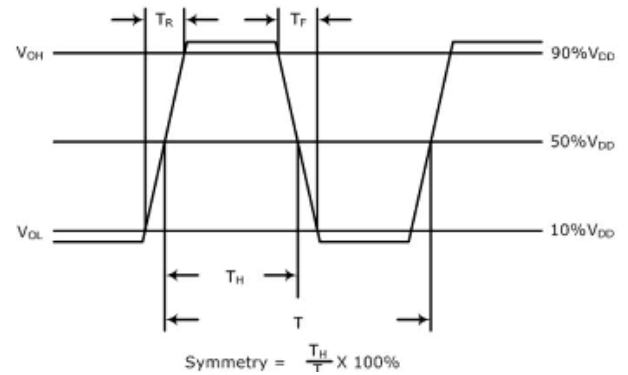
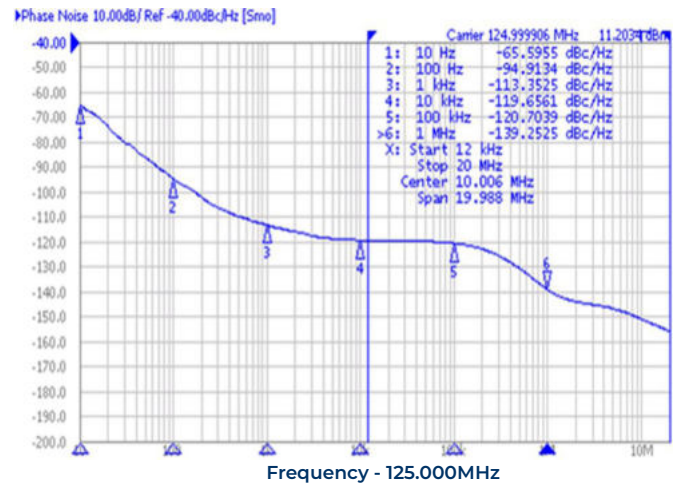
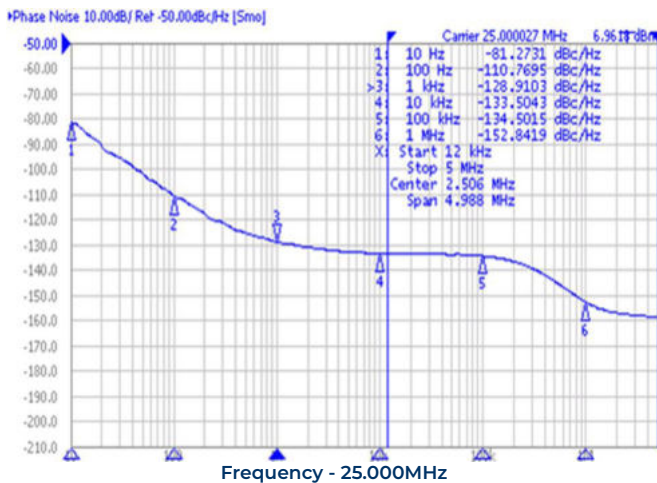
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	See part numbering guide for options.
Current (I _{DD}) 2.5V Option	mA			35	
Current (I _{DD}) 3.3V Option	mA			45	
Current Voltage (V _C) 2.5V Option	V	0		2.5	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			3	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

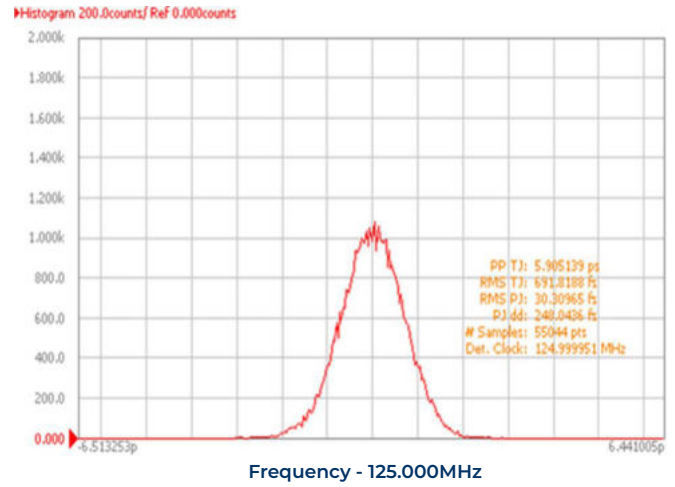
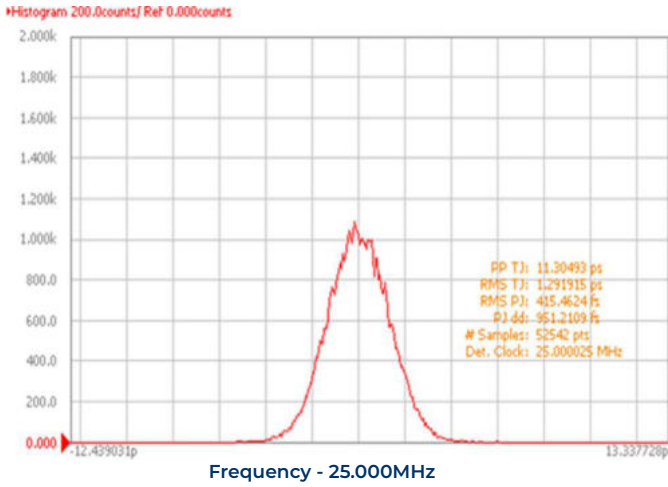
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



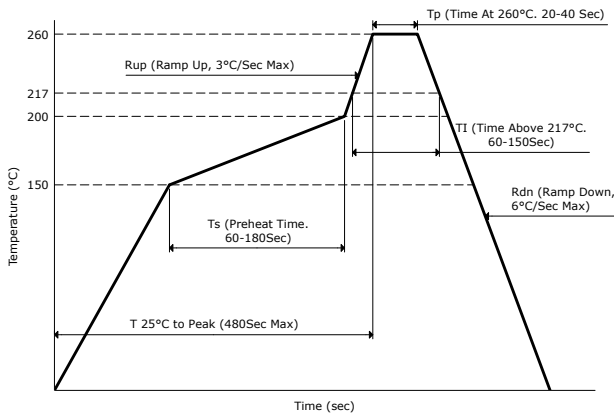
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	NC
6	V _{DD}

Test Circuit (CMOS)

Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


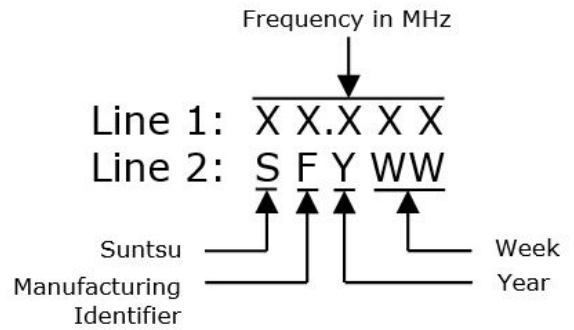
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



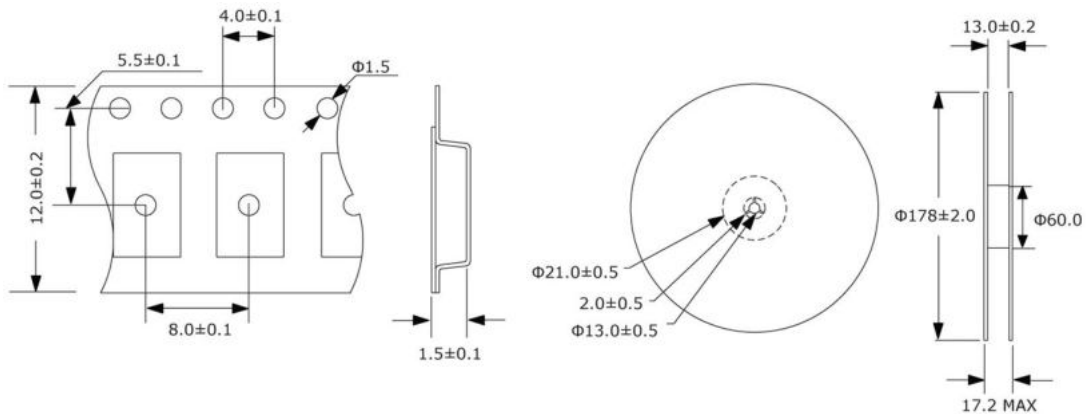
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

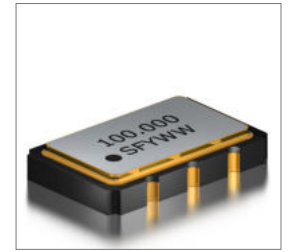
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• LVDS
• Programmed VCXO
• Tape and Reel

Applications
• Micro Processors
• FPGA
• Storage Area/Networking
• Digital Video
• Portable Computers


Part Numbering Guide
SQV 53 L 3 A 48 A 2 - 100.000M

 SUNTSU QUICK
 TURN VCXO

5.0mm x 3.2mm

LVDS

SUPPLY VOLTAGE
 2 : 2.5V $\pm 5\%$
 3 : 3.3V $\pm 5\%$
FREQUENCY STABILITY
 A : ± 50 ppm
 B : ± 30 ppm
 C : ± 25 ppm
 D : ± 20 ppm
 *E : ± 15 ppm

OPERATING TEMPERATURE RANGE
 07 : 0°C - +70°C
 16 : -10°C - +60°C
 17 : -10°C - +70°C
 27 : -20°C - +70°C
 38 : -30°C - +85°C
 48 : -40°C - +85°C

PULLABILITY
 A : ± 150 ppm
 B : ± 100 ppm
 C : ± 80 ppm
 D : ± 50 ppm

FREQUENCY
 MHz

**TRI-STATE
 (ENABLE/DISABLE)**
 BLANK : No Connect
 2 : Pin 2


Cage Code: 4GUT4

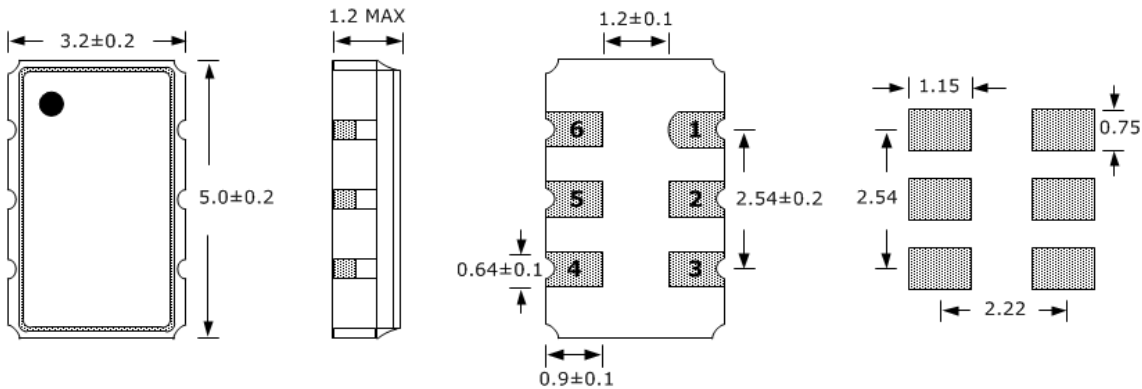
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

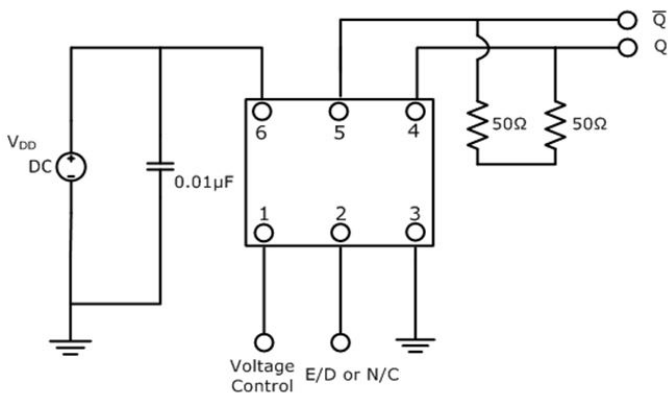
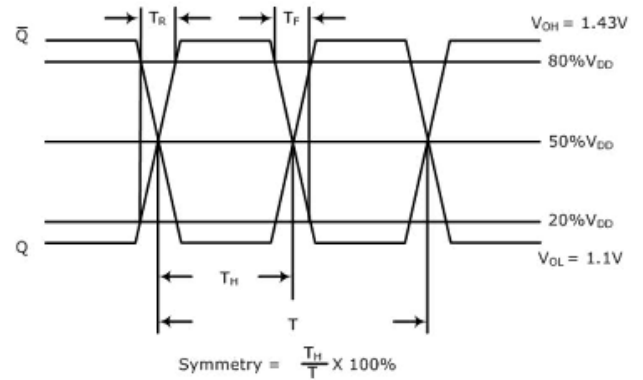
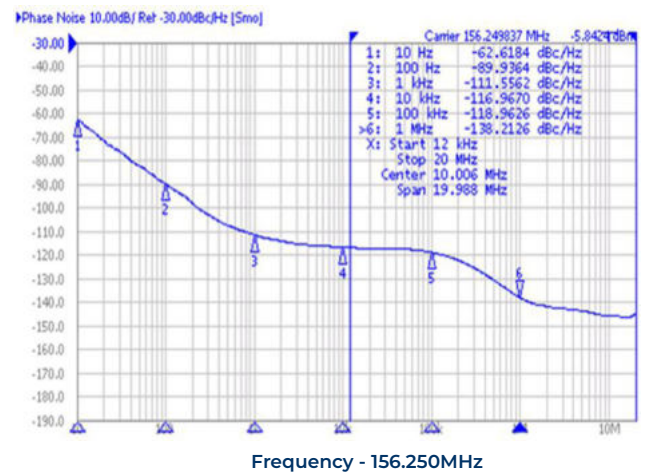
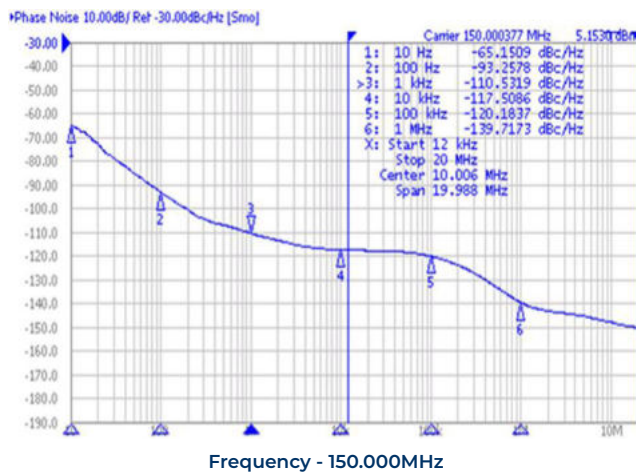
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Op Temp, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V		2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	See part numbering guide for options.
Current (I _{DD}) 2.5V Option	mA			65	
Current (I _{DD}) 3.3V Option	mA			70	
Current Voltage (V _c) 2.5V Option	V	0		2.5	
Current Voltage (V _c) 3.3V Option	V	0		3.3	
Pullability	ppm	± 50	± 100	± 150	See part numbering guide for options.
Linearity	%			10	
Output Load (LVDS)	Ω			100	
Output Logic HIGH Level (V _{OH})	V		1.43	1.6	
Output Logic LOW Level (V _{OL})	V	0.9	1.1		
Differential Output Voltage (V _{OD})	mV	247	330	454	
Differential Output Error (pV _{OD})	mV			50	
Offset Voltage (V _{OS})	V	1.125	1.250	1.375	
Offset Error (pV _{OS})	mV			50	
Rise (T _r) And Fall (T _f) Time	ns			1	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

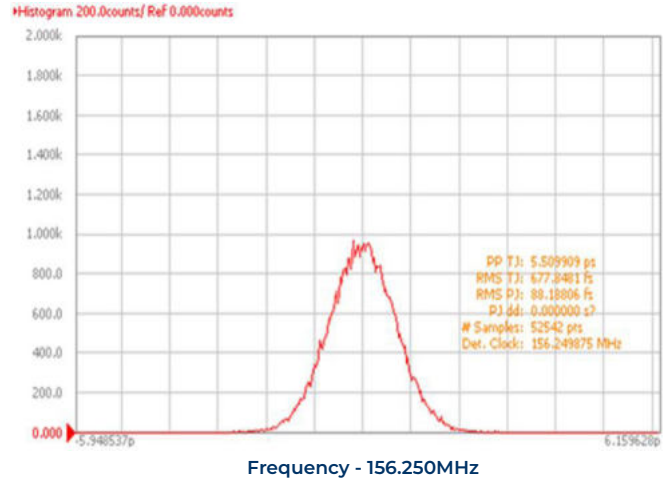
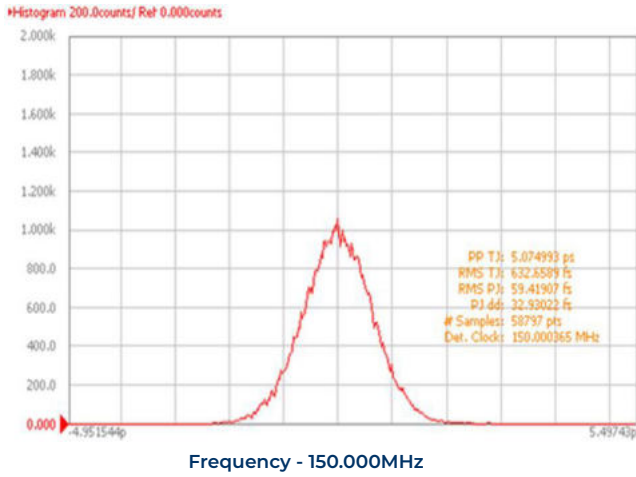
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



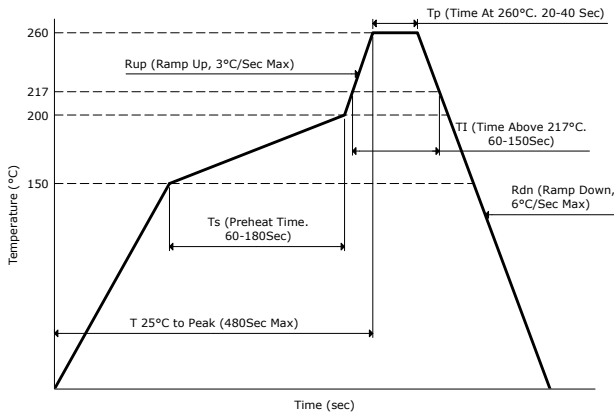
PIN	FUNCTION
1	TRI-STATE or NC
2	E/D or NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{CC}

Test Circuit (LVDS)

Waveform (LVDS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


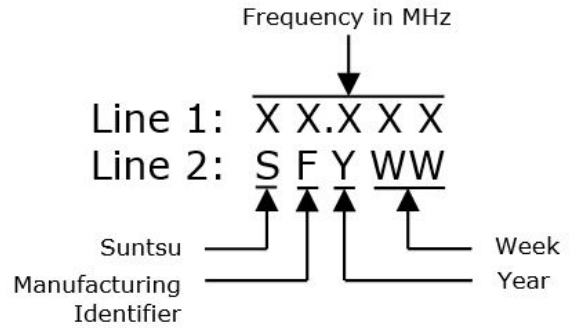
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



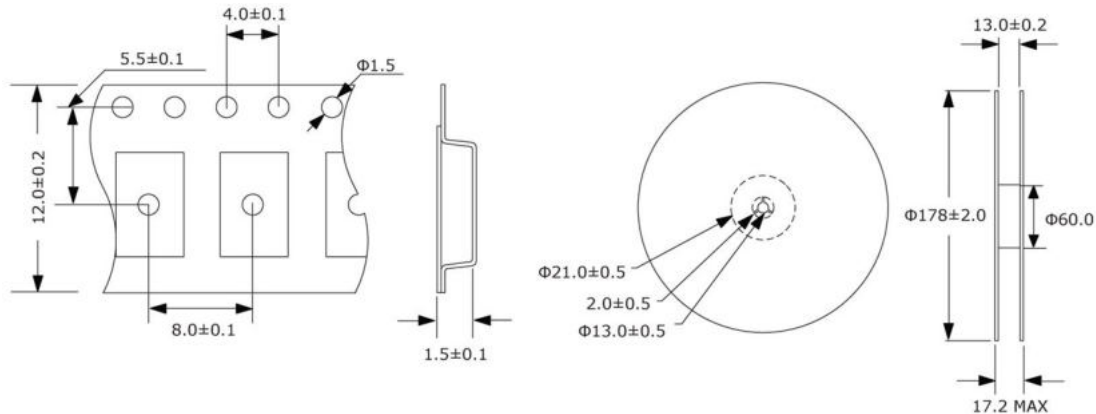
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

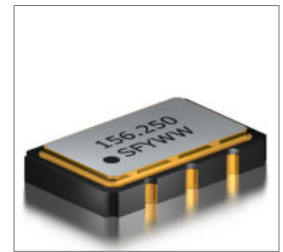
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

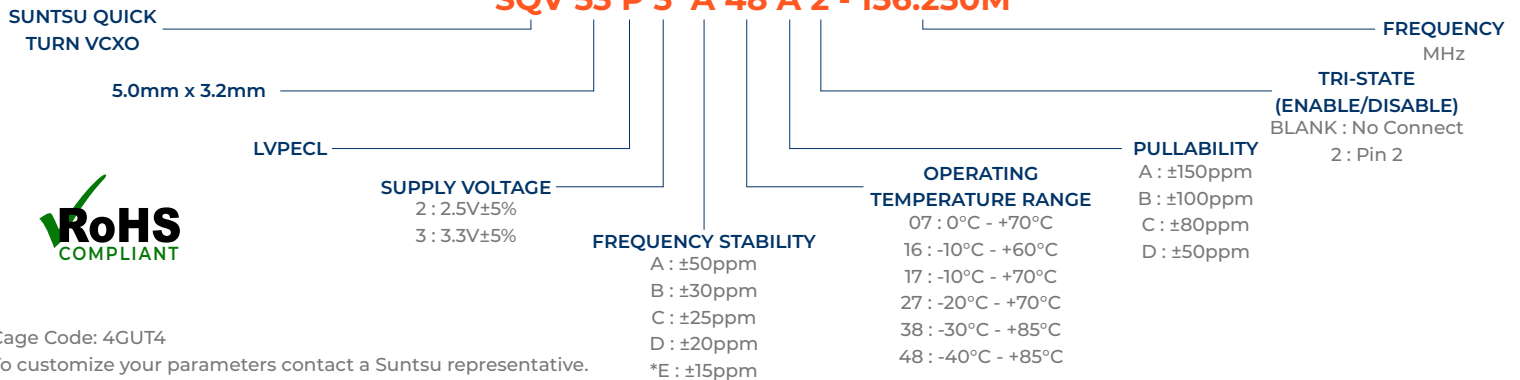
Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Ceramic Package LVPECL Programmed VCXO Tape and Reel

Applications
<ul style="list-style-type: none"> Micro Processors FPGA Storage Area/Networking Digital Video Portable Computers



Part Numbering Guide

SQV 53 P 3 A 48 A 2 - 156.250M



Cage Code: 4GUT4

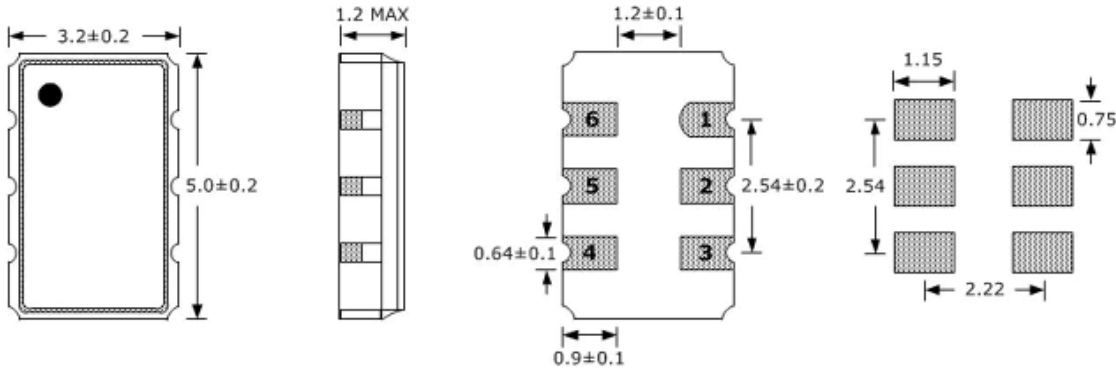
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

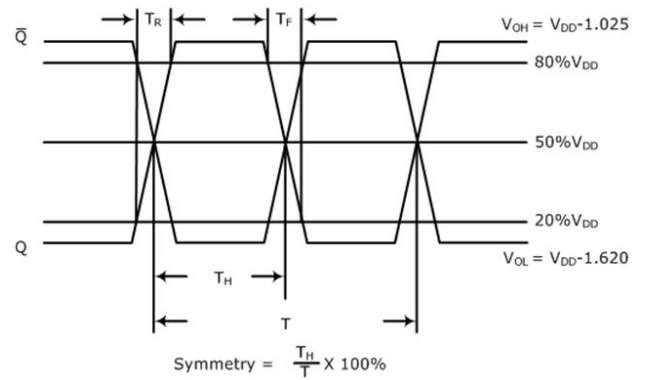
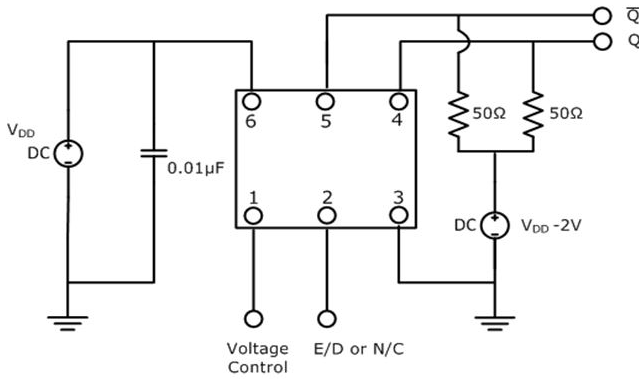
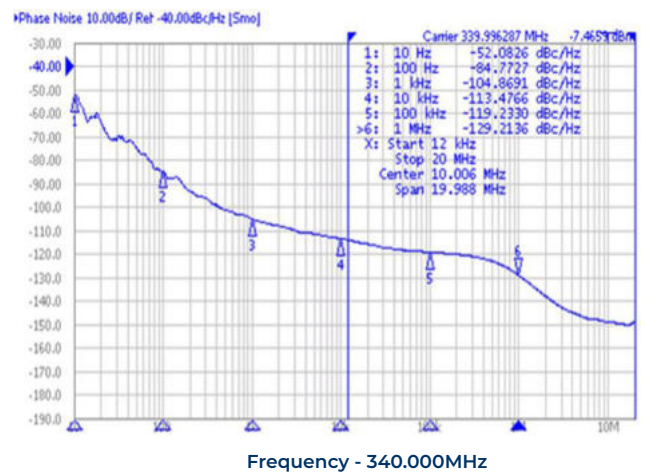
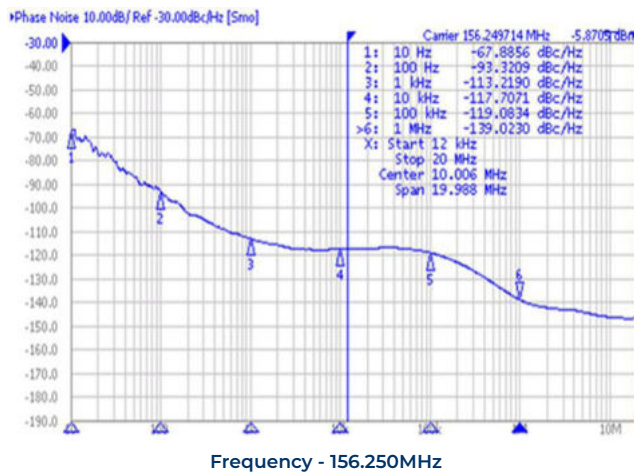
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	See part numbering guide for options.
Current (I _{DD}) 2.5V Option	mA			65	
Current (I _{DD}) 3.3V Option	mA			70	
Current Voltage (V _C) 2.5V Option	V	0		2.5	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (LVPECL)	Ω			50	50 Ω into V _{DD} -2.0V _{DC}
Output Logic HIGH Level (V _{OH})	V	V _{DD} -1.025			
Output Logic LOW Level (V _{OL})	V			V _{DD} -1.620	
Rise (T _R) And Fall (T _F) Time	ns			1	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

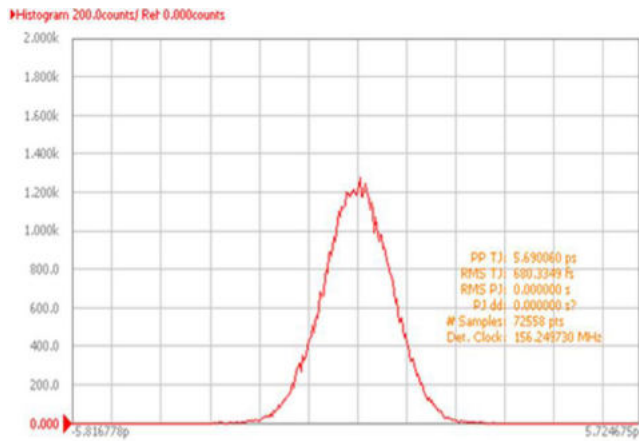
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



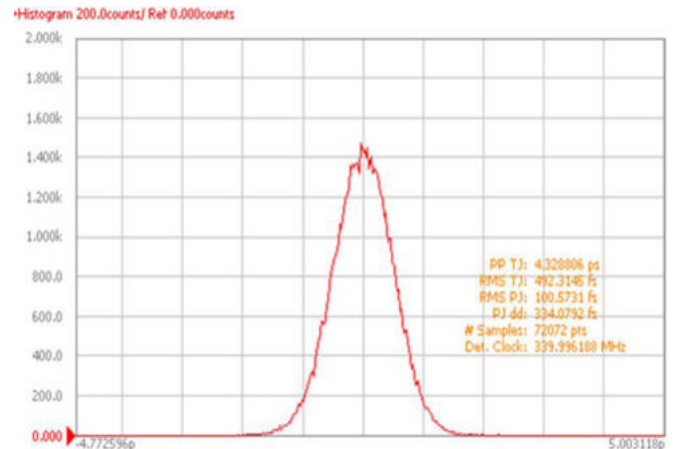
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{CC}

Test Circuit (LVPECL)
Waveform (LVPECL)

Typical Phase Noise Performance (Measured By Agilent E5052A)


Typical Jitter Performance (Measured By Agilent E5052A)

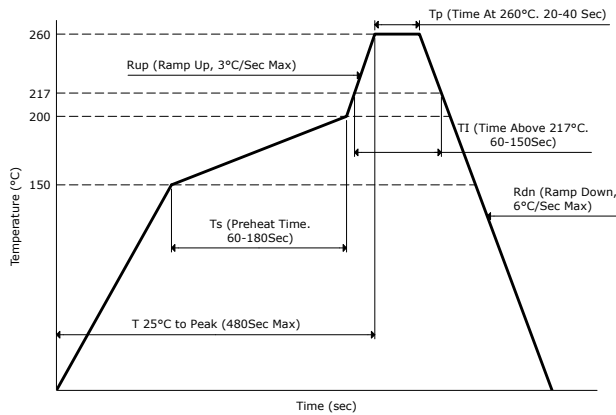


Frequency - 156.250MHz

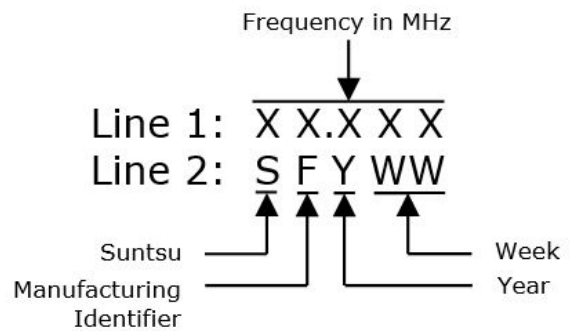


Frequency - 340.000MHz

Reflow Profile



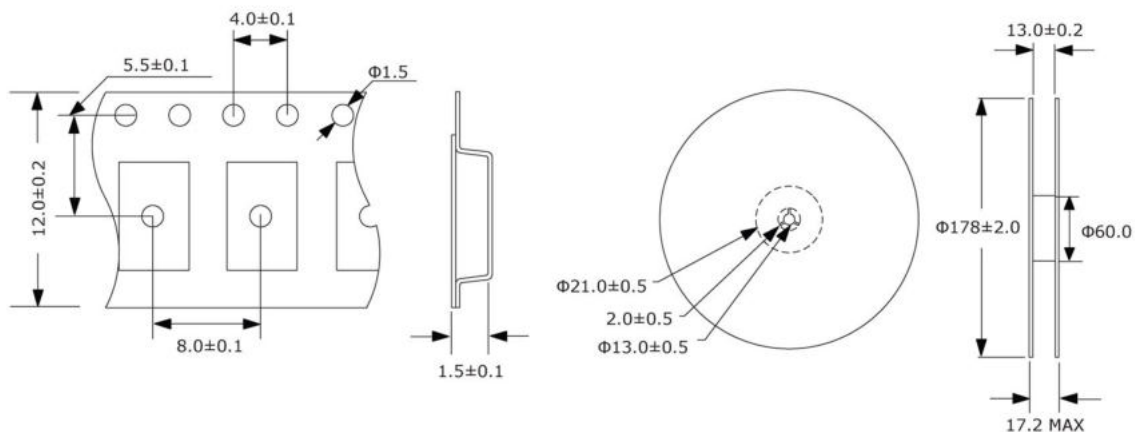
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

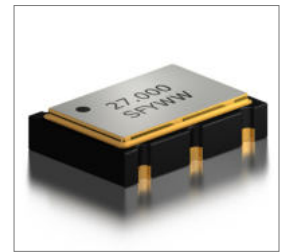
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

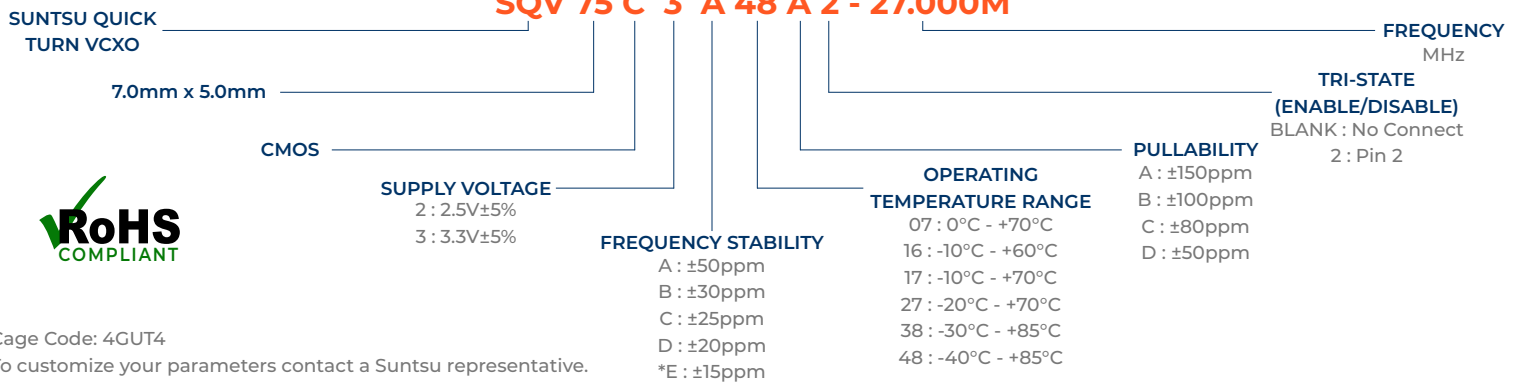
Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• CMOS
• Programmed VCXO
• Tape and Reel

Applications
• Micro Processors
• FPGA
• Storage Area/Networking
• Digital Video
• Portable Computers



Part Numbering Guide

SQV 75 C 3 A 48 A 2 - 27.000M



Cage Code: 4GUT4

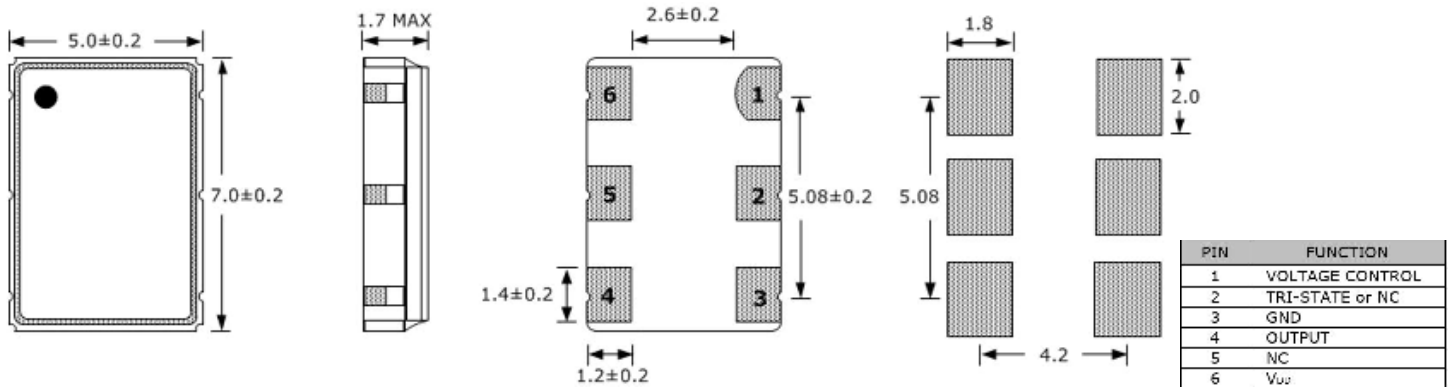
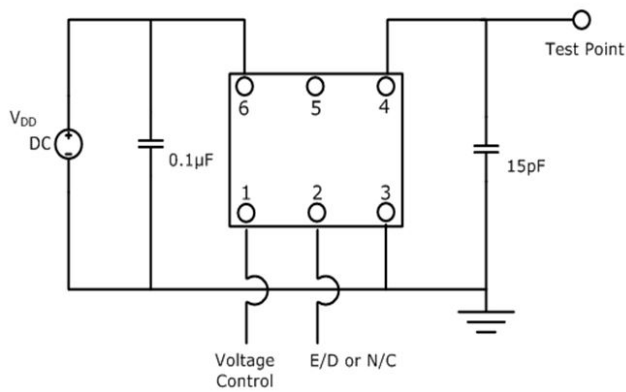
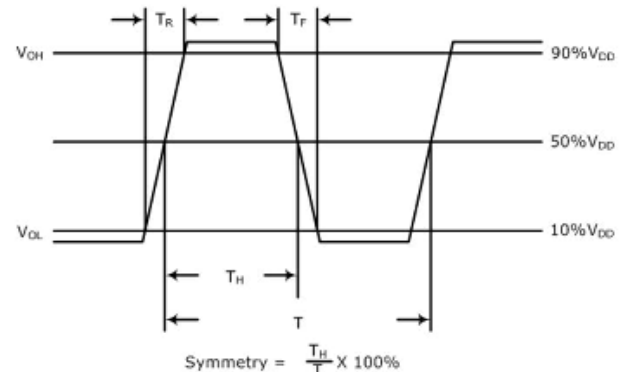
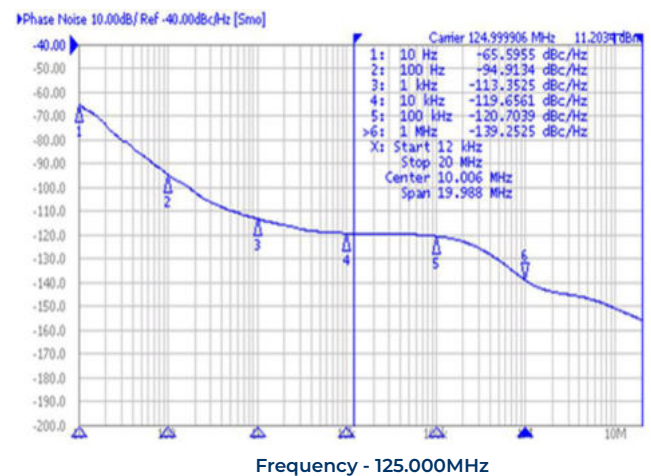
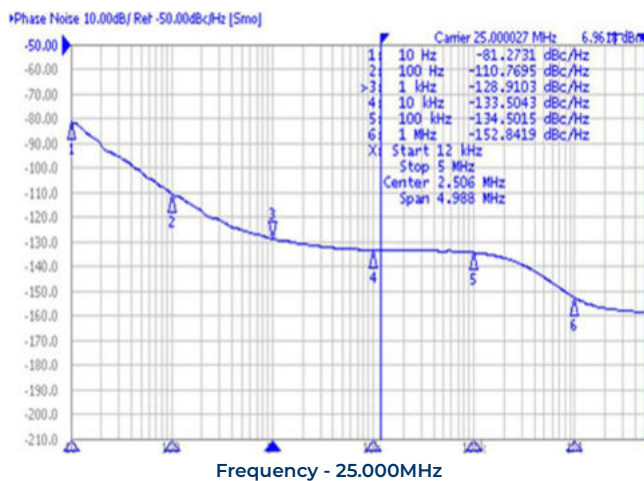
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

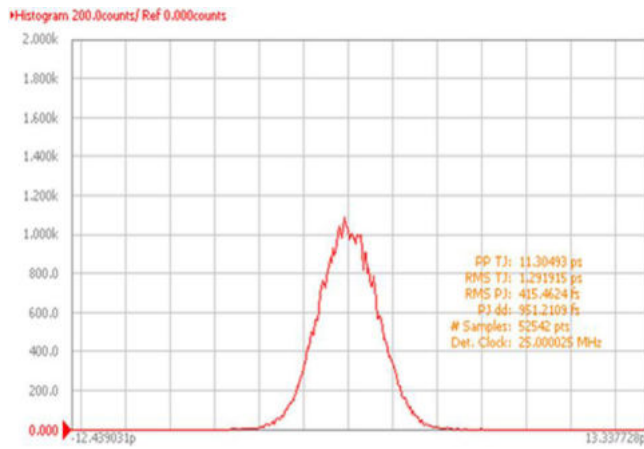
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	See part numbering guide for options.
Current (I _{DD}) 2.5V Option	mA			35	
Current (I _{DD}) 3.3V Option	mA			45	
Current Voltage (V _C) 2.5V Option	V	0		2.5	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			3	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

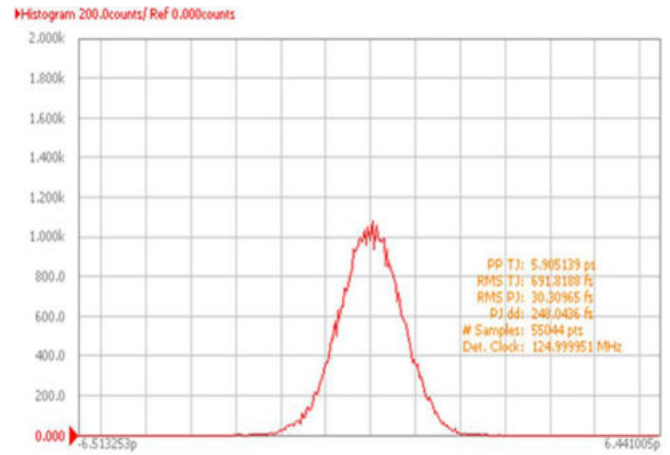
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (CMOS)

Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


Typical Jitter Performance (Measured By Agilent E5052A)

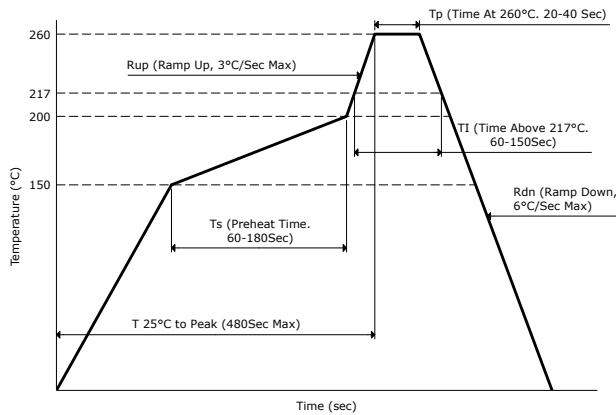


Frequency - 25.000MHz

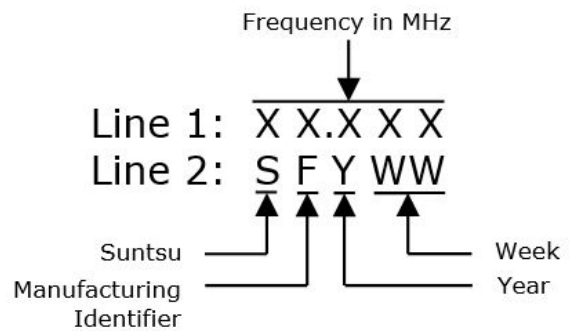


Frequency - 125.000MHz

Reflow Profile



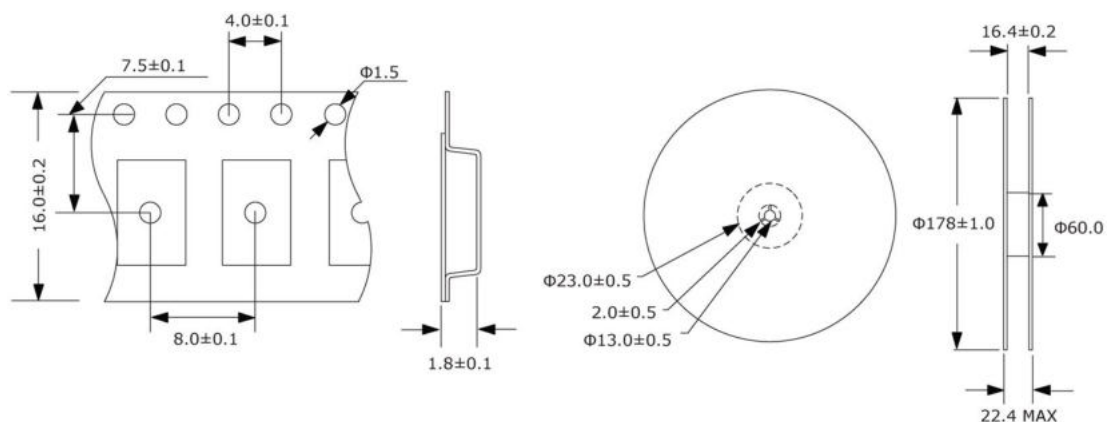
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

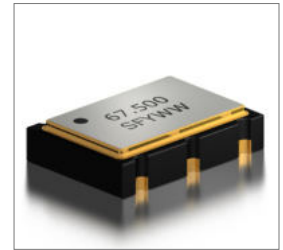
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Ceramic Package LVDS Programmed VCXO Tape and Reel

Applications
<ul style="list-style-type: none"> Micro Processors FPGA Storage Area/Networking Digital Video Portable Computers



Part Numbering Guide

SQV 75 L 3 A 48 A 2 - 67.500M

SUNTSU QUICK TURN VCXO

7.0mm x 5.0mm

LVDS

RoHS COMPLIANT

Cage Code: 4GUT4
 To customize your parameters contact a Suntsu representative.
 * For frequency stability option E contact a Suntsu representative.

SUPPLY VOLTAGE

2 : 2.5V±5%
 3 : 3.3V±5%

FREQUENCY STABILITY

A : ±50ppm
 B : ±30ppm
 C : ±25ppm
 D : ±20ppm
 *E : ±15ppm

OPERATING TEMPERATURE RANGE

07 : 0°C - +70°C
 16 : -10°C - +60°C
 17 : -10°C - +70°C
 27 : -20°C - +70°C
 38 : -30°C - +85°C
 48 : -40°C - +85°C

PULLABILITY

A : ±150ppm
 B : ±100ppm
 C : ±80ppm
 D : ±50ppm

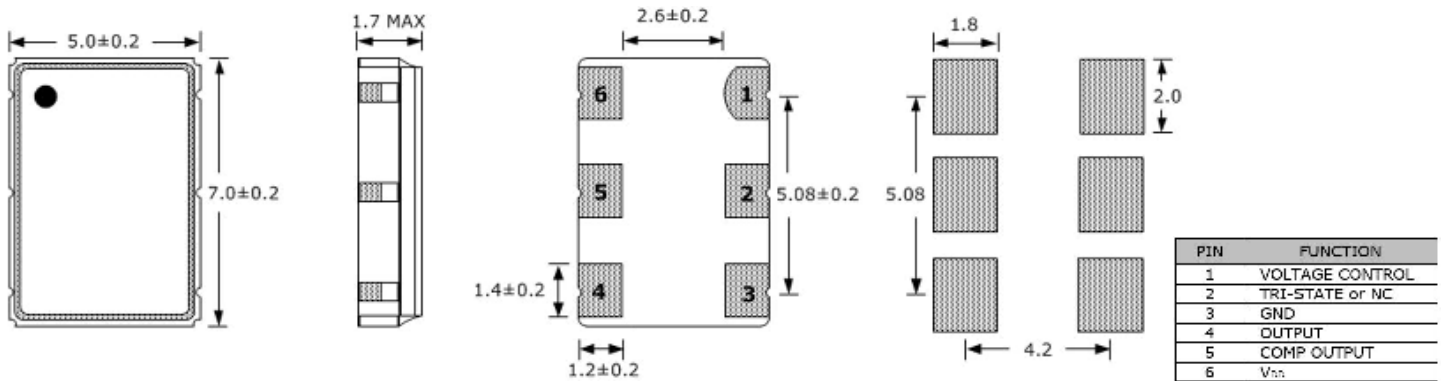
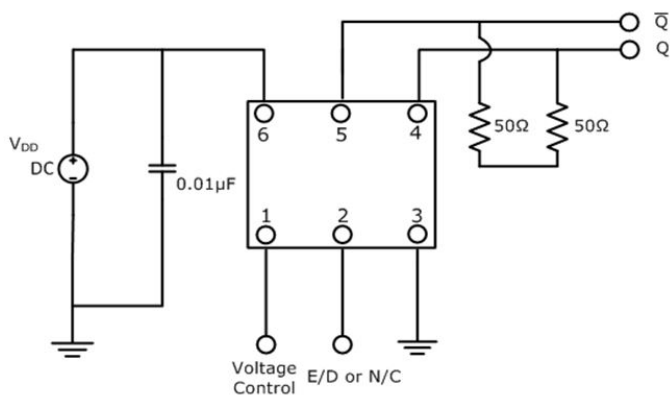
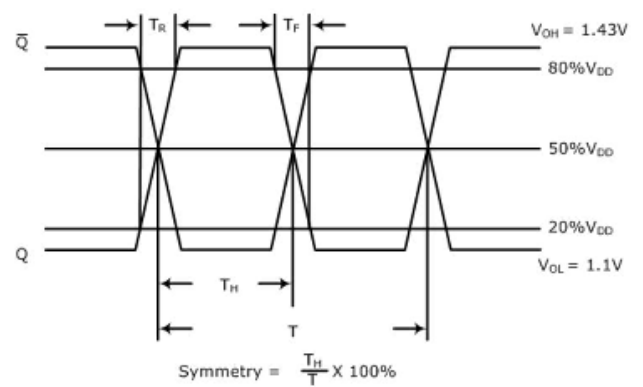
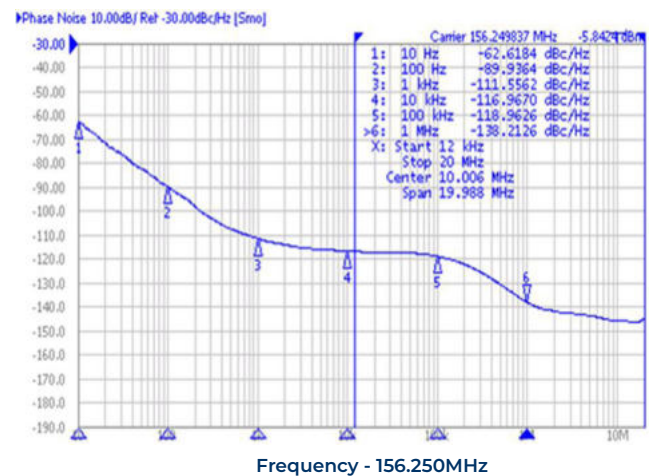
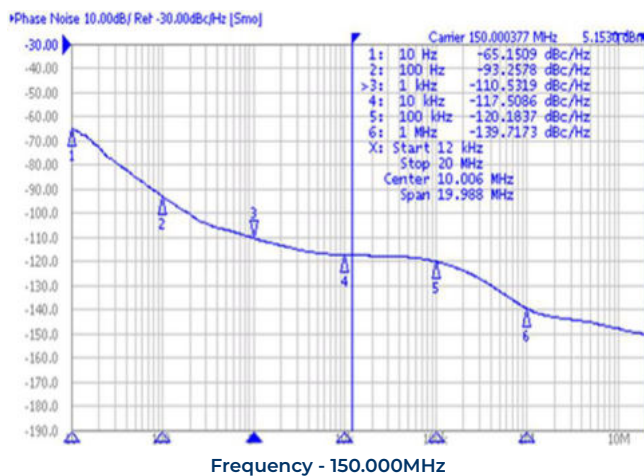
FREQUENCY
MHz

TRI-STATE (ENABLE/DISABLE)
 BLANK : No Connect
 2 : Pin 2

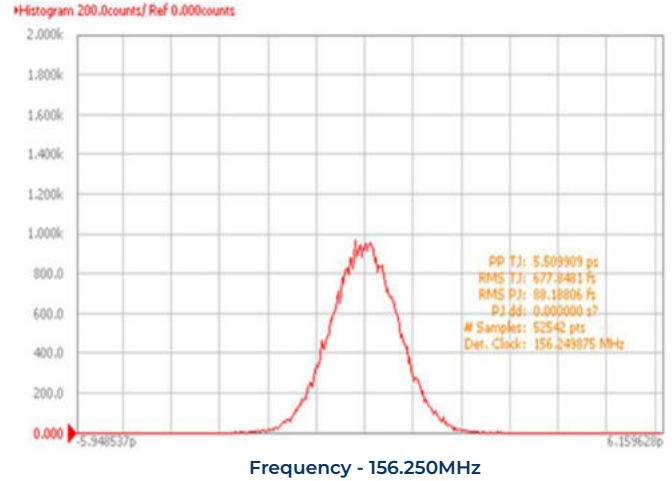
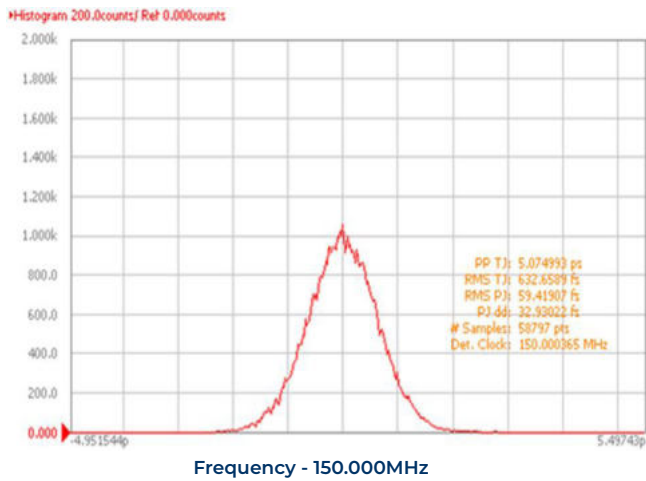
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Op Temp, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Current (I _{DD}) 2.5V Option	mA			65	
Current (I _{DD}) 3.3V Option	mA			70	
Current Voltage (V _C) 2.5V Option	V	0		2.5	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (LVDS)	Ω			100	
Output Logic HIGH Level (V _{OH})	V		1.43	1.6	
Output Logic LOW Level (V _{OL})	V	0.9	1.1		
Differential Output Voltage (V _{OD})	mV	247	330	454	
Differential Output Error (pV _{OD})	mV			50	
Offset Voltage (V _{OS})	V	1.125	1.250	1.375	
Offset Error (pV _{OS})	mV			50	
Rise (T _R) And Fall (T _F) Time	ns			1	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

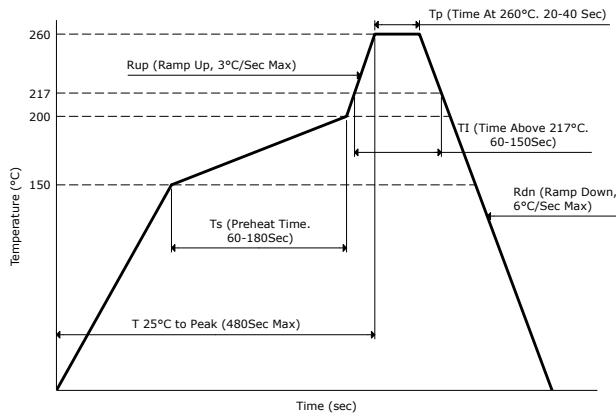
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (LVDS)

Waveform (LVDS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


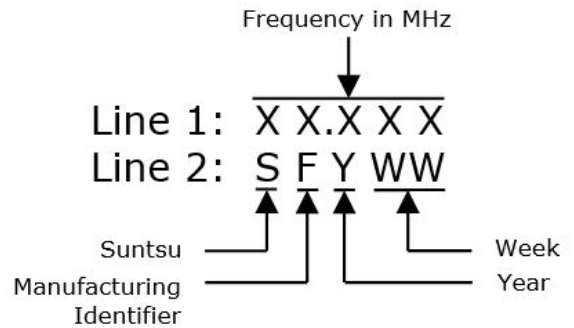
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



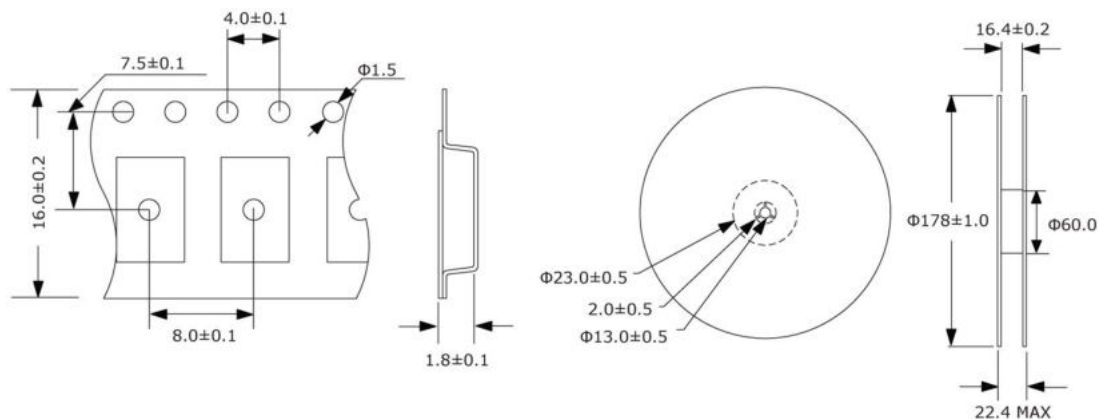
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

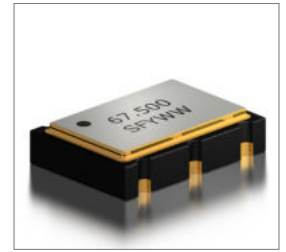
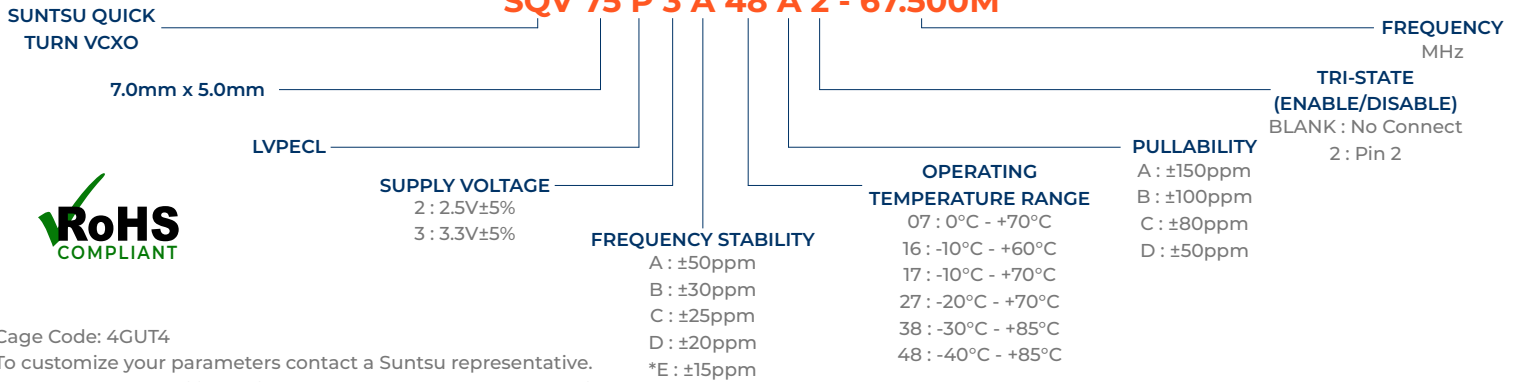
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• LVPECL
• Programmed VCXO
• Tape and Reel

Applications
• Micro Processors
• FPGA
• Storage Area/Networking
• Digital Video
• Portable Computers


Part Numbering Guide
SQV 75 P 3 A 48 A 2 - 67.500M


Cage Code: 4GUT4

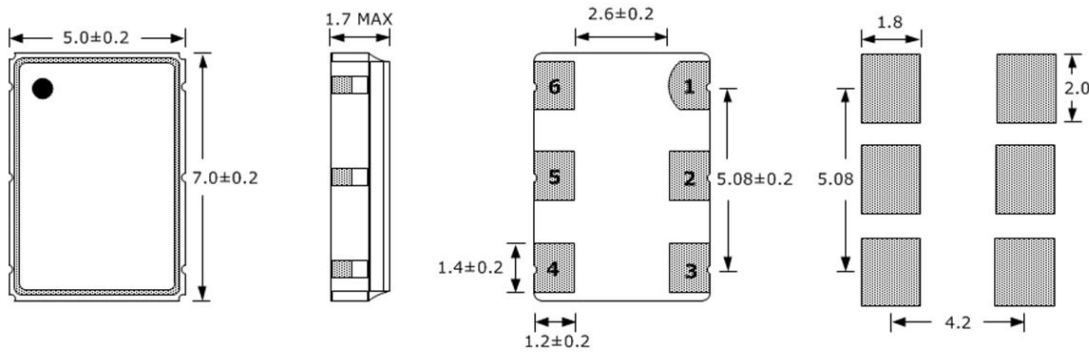
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	8		1500	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Current (I _{DD}) 2.5V Option	mA			65	
Current (I _{DD}) 3.3V Option	mA			70	
Current Voltage (V _C) 2.5V Option	V	0		2.5	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (LVPECL)	Ω			50	50 Ω into V _{DD} -2.0V _{DC}
Output Logic HIGH Level (V _{OH})	V	V _{DD} -1.025			
Output Logic LOW Level (V _{OL})	V			V _{DD} -1.620	
Rise (T _R) And Fall (T _F) Time	ns			1	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.7	1.5	

Outline Drawing & Land Pattern

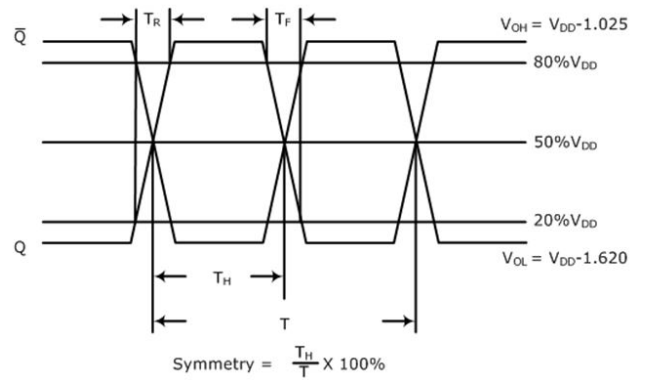
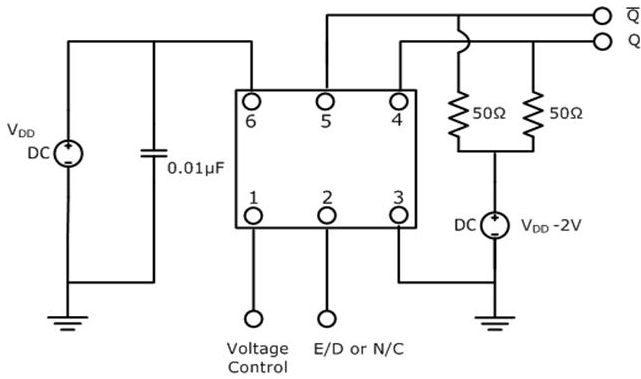
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



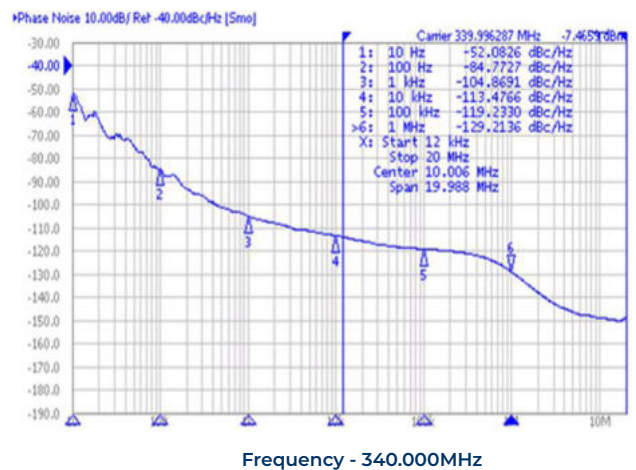
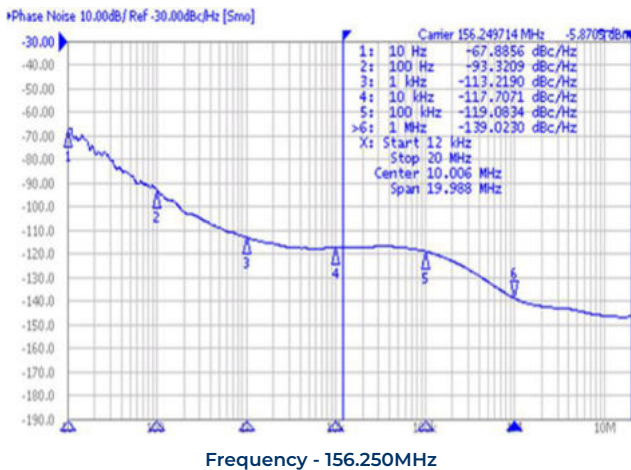
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{DD}

Test Circuit (LVPECL)

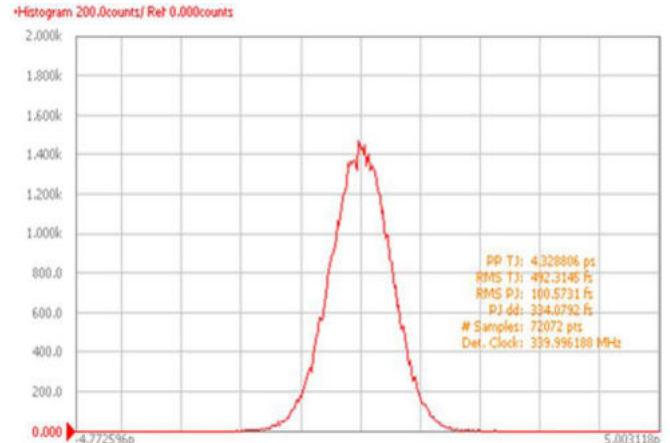
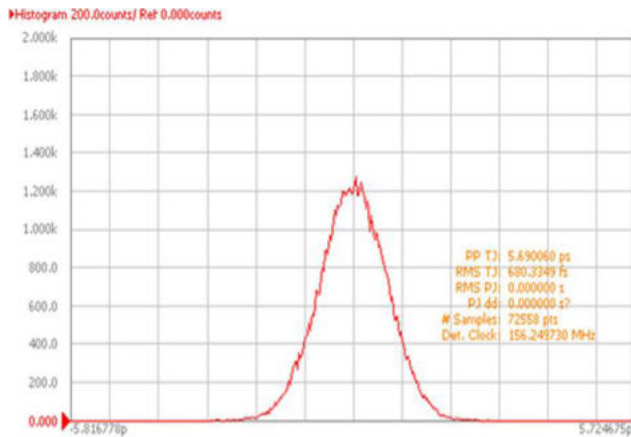
Waveform (LVPECL)



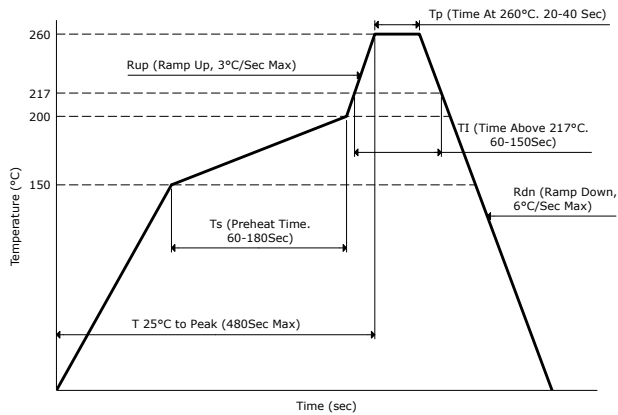
Typical Phase Noise Performance (Measured By Agilent E5052A)



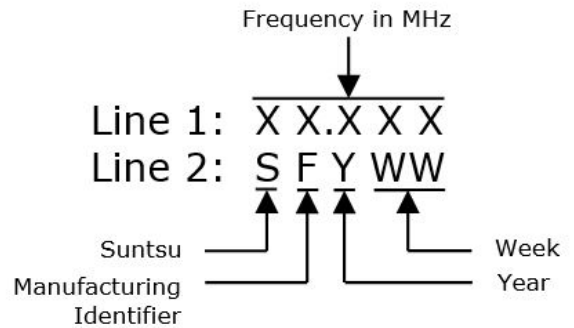
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



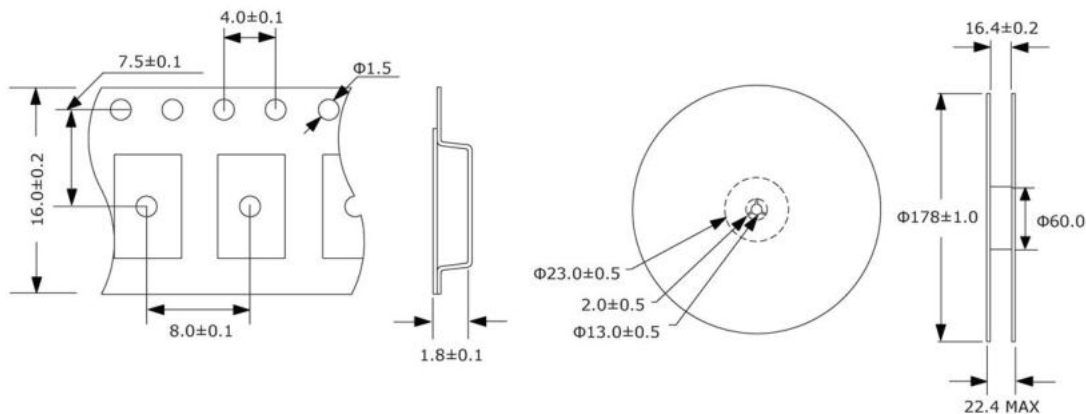
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

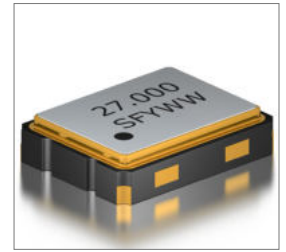
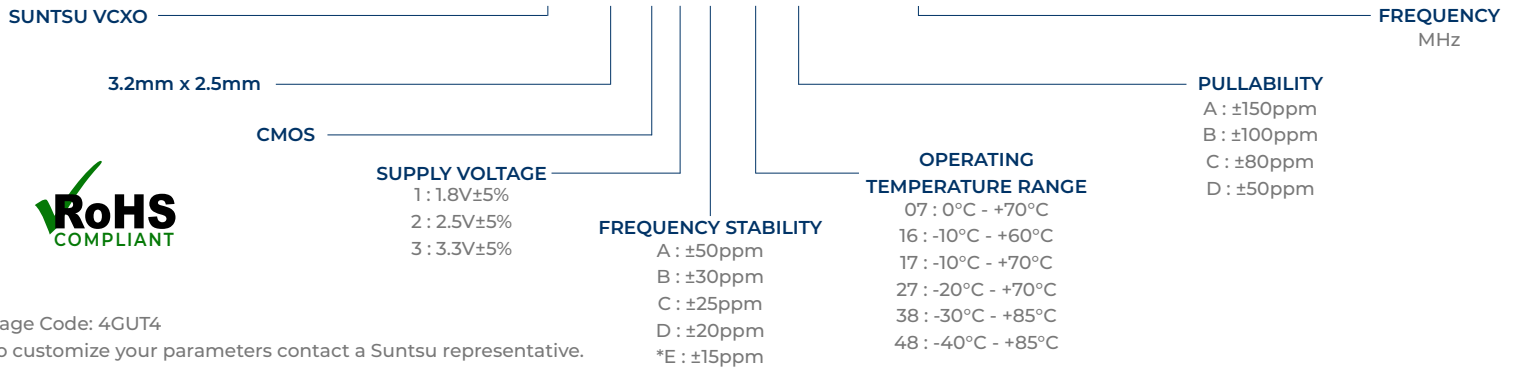
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
• ± 20 ppm (Frequency Stability) Available
• Miniature Package
• CMOS
• Fundamental
• Tape and Reel

Applications
• Digital TV
• DVD, STB
• PCMA, XDSL
• Broadband Access
• Base Stations


Part Numbering Guide
SVC 32 C 3 A 48 A - 27.000M


Cage Code: 4GUT4

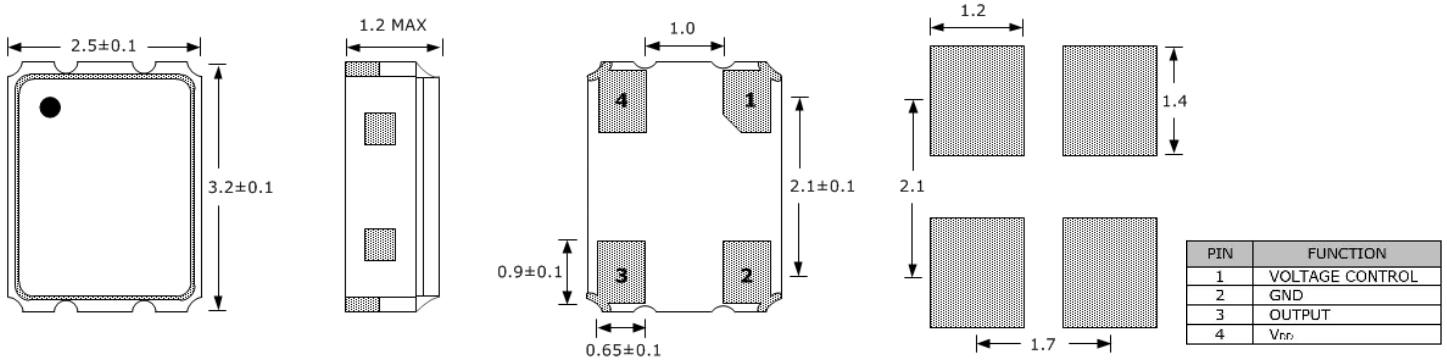
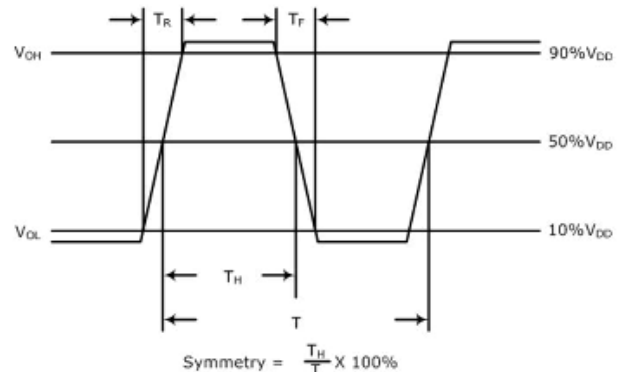
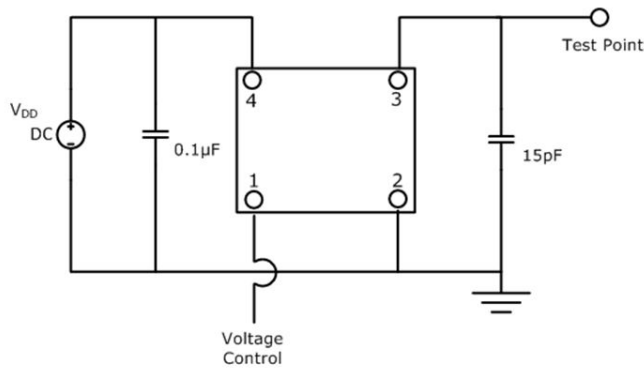
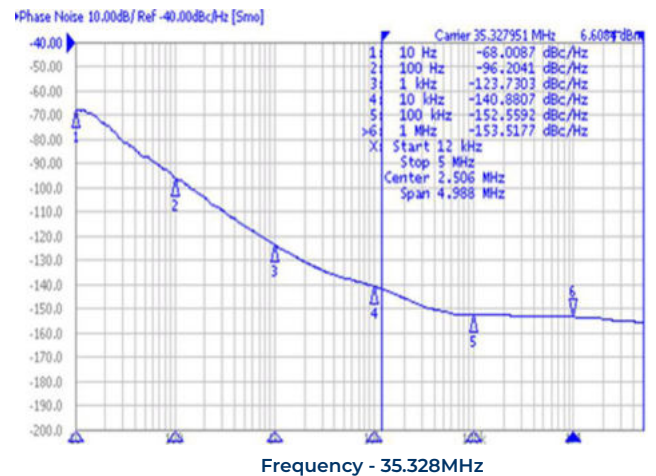
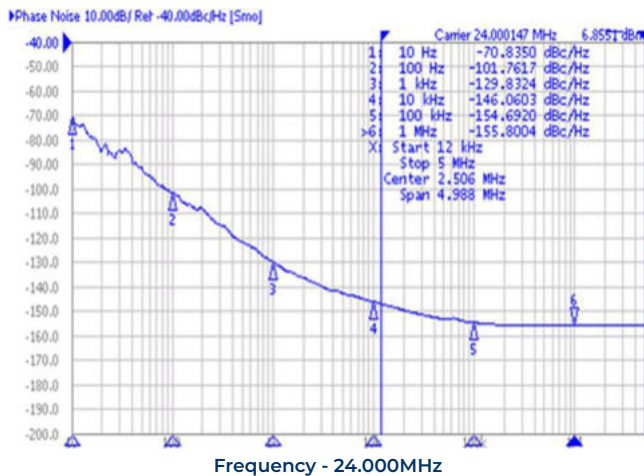
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

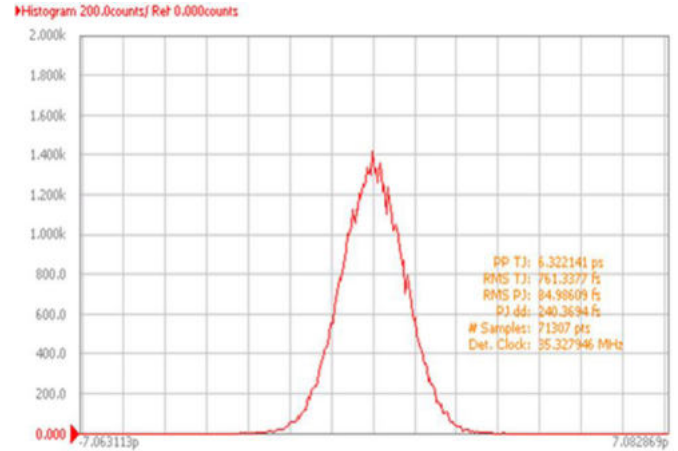
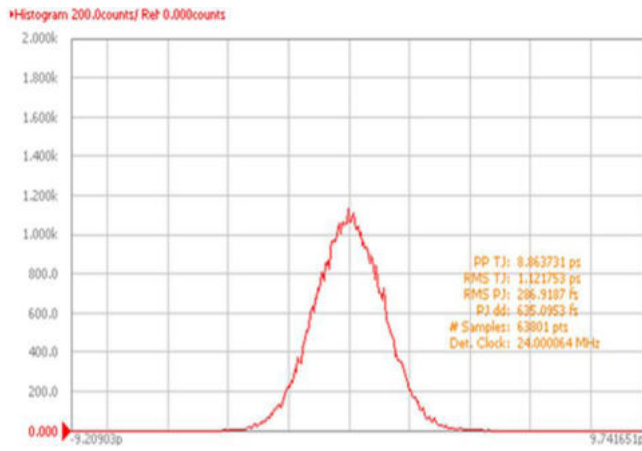
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	1		55	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 1.8V Option	V	1.710	1.8	1.890	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Current (I _{DD}) 1.8V Option	mA			10	
Current (I _{DD}) 2.5V Option	mA			15	
Current (I _{DD}) 3.3V Option	mA			25	
Current Voltage (V _c) 1.8V Option	V	0.15		1.65	
Current Voltage (V _c) 2.5V Option	V	0.2		2.3	
Current Voltage (V _c) 3.3V Option	V	0.3		3.0	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			5	
Symmetry (Duty Cycle)	%	45	50	55	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	

Outline Drawing & Land Pattern

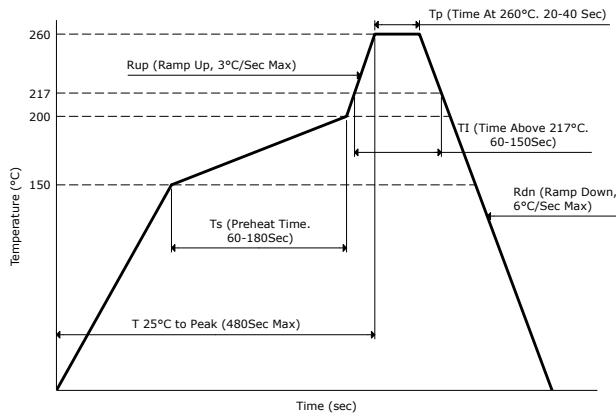
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (CMOS)
Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


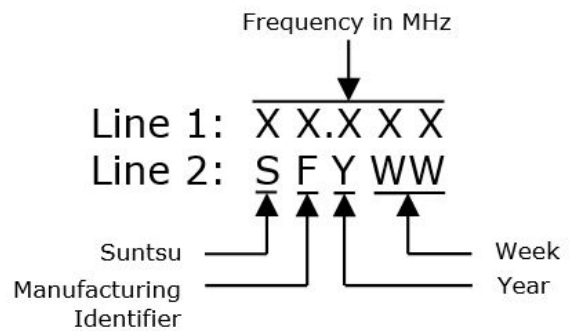
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



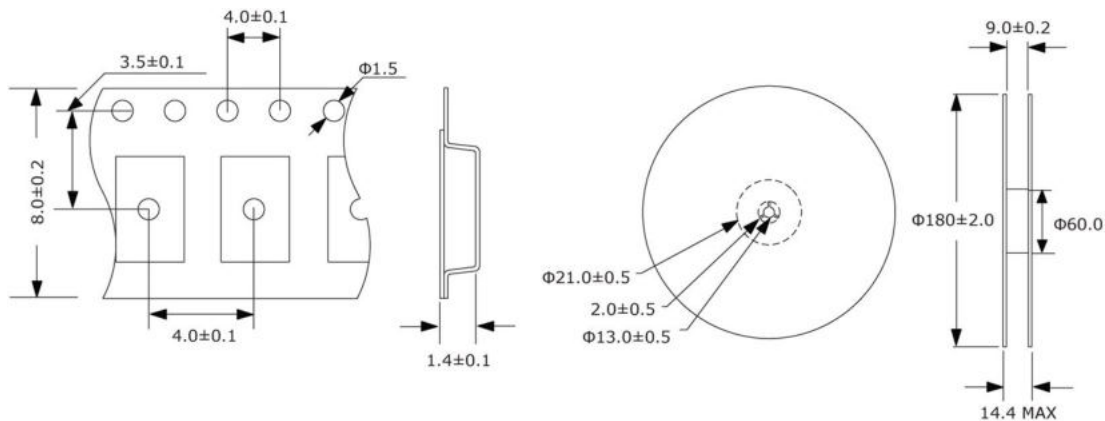
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

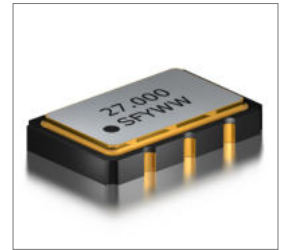
3,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

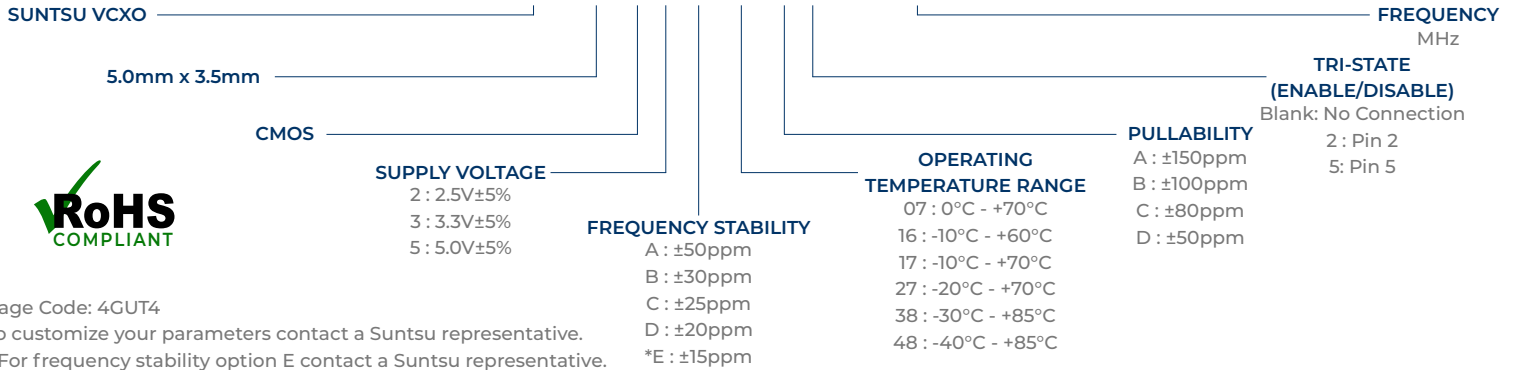
Features
• ± 20 ppm (Frequency Stability) Available
• Miniature Package
• CMOS
• Fundamental or PLL (Phase Lock Loop) Available
• Tape and Reel

Applications
• Digital TV
• DVD, STB
• PCMA, XDSL
• Broadband Access
• Base Stations



Part Numbering Guide

SVC 53 C 3 A 48 A 2 - 27.000M

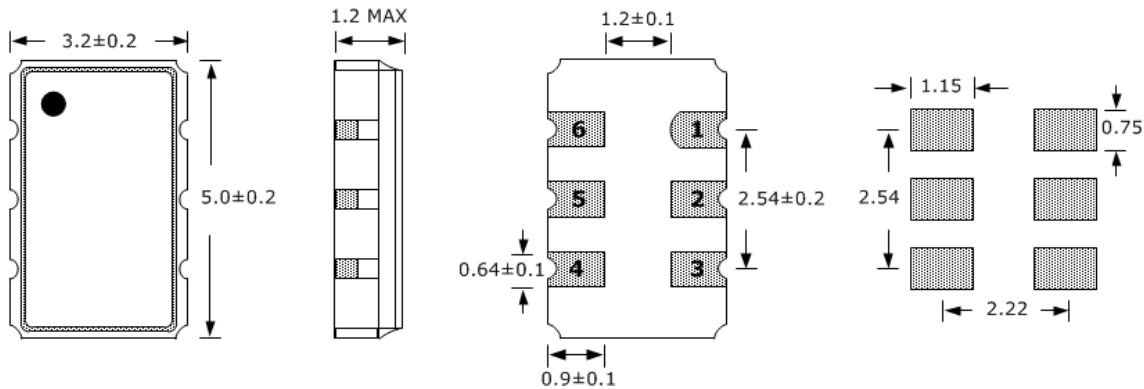


Cage Code: 4GUT4
 To customize your parameters contact a Suntsu representative.
 * For frequency stability option E contact a Suntsu representative.

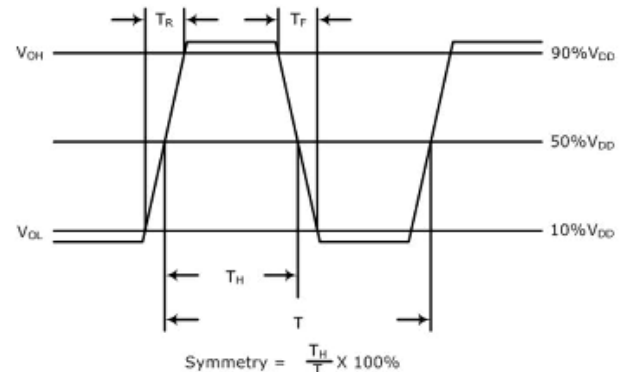
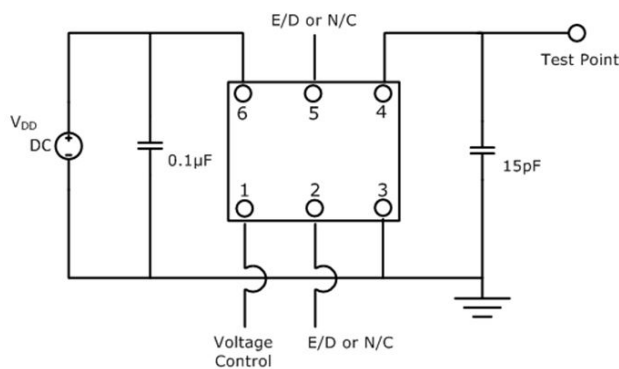
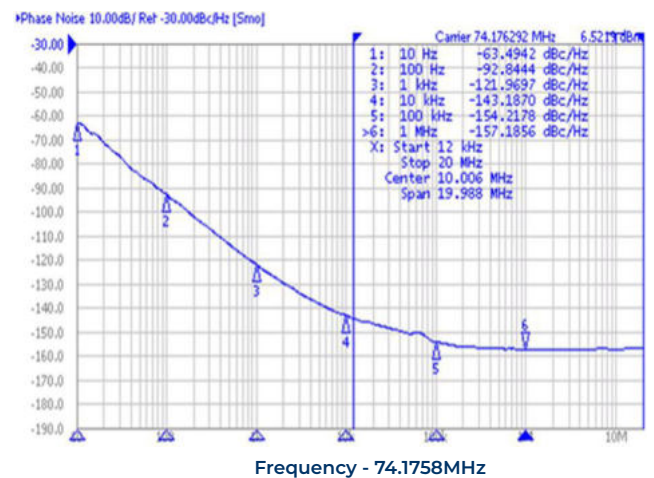
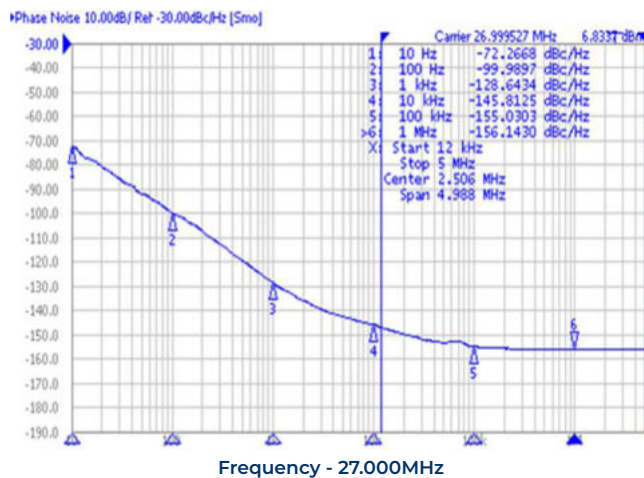
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	1		200	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	Only available with AT-Cut Fundamental.
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	Available with AT-Cut Fundamental and PLL.
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	Only available with AT-Cut Fundamental.
Current (I _{DD}) 2.5V Option	mA			25	
Current (I _{DD}) 3.3V Option	mA			25	25mA max (AT-Cut Fund) & 50mA max (PLL).
Current (I _{DD}) 5.0V Option	mA			30	
Current Voltage (V _c) 2.5V Option	V	0.2		2.3	
Current Voltage (V _c) 3.3V Option	V	0.3		3.0	
Current Voltage (V _c) 5.0V Option	V	0.5		4.5	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			5	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage Enable	V	0.7*V _{DD}			
Tri-State Input Voltage Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	AT-CUT Fundamental
Phase Jitter (12KHz ~ 20MHz)	ps			5	PLL (Phase Lock Loop)

Outline Drawing & Land Pattern

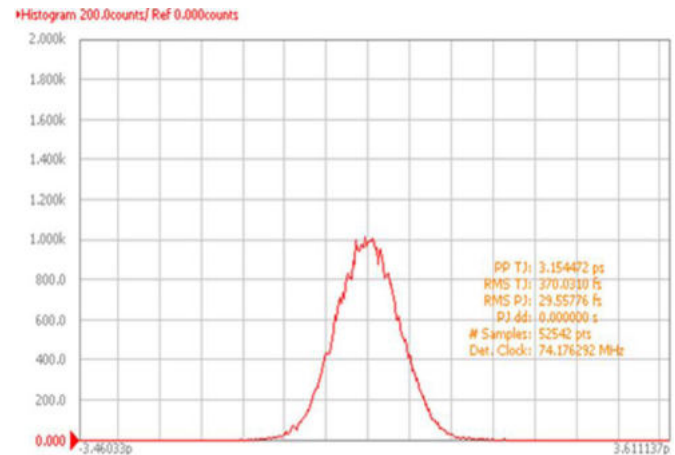
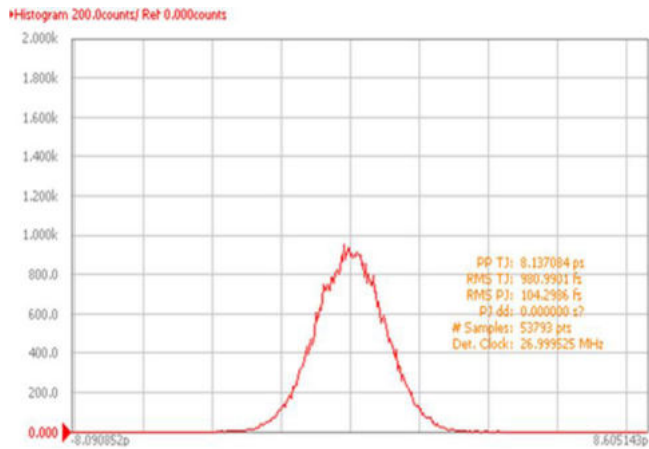
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



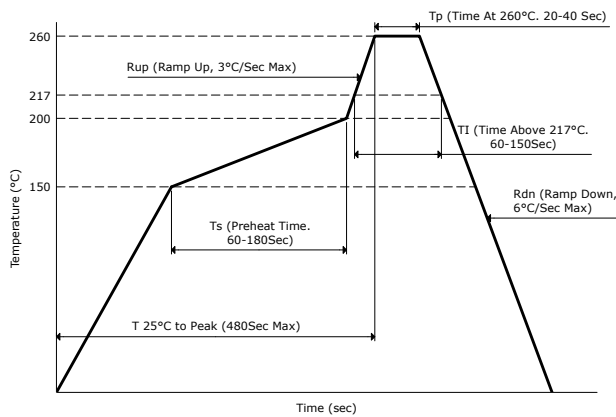
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	TRI-STATE or NC
6	V _{DD}

Test Circuit (CMOS)
Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


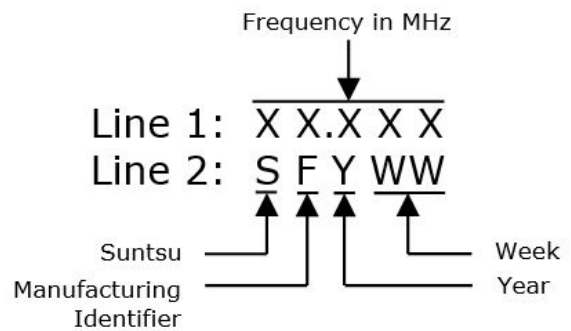
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



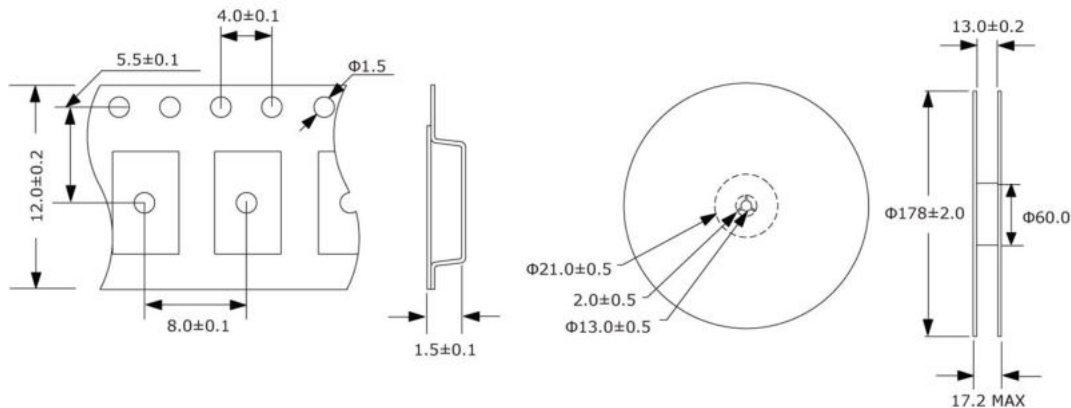
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

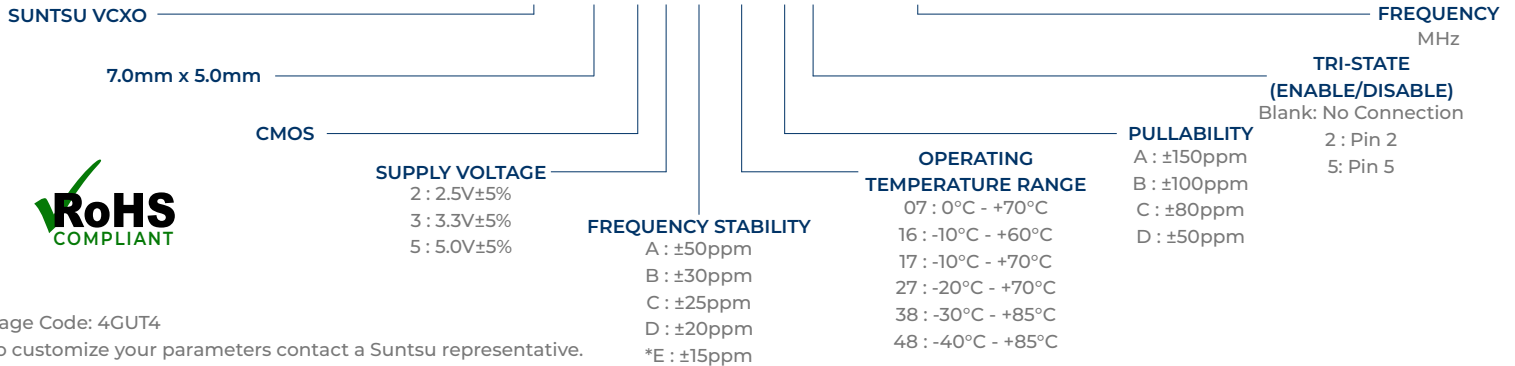
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
• ± 20 ppm (Frequency Stability) Available
• Miniature Package
• CMOS
• Fundamental or PLL (Phase Lock Loop) Available
• Tape and Reel

Applications
• Digital TV
• DVD, STB
• PCMA, XDSL
• Broadband Access
• Base Stations


Part Numbering Guide
SVC 75 C 3 A 48 A 2 - 27.000M


Cage Code: 4GUT4

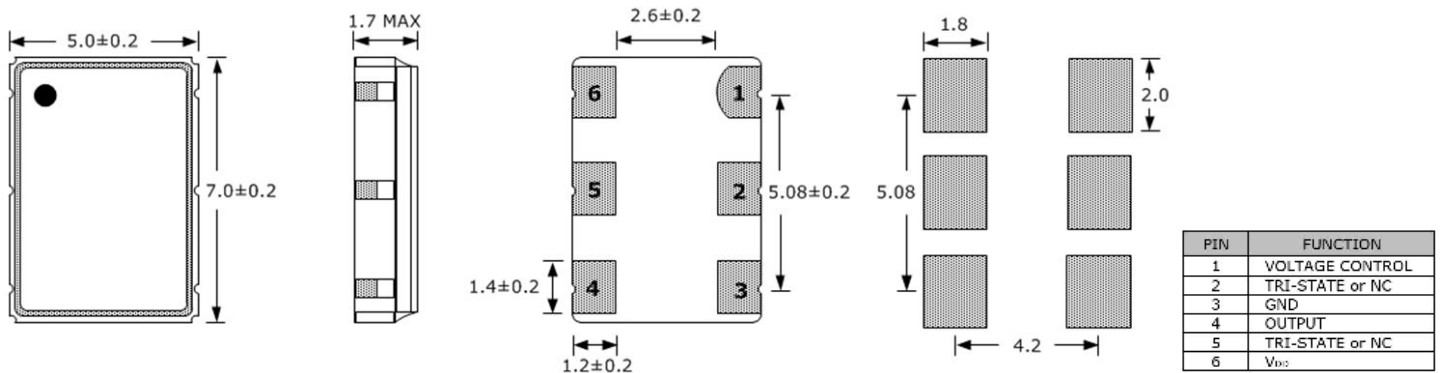
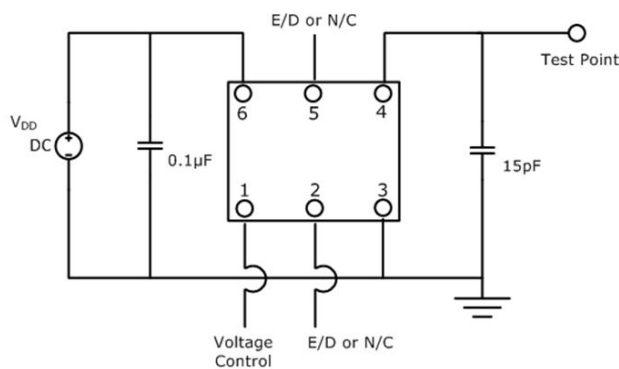
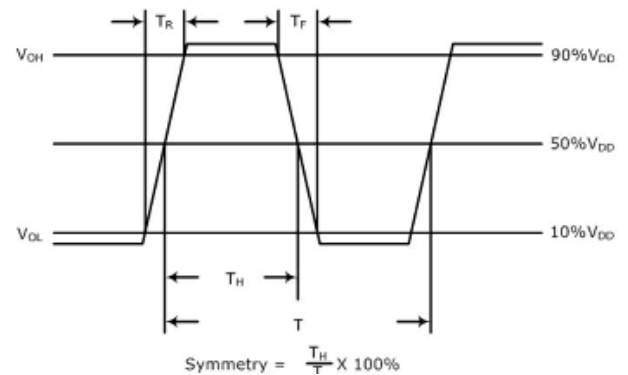
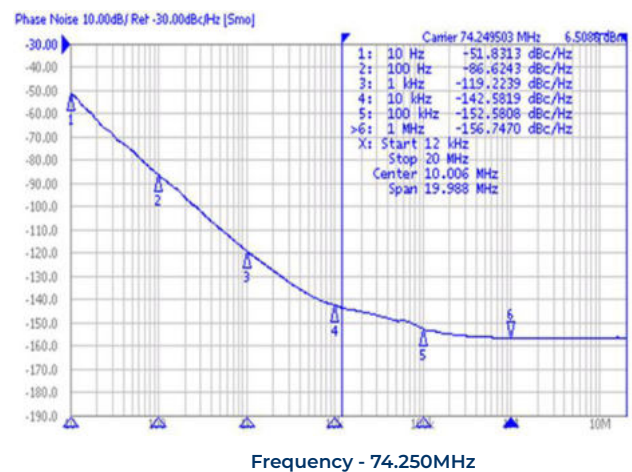
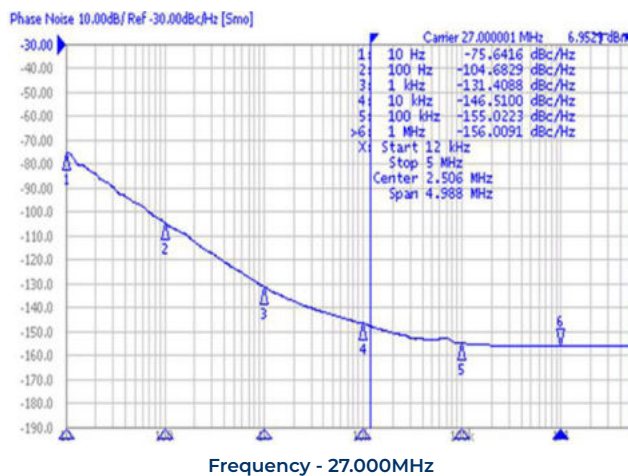
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

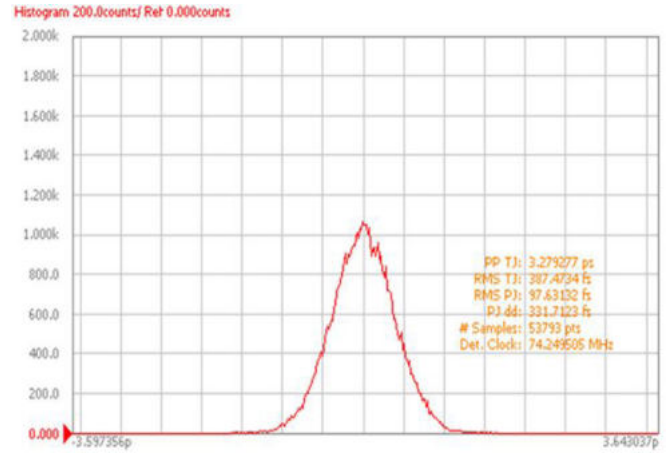
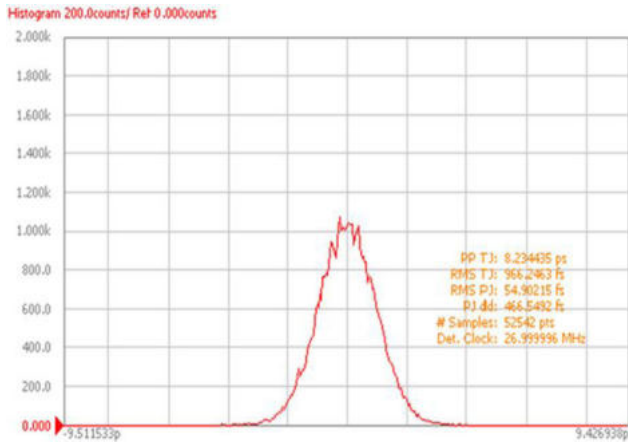
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	1		300	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	Only available with AT-Cut Fundamental.
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	Available with AT-Cut Fundamental and PLL.
Supply Voltage (V _{DD}) 3.5V Option	V	3.135	3.3	3.465	Only available with AT-Cut Fundamental.
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	
Current (I _{DD}) 2.5V Option	mA			25	
Current (I _{DD}) 3.5V Option	mA			25	25mA max (AT-Cut Fund) & 50mA max (PLL).
Current (I _{DD}) 5.0V Option	mA			30	
Current Voltage (V _c) 2.5V Option	V	0.2		2.3	
Current Voltage (V _c) 3.5V Option	V	0.3		3.0	
Current Voltage (V _c) 5.0V Option	V	0.5		4.5	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			5	
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	AT-CUT Fundamental
Phase Jitter (12KHz ~ 20MHz)	ps			5	PLL (Phase Lock Loop)

Outline Drawing & Land Pattern

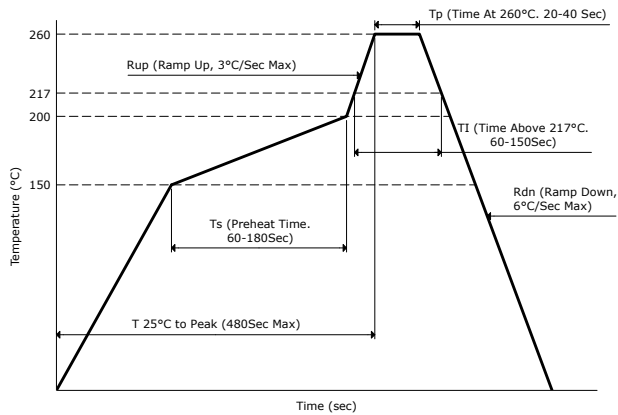
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (CMOS)

Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


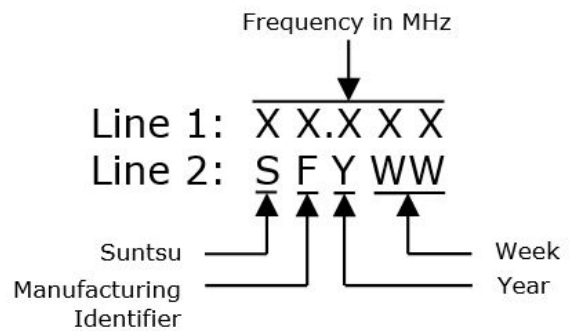
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



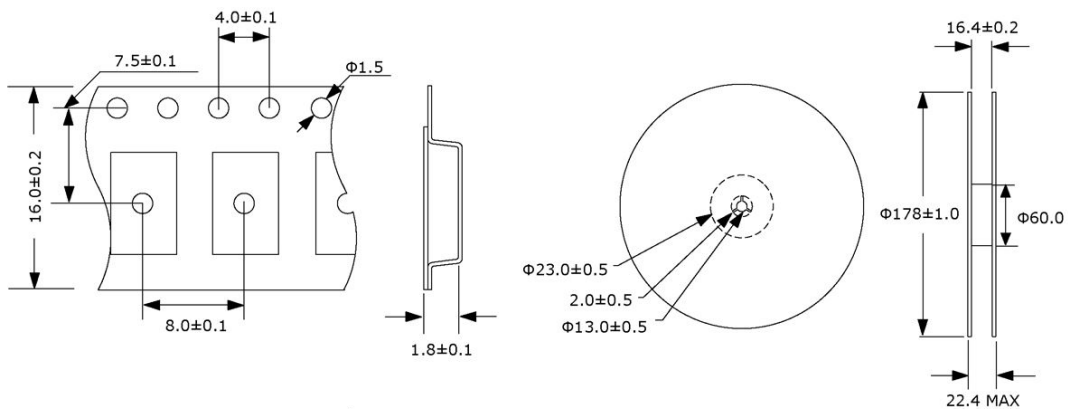
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

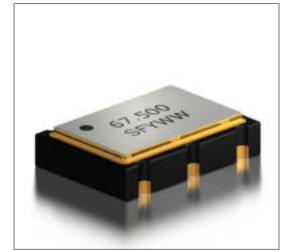
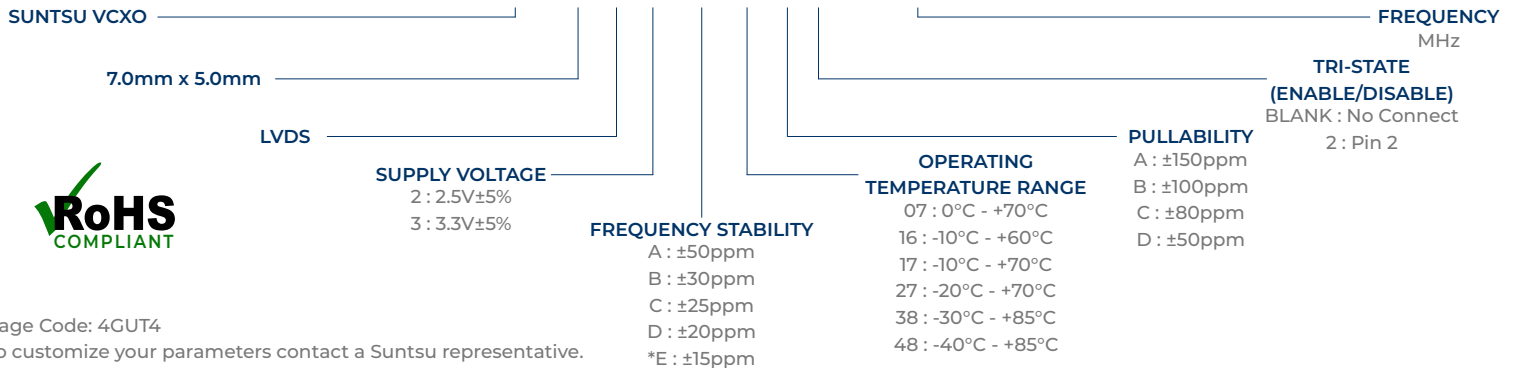
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
• ± 20 ppm (Frequency Stability) Available
• Miniature Package
• LVDS
• Fundamental or PLL (Phase Lock Loop) Available
• Tape and Reel

Applications
• Fiber Channel
• Gigabit Ethernet
• PCI Express
• SONET


Part Numbering Guide
SVC 75 L 3 A 48 A 2 - 67.500M


Cage Code: 4GUT4

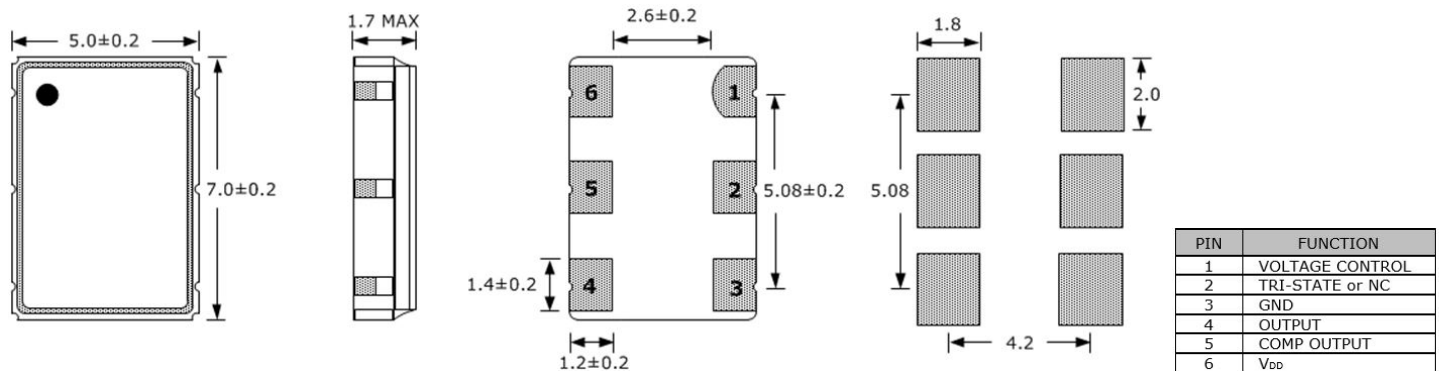
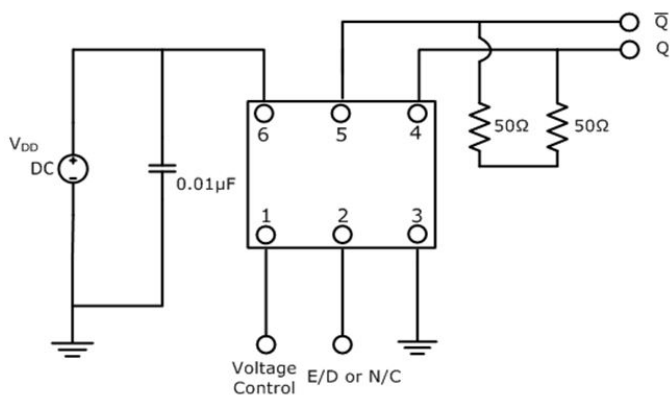
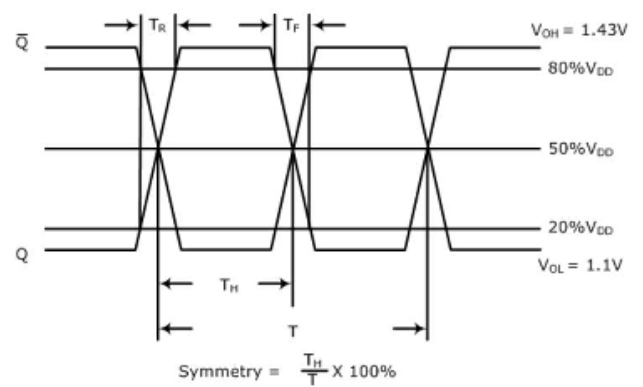
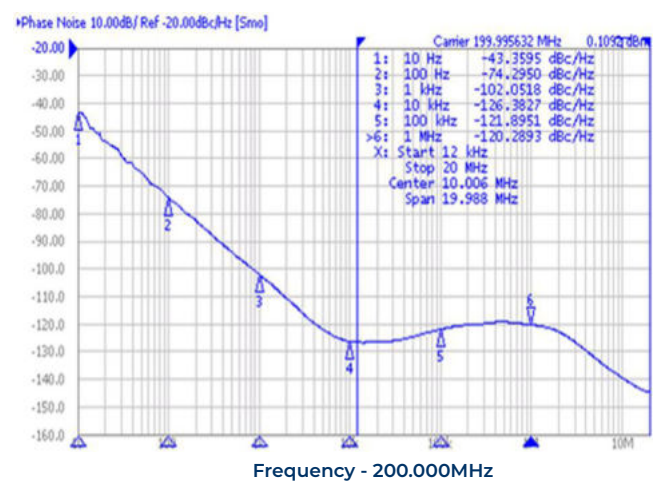
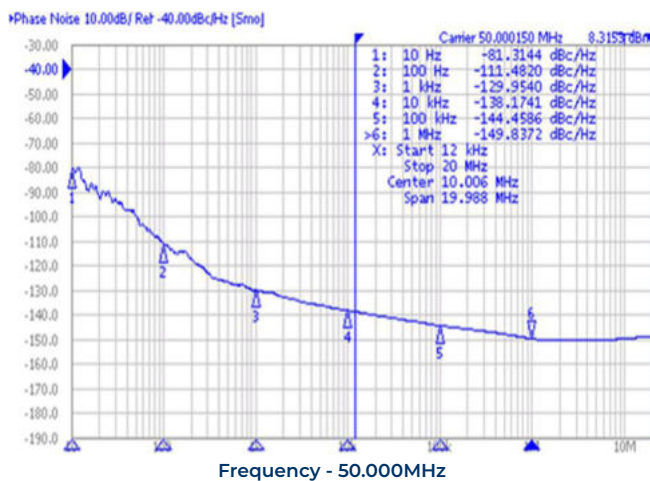
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

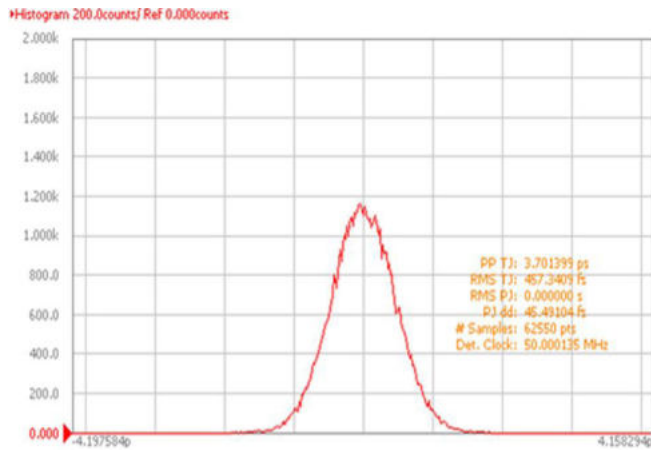
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	9.5		80	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Op Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	Only available with AT-Cut Fundamental.
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	Available with AT-Cut Fundamental and PLL.
Current (I _{DD}) 2.5V Option	mA			50	
Current (I _{DD}) 3.3V Option	mA			60	
Current Voltage (V _C) 2.5V Option	V	0.2		2.3	
Current Voltage (V _C) 3.3V Option	V	0.3		3.0	
Pullability	ppm	± 50	± 100	± 150	See part numbering guide for options.
Linearity	%			10	
Output Load (LVDS)	Ω			100	
Output Logic HIGH Level (V _{OH})	V		1.43	1.6	
Output Logic LOW Level (V _{OL})	V	0.9	1.1		
Rise (T _R) And Fall (T _F) Time	ns		0.4	0.8	Measured at 20% to 80% of Waveform.
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.4	1	AT-Cut Fundamental.
Phase Jitter (12KHz ~ 20MHz)	ms		3	5	PLL (Phase Lock Loop).

Outline Drawing & Land Pattern

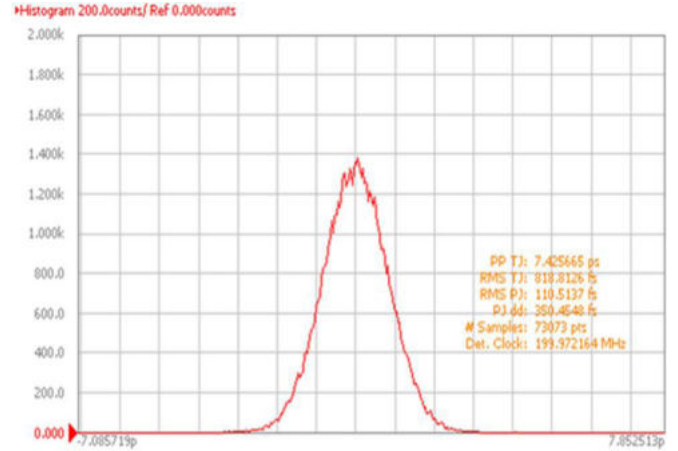
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (LVDS)

Waveform (LVDS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


Typical Jitter Performance (Measured By Agilent E5052A)

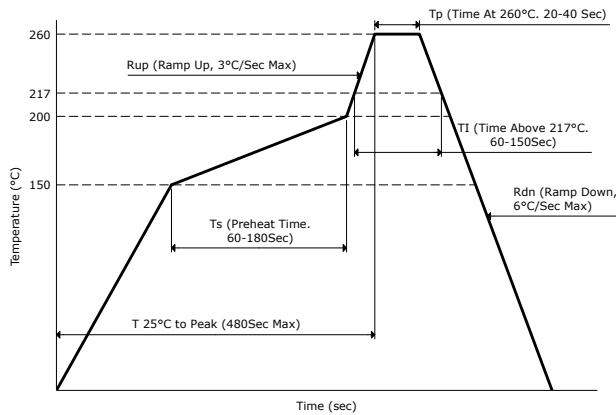


Frequency - 50.000MHz

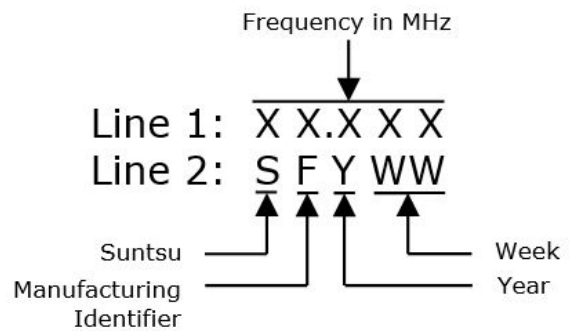


Frequency - 200.000MHz

Reflow Profile



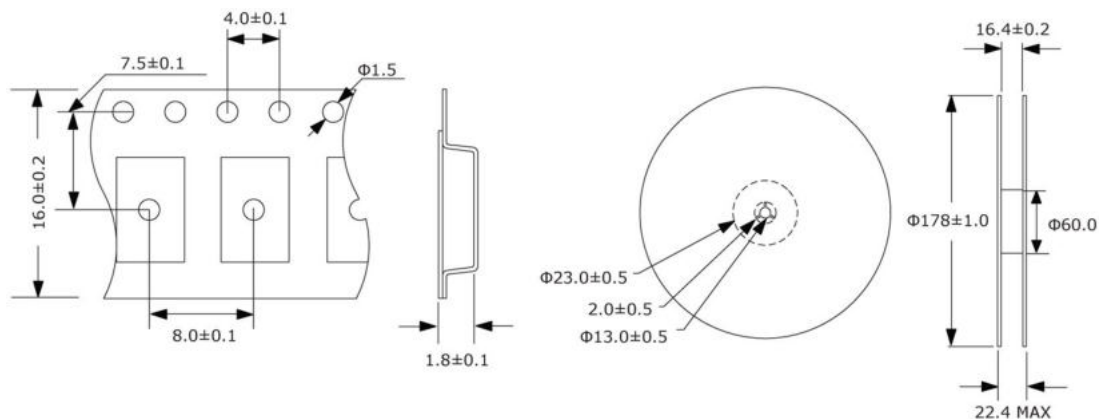
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

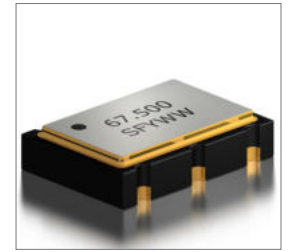
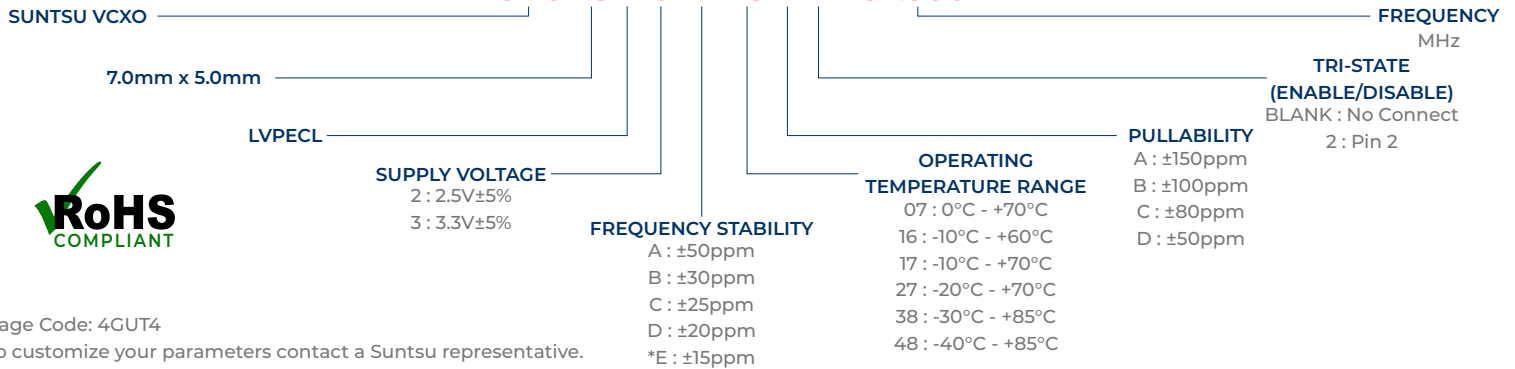
1,000pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
• ± 20 ppm (Frequency Stability) Available
• Ceramic Package
• LVPECL
• Fundamental or PLL (Phase Lock Loop) Available
• Tape and Reel

Applications
• Fiber Channel
• Gigabit Ethernet
• PCI Express
• SONET


Part Numbering Guide
SVC 75 P 3 A 48 A 2 - 67.500M


Cage Code: 4GUT4

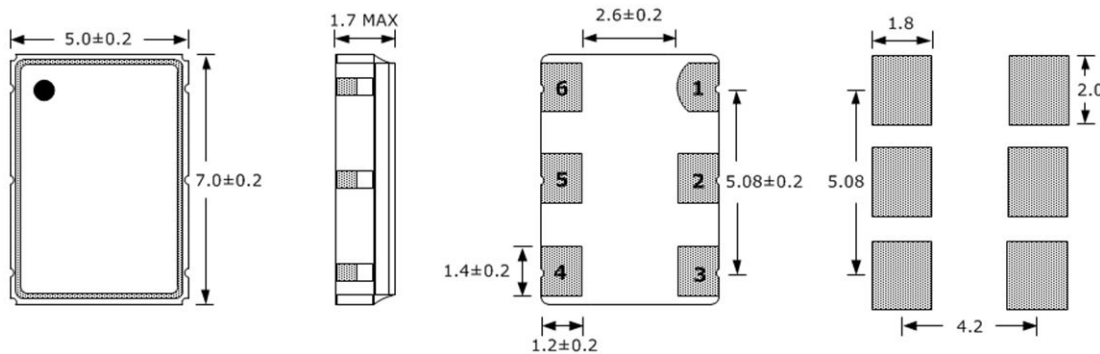
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

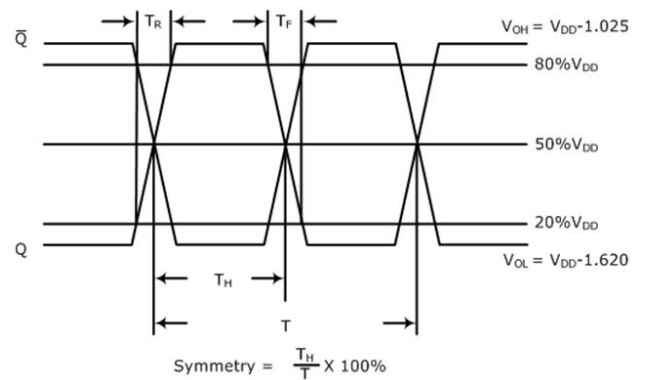
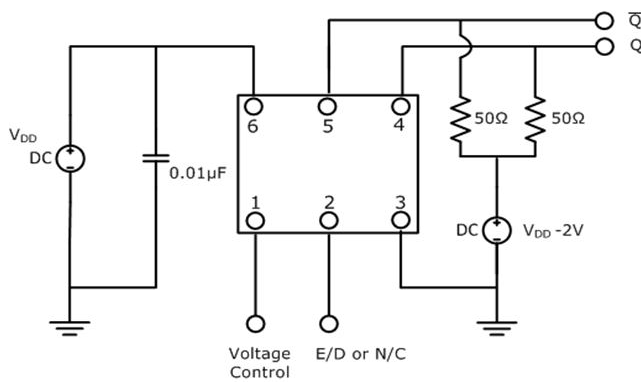
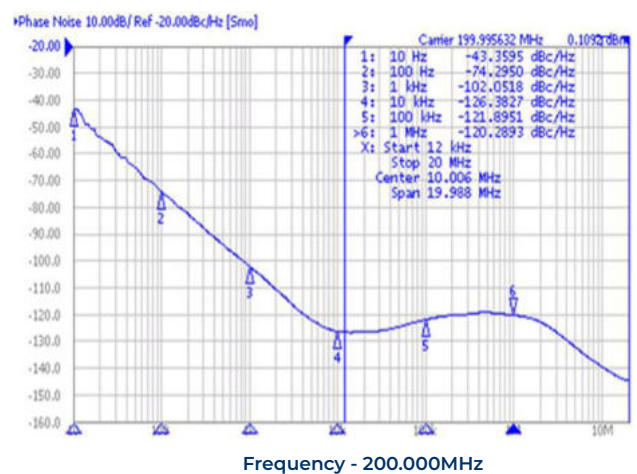
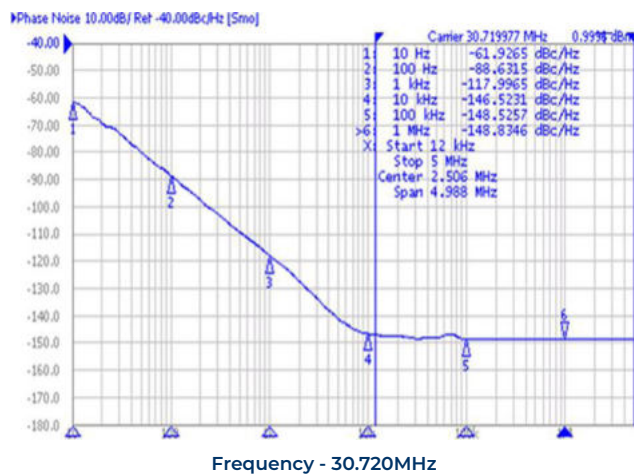
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	9.5		800	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 2.5V Option	V	2.375	2.5	2.625	Only available with AT-Cut Fundamental.
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	Available with AT-Cut Fundamental and PLL.
Current (I _{DD}) 2.5V Option	mA			70	
Current (I _{DD}) 3.3V Option	mA			80	
Current Voltage (V _C) 2.5V Option	V	0.2		2.3	
Current Voltage (V _C) 3.3V Option	V	0.3		3.0	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (LVPECL)	Ω			50	50 Ω into V _{DD} -2.0V _{DC}
Output Logic HIGH Level (V _{OH})	V	V _{DD} -1.025			
Output Logic LOW Level (V _{OL})	V			V _{DD} -1.620	
Rise (T _R) And Fall (T _F) Time	ns		0.5	1	Measured at 20% to 80% of Waveform.
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps		0.4	1	AT-Cut Fundamental
Phase Jitter (12KHz ~ 20MHz)	ps		3	5	PLL (Phase Lock Loop)

Outline Drawing & Land Pattern

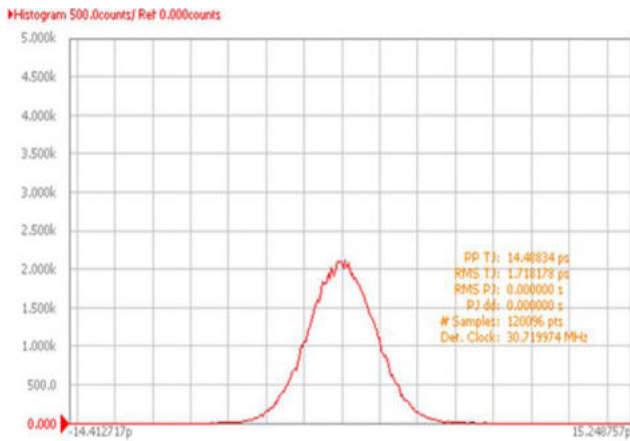
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



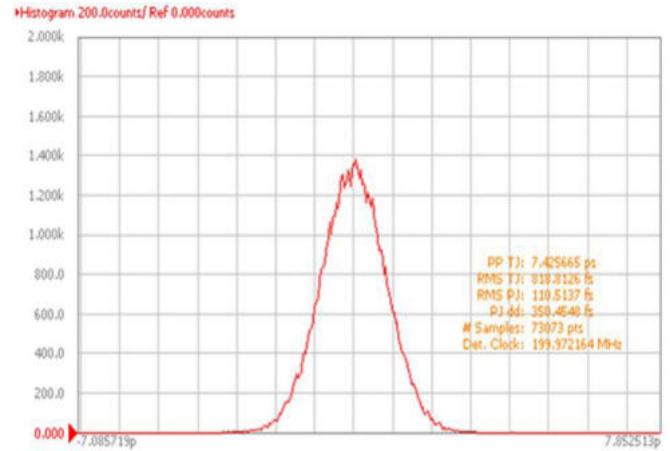
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{DD}

Test Circuit (LVPECL)
Waveform (LVPECL)

Typical Phase Noise Performance (Measured By Agilent E5052A)


Typical Jitter Performance (Measured By Agilent E5052A)

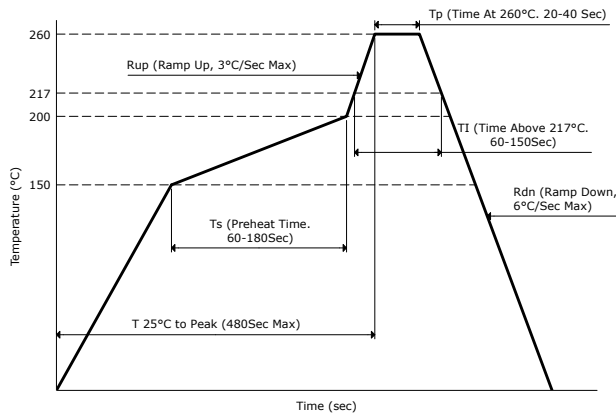


Frequency - 30.720MHz

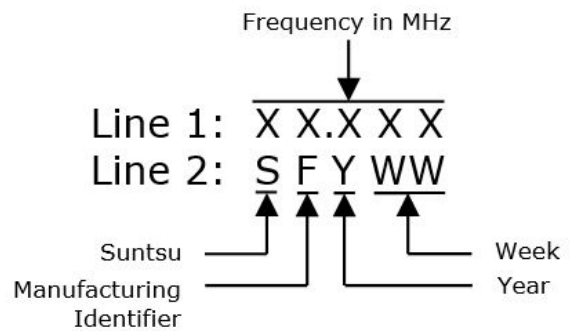


Frequency - 200.000MHz

Reflow Profile



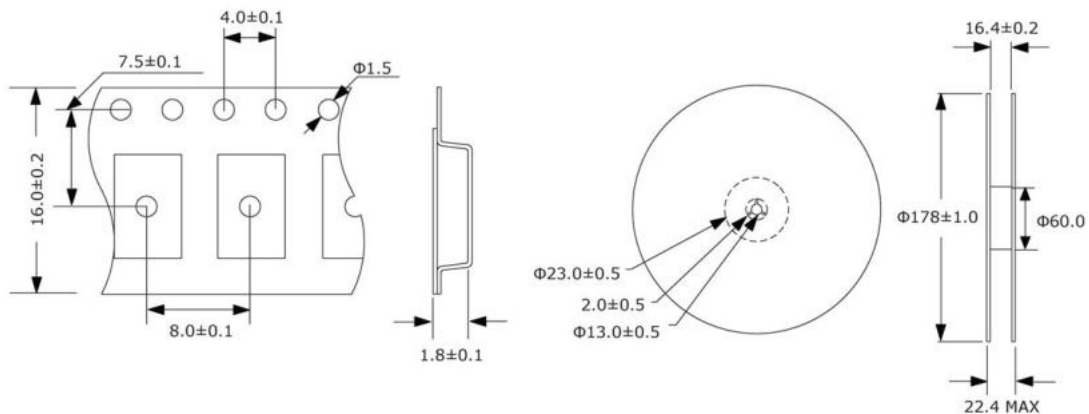
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

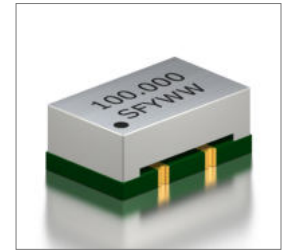
1,000pcs/Reel



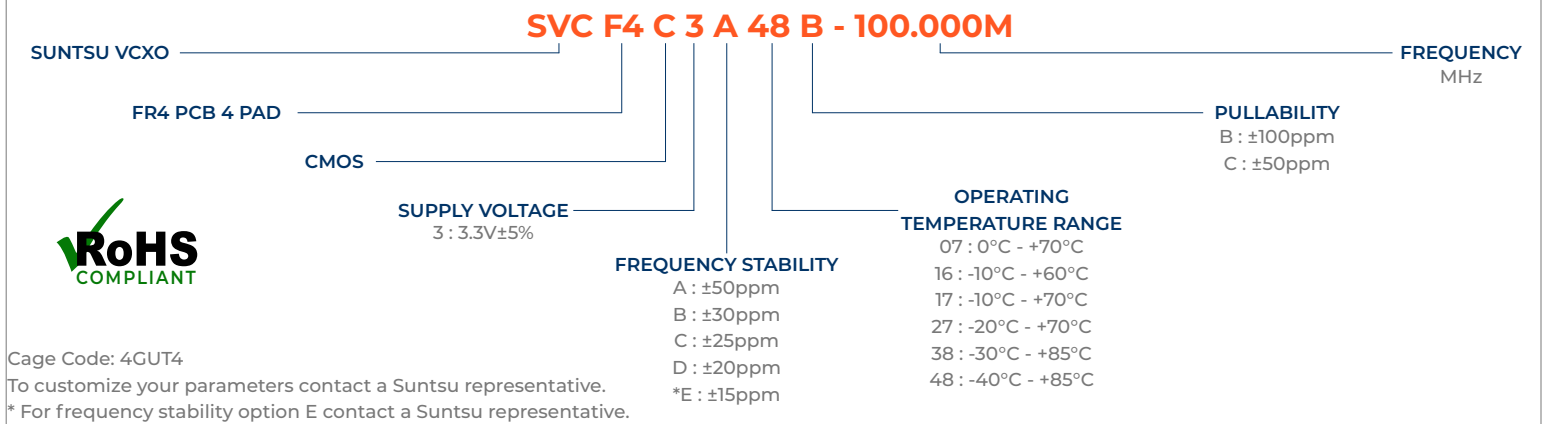
Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
<ul style="list-style-type: none"> ±25ppm (Frequency Stability) Available Ultra-Low Phase Noise and Jitter Performance High-Q Crystal and 3rd Overtone Technology Tape and Reel

Applications
<ul style="list-style-type: none"> High Definition TV Avionics Low Phase Signal Sources Test and Measurement Equipment



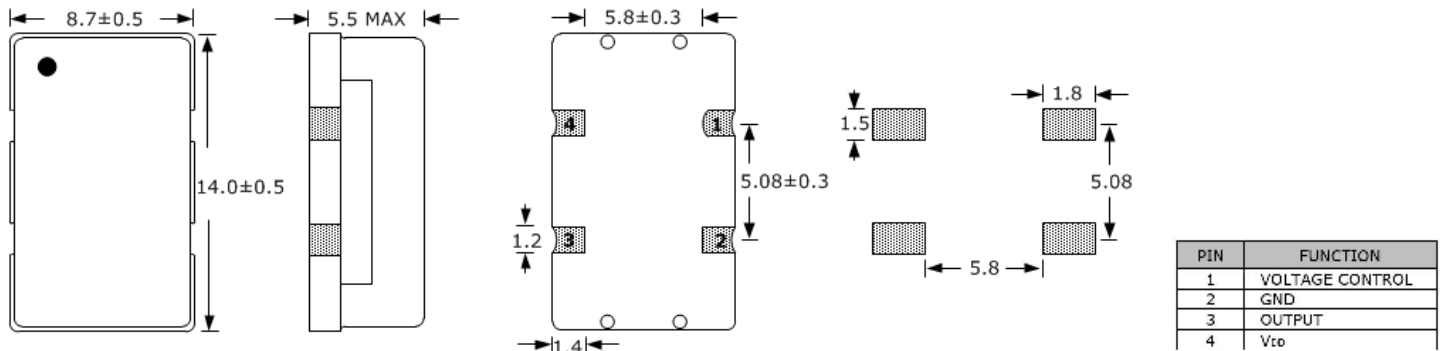
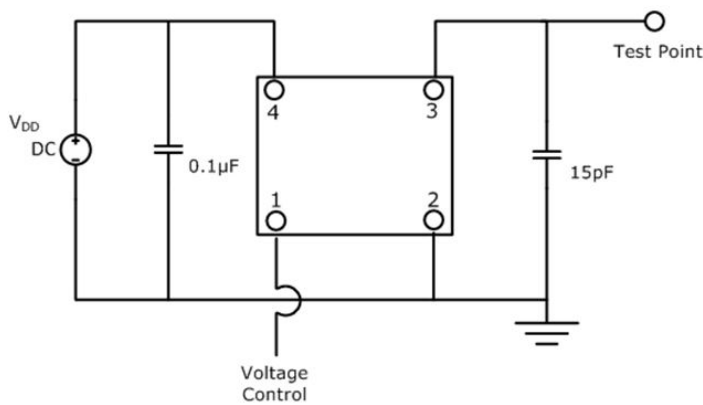
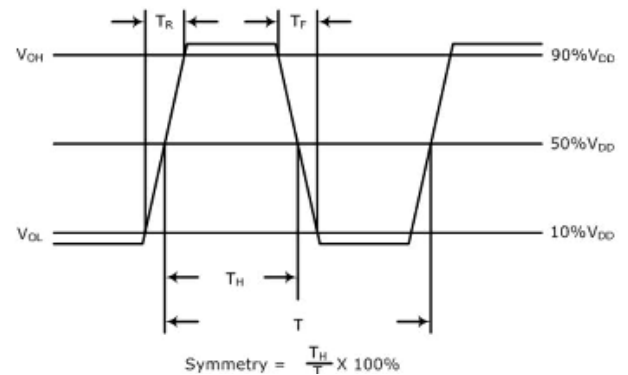
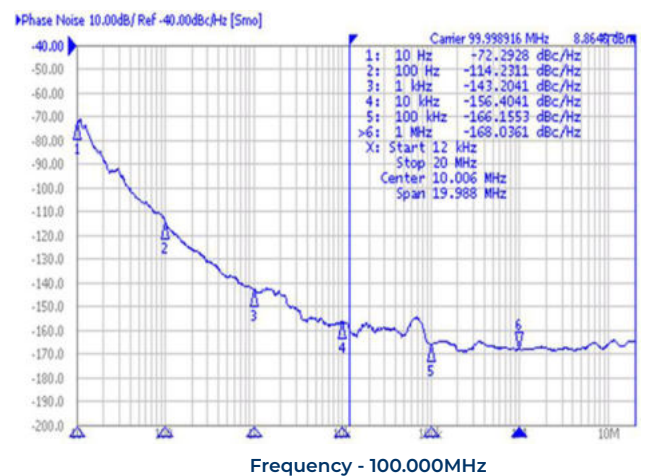
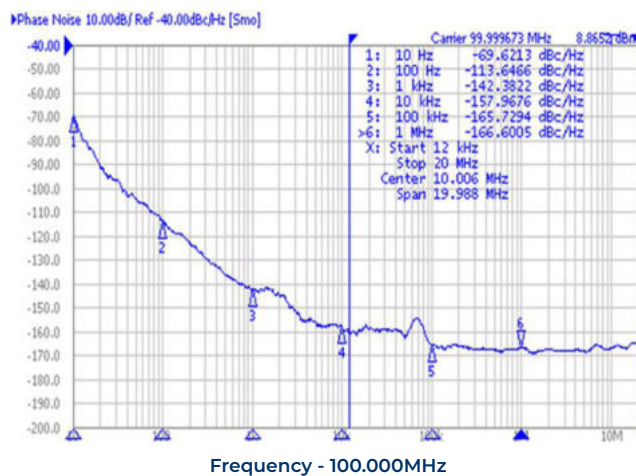
Part Numbering Guide



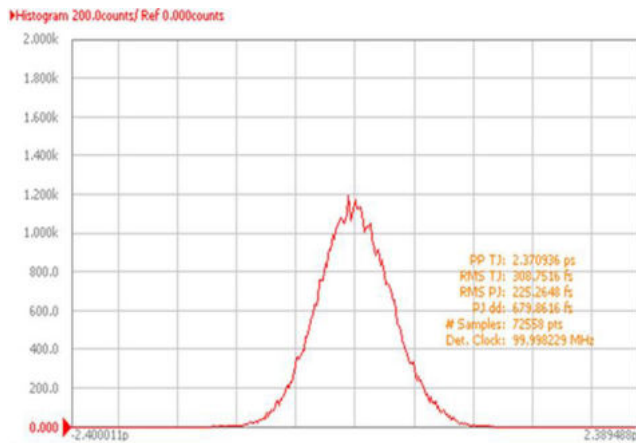
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	10		130	
Frequency Stability (Overall)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-45		+90	
Supply Voltage (V _{DD})	V	3.135	3.3	3.465	
Current (I _{DD})	mA		25	30	
Current Voltage (V _C)	V	0.0		3.3	
Input Impedance	kΩ			51	
Modulation Bandwidth	kHz	10			@-3dB
Pullability	ppm	±50		±100	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			3	
Symmetry (Duty Cycle)	%	45	50	55	
Start-Up Time	ms			10	
Aging	ppm	-3.0		+3.0	First year @ +25°C.
Phase Jitter (12KHz ~ 20MHz)	ps		0.1		

Outline Drawing & Land Pattern

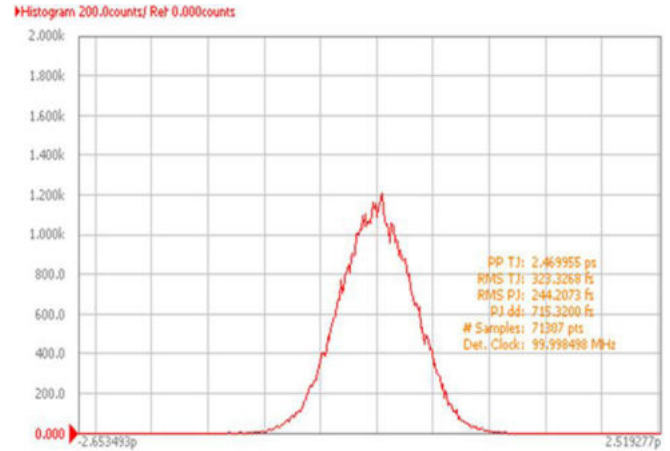
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.


Test Circuit (CMOS)

Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


Typical Jitter Performance (Measured By Agilent E5052A)

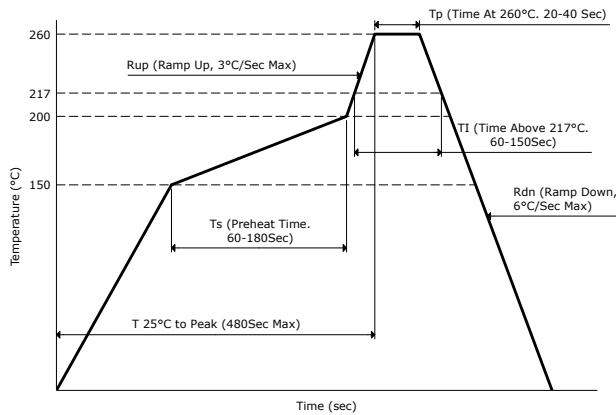


Frequency - 100.000MHz

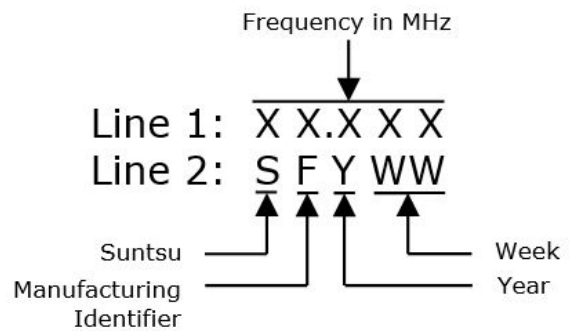


Frequency - 100.000MHz

Reflow Profile



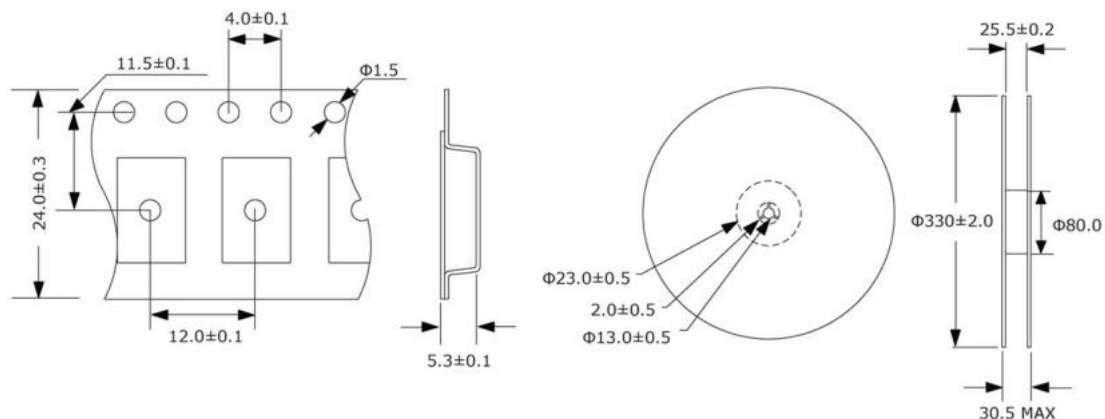
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

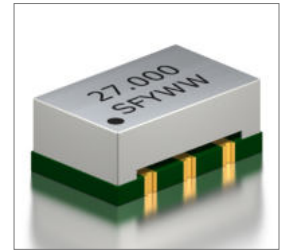
500pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

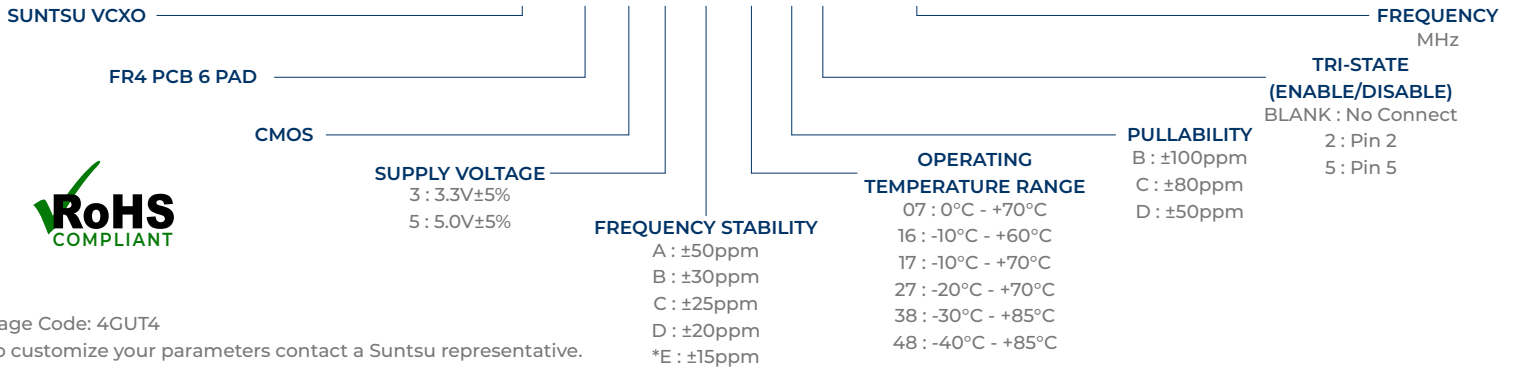
Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Low Phase Noise and Jitter Performance Tape and Reel

Applications
<ul style="list-style-type: none"> High Definition TV Avionics Low Phase Signal Sources Test and Measurement Equipment



Part Numbering Guide

SVC F6 C 3 A 48 B 2 - 27.000M



Cage Code: 4GUT4

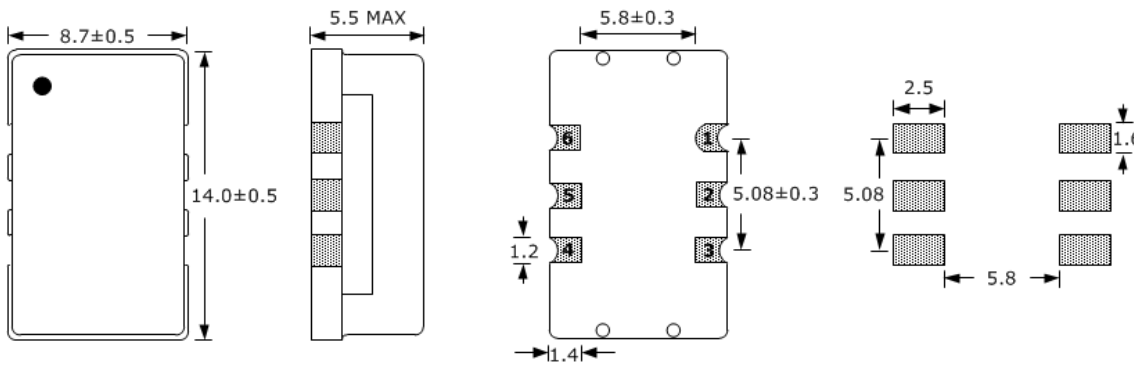
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

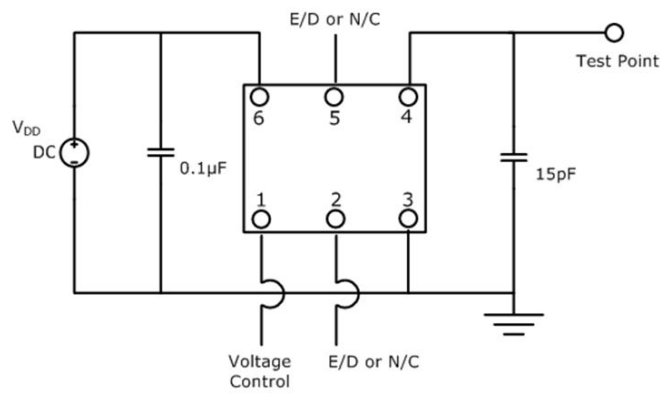
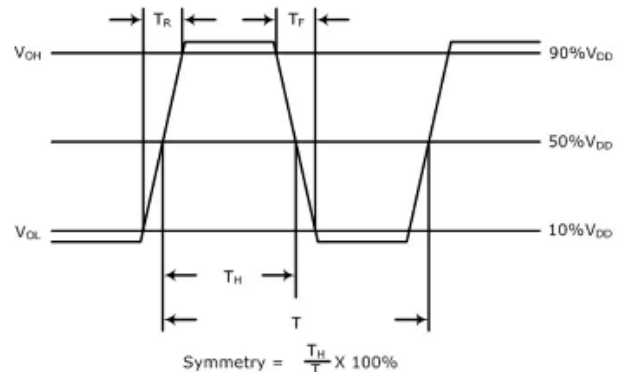
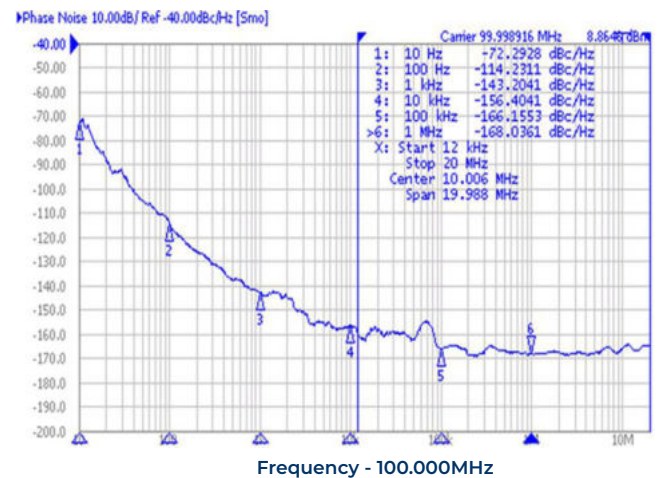
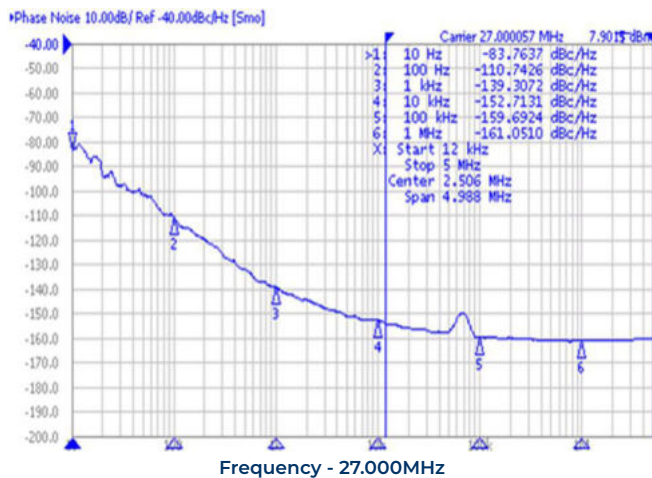
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	10		250	~160MHz at 5.0V
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-45		+90	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	See part numbering guide for options.
Current (I _{DD}) 3.3V Option	mA			40	
Current (I _{DD}) 5.0V Option	mA			60	
Current Voltage (V _C) 3.3V Option	V	0		3.3	
Current Voltage (V _C) 5.0V Option	V	0		5.0	
Pullability	ppm	±50		±100	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Logic HIGH Level (V _{OH})	V	0.9*V _{DD}			
Output Logic LOW Level (V _{OL})	V			0.1*V _{DD}	
Rise (T _R) And Fall (T _F) Time	ns			3	
Symmetry (Duty Cycle)	%	45	50	55	
Input Impedance	kΩ			51	
Modulation Bandwidth	kHz	10			@-3dB
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	

Outline Drawing & Land Pattern

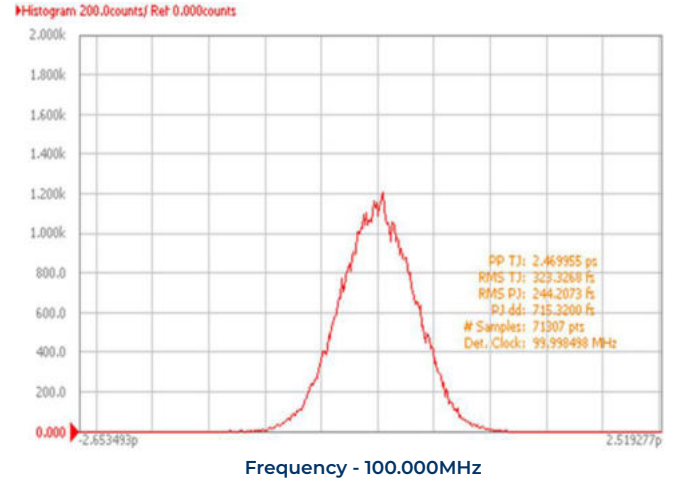
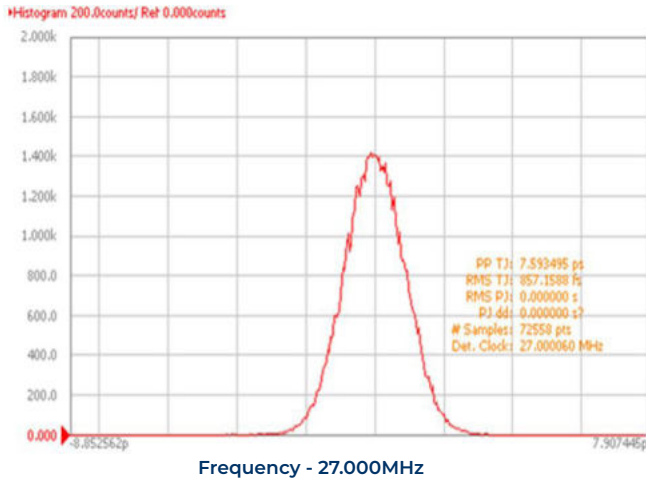
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



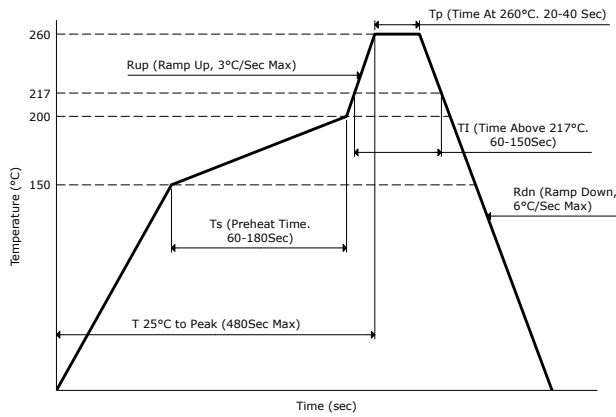
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	TRI-STATE or NC
6	V _{DD}

Test Circuit (CMOS)

Waveform (CMOS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


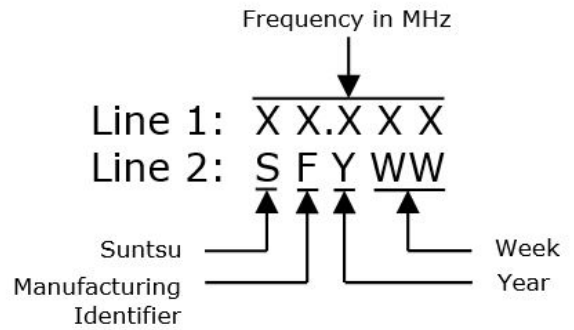
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



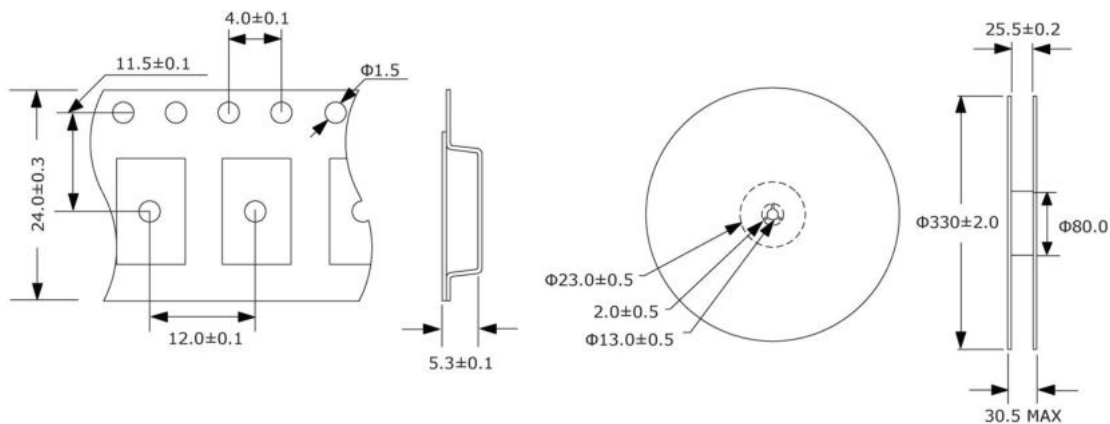
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

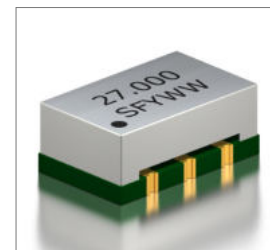
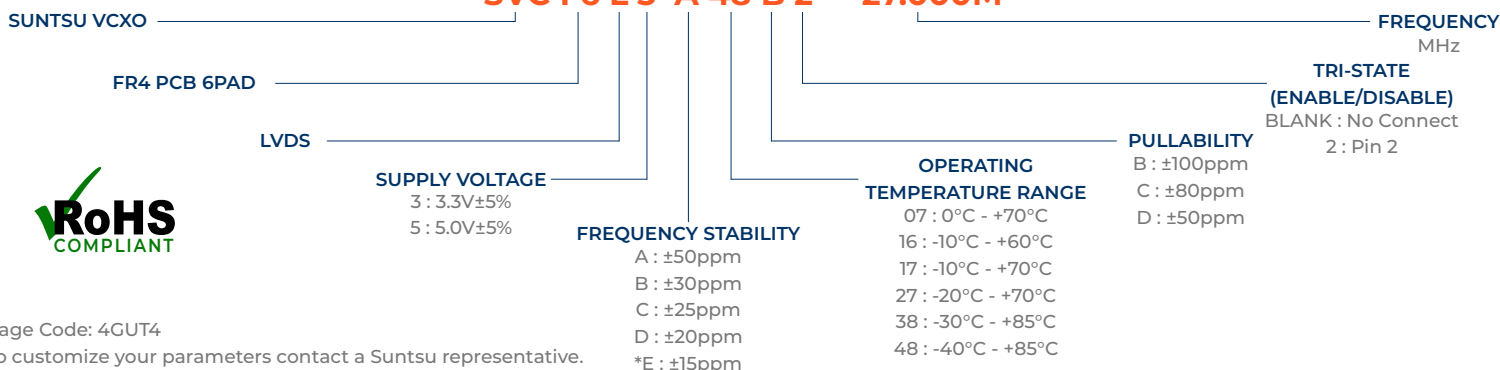
500pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Low Phase Noise and Jitter Performance Tape and Reel

Applications
<ul style="list-style-type: none"> High Definition TV Avionics Low Phase Signal Sources Test and Measurement Equipment


Part Numbering Guide
SVC F6 L 3 A 48 B 2 - 27.000M


Cage Code: 4GUT4

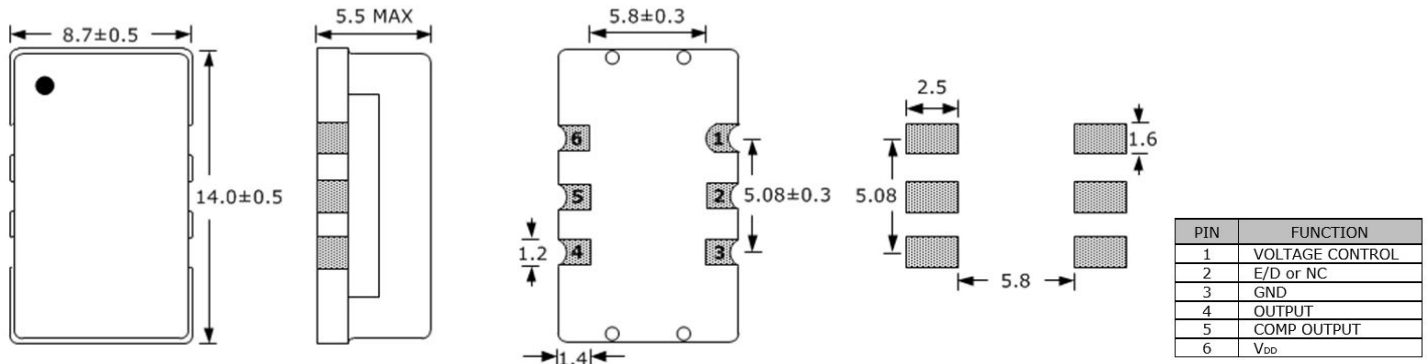
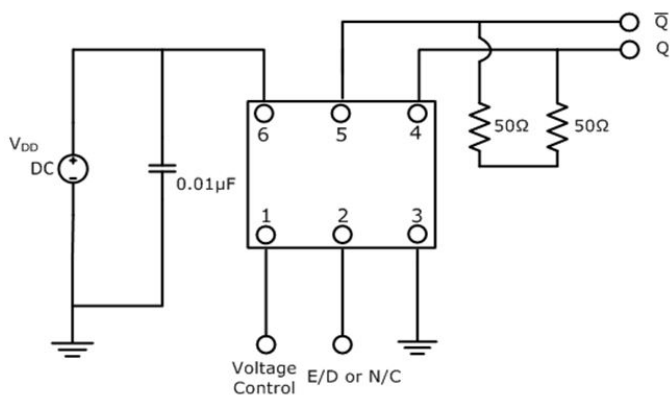
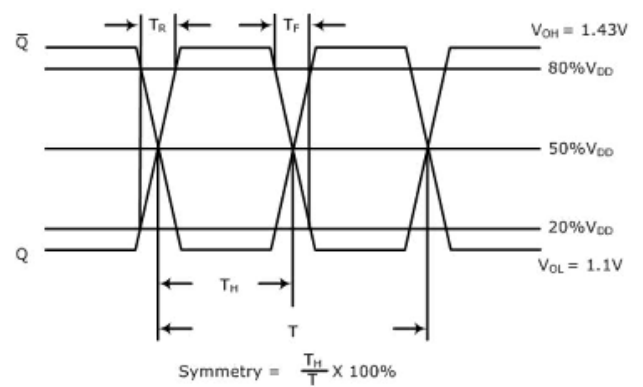
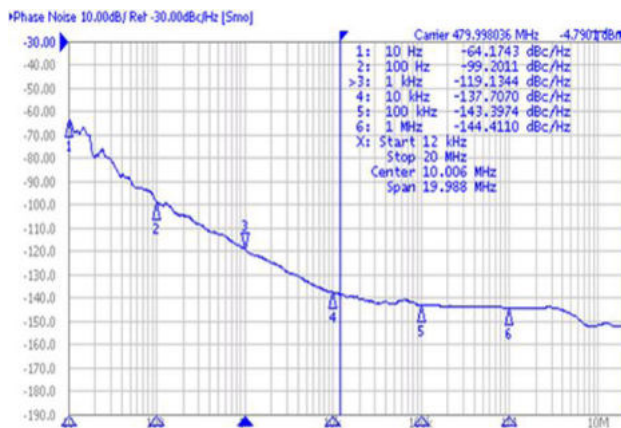
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

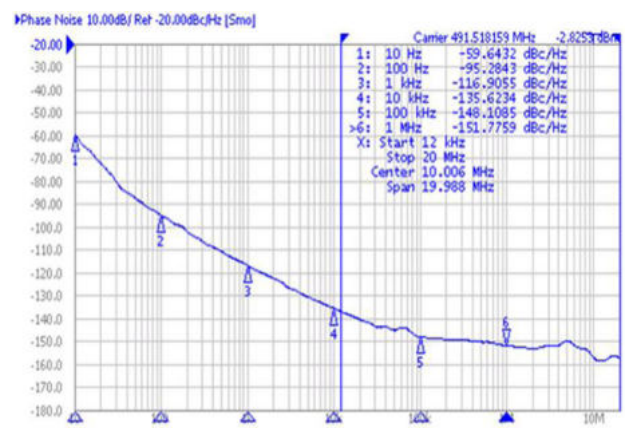
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	10		800	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Op Temp, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-45		+90	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	
Current (I _{DD}) 3.3V Option	mA			70	
Current (I _{DD}) 5.0V Option	mA			100	
Current Voltage (V _c) 3.3V Option	V	0.15		3.15	
Current Voltage (V _c) 5.0V Option	V	0.0		5.0	
Pullability	ppm	±50		±100	See part numbering guide for options.
Input Impedance	kΩ			51	
Modulation Bandwidth	kHz	10			@-3dB
Linearity	%			10	
Output Load (LVDS)	Ω			100	
Output Logic HIGH Level (V _{OH})	V		1.43	1.6	
Output Logic LOW Level (V _{OL})	V	0.9	1.1		
Differential Output Voltage (V _{OD})	mV	247	330	454	
Differential Output Error (ΔV _{OD})	mV			50	
Offset Voltage (V _{OS})	V	1.125	1.250	1.375	
Offset Error (ΔV _{OS})	mV			50	
Rise (T _R) And Fall (T _F) Time	ns			1	Measure at 20% to 80% of Waveform.
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	

Outline Drawing & Land Pattern

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

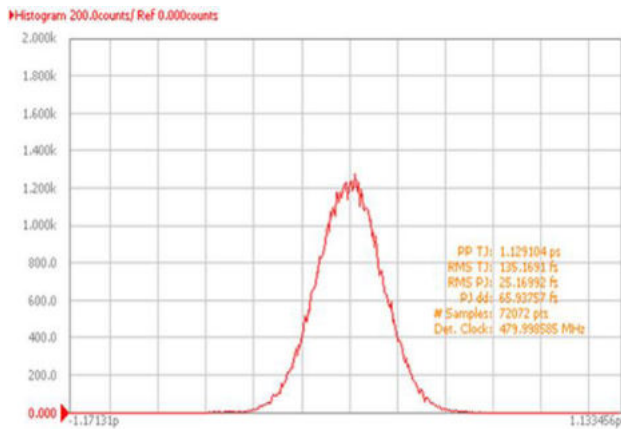

Test Circuit (LVDS)

Waveform (LVDS)

Typical Phase Noise Performance (Measured By Agilent E5052A)


Frequency - 480.000MHz

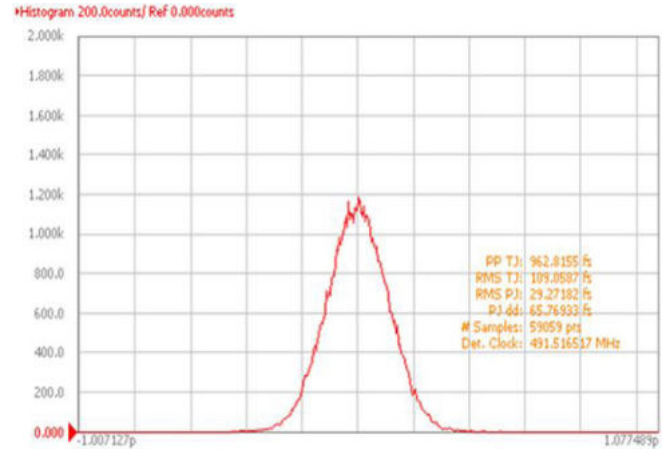


Frequency - 491.520MHz

Typical Jitter Performance (Measured By Agilent E5052A)

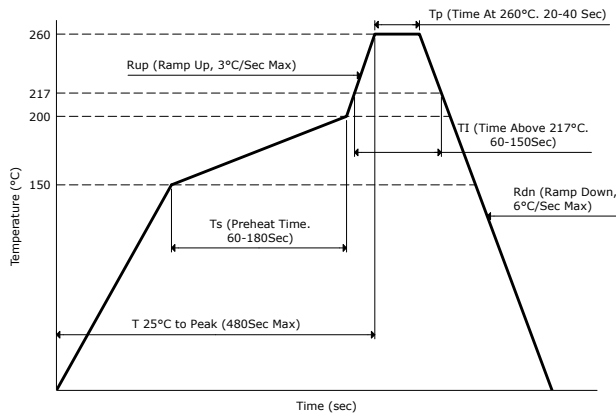


Frequency - 480.000MHz

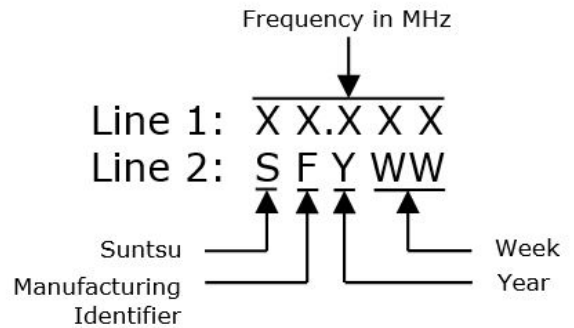


Frequency - 491.520MHz

Reflow Profile



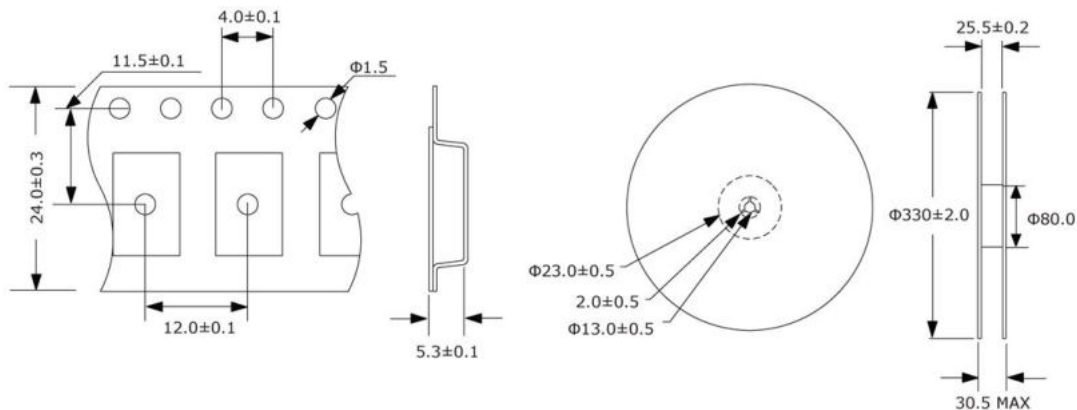
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

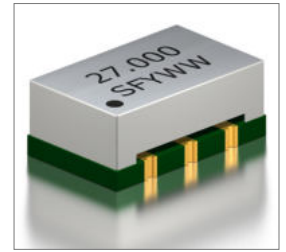
500pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

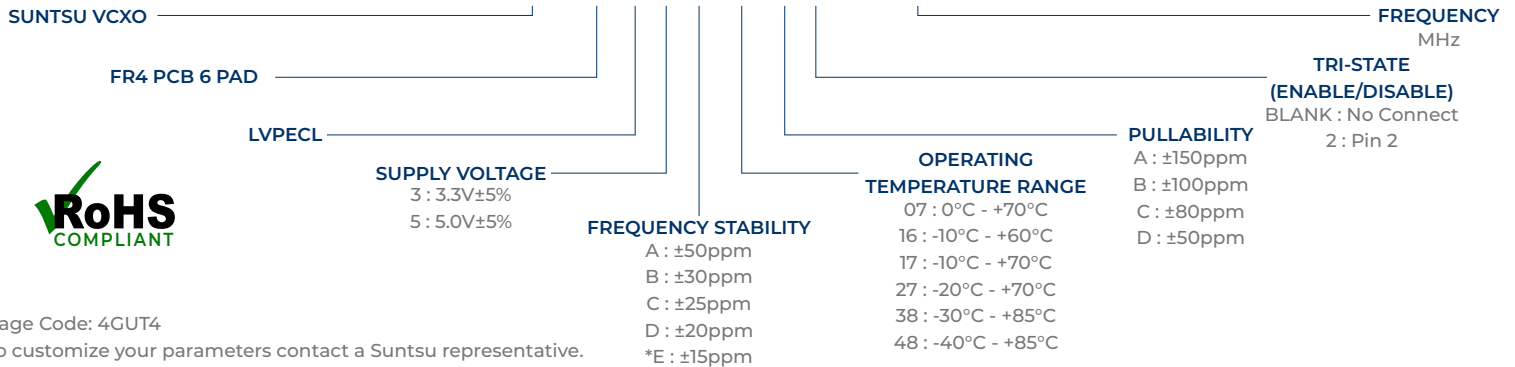
Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Low Phase Noise and Jitter Performance LVPECL Tape and Reel

Applications
<ul style="list-style-type: none"> High Definition TV Avionics Low Phase Signal Sources Test and Measurement Equipment



Part Numbering Guide

SVC F6 P 3 A 48 B 2 - 27.000M



Cage Code: 4GUT4

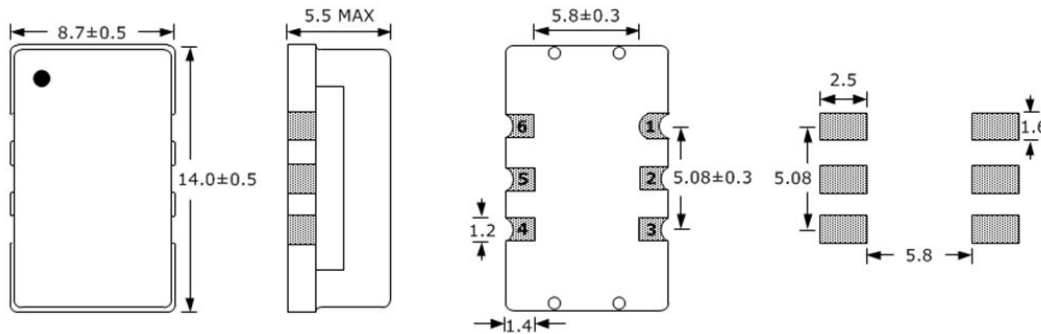
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	10		800	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	
Current (I _{DD}) 3.3V Option	mA			70	
Current (I _{DD}) 5.0V Option	mA			100	
Current Voltage (V _C) 3.3V Option	V	0.15		3.15	
Current Voltage (V _C) 5.0V Option	V	0.0		5.0	
Pullability	ppm	±50		±100	See part numbering guide for options.
Input Impedance	kΩ			51	
Modulation Bandwidth	kHz	10			@-3dB
Linearity	%			10	
Output Load (LVPECL)	Ω			50	50 Ω into V _{DD} -2.0V _{DC}
Output Logic HIGH Level (V _{OH})	V	V _{DD} -1.025			
Output Logic LOW Level (V _{OL})	V			V _{DD} -1.620	
Rise (T _R) And Fall (T _F) Time	ns			1	Measured at 20% to 80% of Waveform.
Symmetry (Duty Cycle)	%	45	50	55	
Tri-State Input Voltage - Enable	V	0.7*V _{DD}			No Connection
Tri-State Input Voltage - Disable	V			0.3*V _{DD}	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	

Outline Drawing & Land Pattern

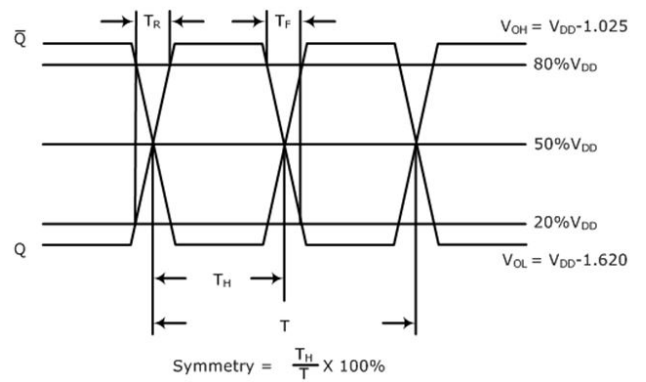
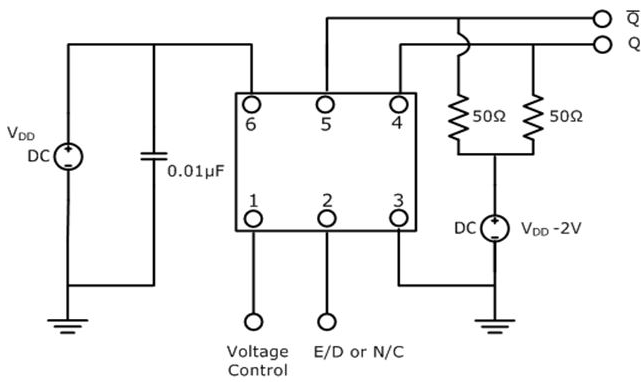
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.



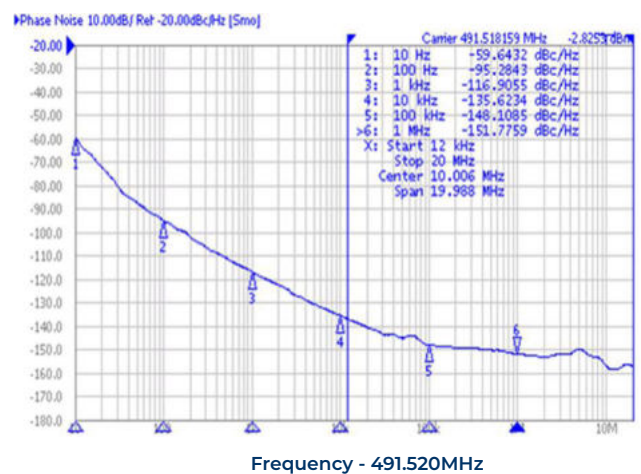
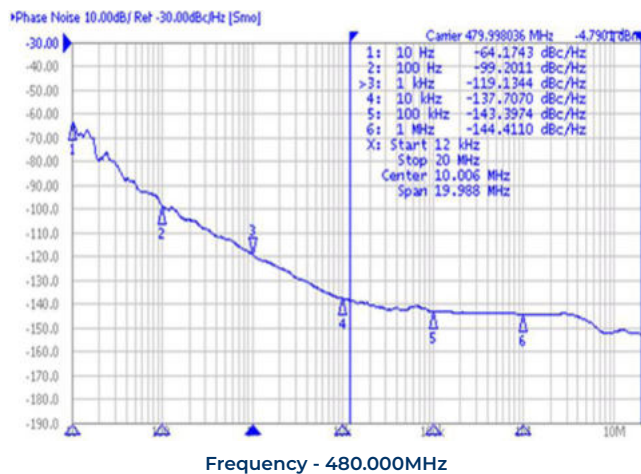
PIN	FUNCTION
1	VOLTAGE CONTROL
2	TRI-STATE or NC
3	GND
4	OUTPUT
5	COMP OUTPUT
6	V _{DD}

Test Circuit (LVPECL)

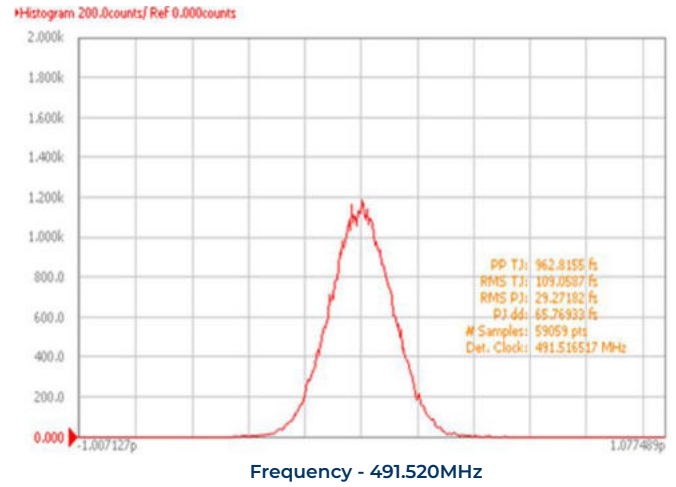
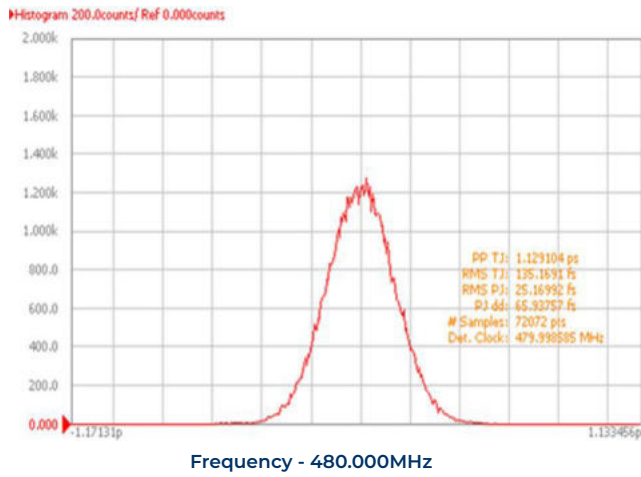
Waveform (LVPECL)



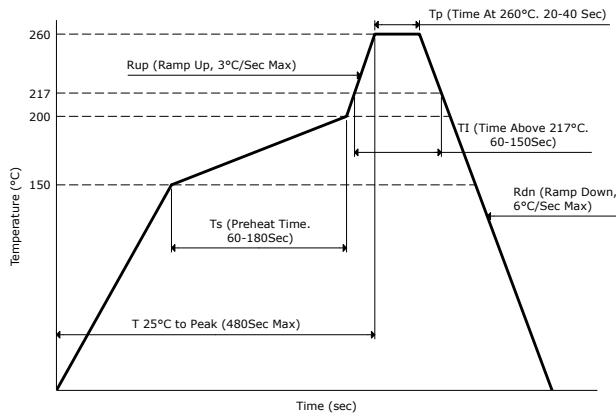
Typical Phase Noise Performance (Measured By Agilent E5052A)



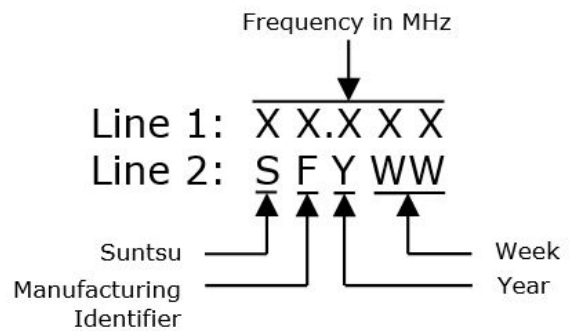
Typical Jitter Performance (Measured By Agilent E5052A)



Reflow Profile



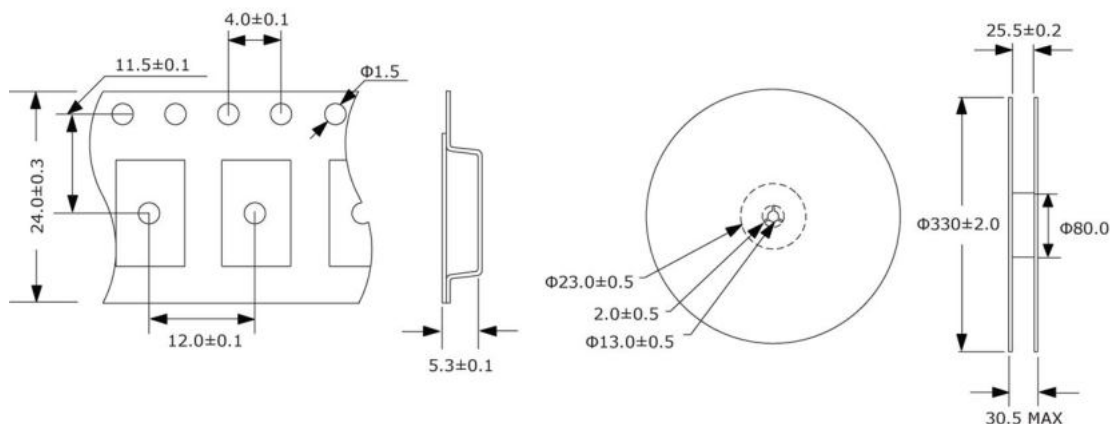
Part Marking



Tape And Reel Dimensions

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

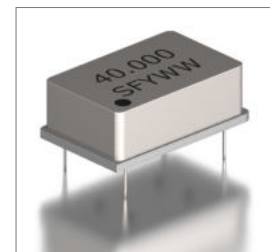
500pcs/Reel



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

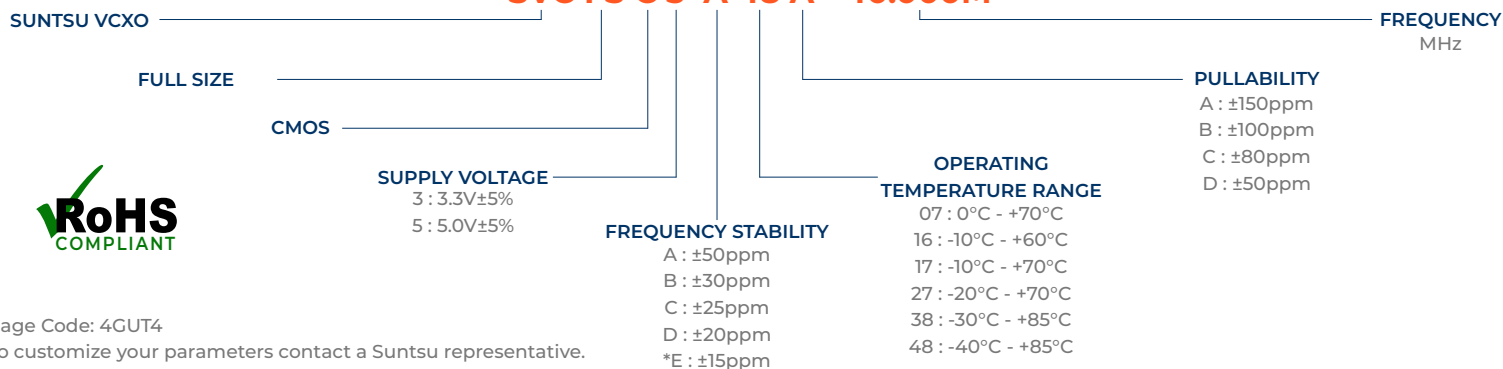
Features
• ± 20 ppm (Frequency Stability) Available
• Standard Full Size Package
• CMOS/TTL Compatible
• Fundamental or PLL (Phase Lock Loop) Available

Applications
• Phase Locked Loops Circuit
• Synthesizers
• Base Stations



Part Numbering Guide

SVC FS C 3 A 48 A - 40.000M



Cage Code: 4GUT4

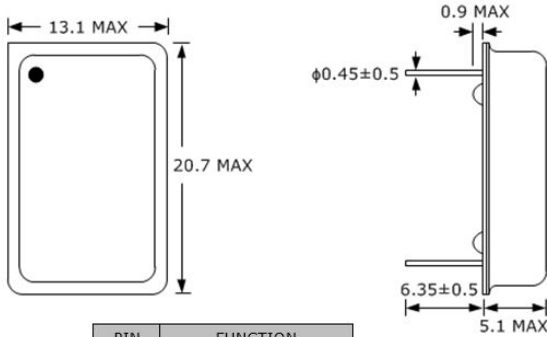
To customize your parameters contact a Suntsu representative.

* For frequency stability option E contact a Suntsu representative.

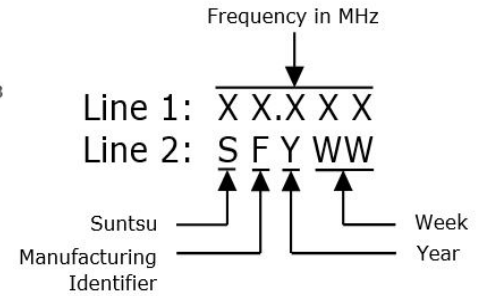
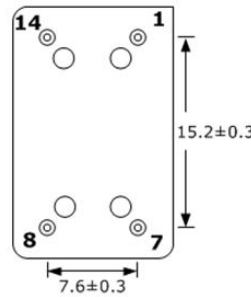
Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	1		160	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	Available with AT-Cut Fundamental and PLL.
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	Only available with AT-Cut Fundamental.
Current (I _{DD}) 3.3V Option	mA			40	
Current (I _{DD}) 5.0V Option	mA			50	
Current Voltage (V _C) 3.3V Option	V	0.3		3.0	
Current Voltage (V _C) 5.0V Option	V	0.5		4.5	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Load (TTL)	TTL			10	
CMOS Output Logic HIGH (V _{OH})	V	0.9*V _{DD}			
CMOS Output Logic LOW (V _{OL})	V			0.1*V _{DD}	
TTL Output Logic HIGH (V _{OH})	V	2.4			
TTL Output Logic LOW (V _{OL})	V			0.4	
Rise (T _r) And Fall (T _f) Time	ns			5	
Symmetry (Duty Cycle)	%	45	50	55	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	AT-Cut Fundamental
Phase Jitter (12KHz ~ 20MHz)	ps			5	PLL (Phase Lock Loop)

Outline Drawing & Part Marking

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

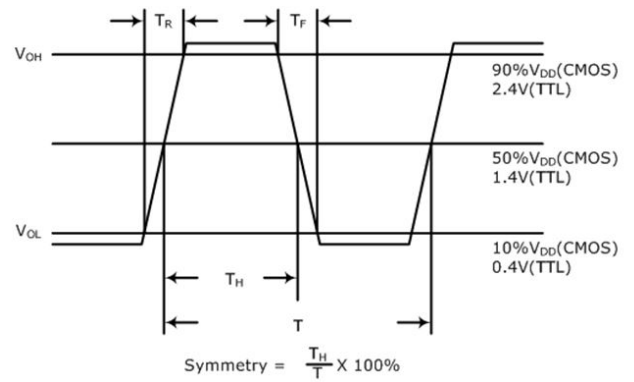
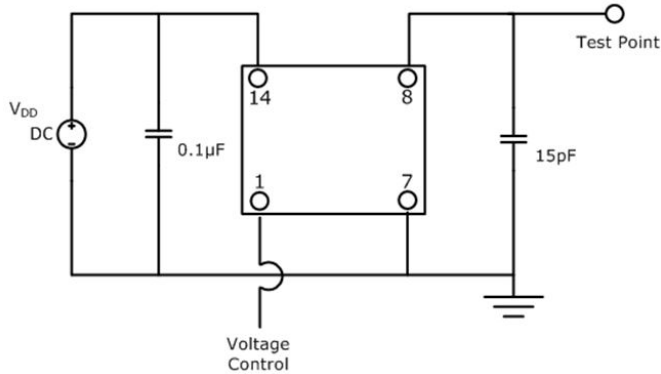


PIN	FUNCTION
1	VOLTAGE CONTROL
7	GND
8	OUTPUT
14	V _{DD}

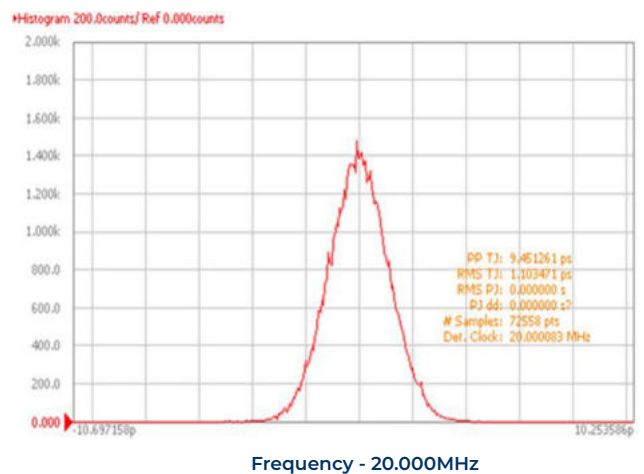
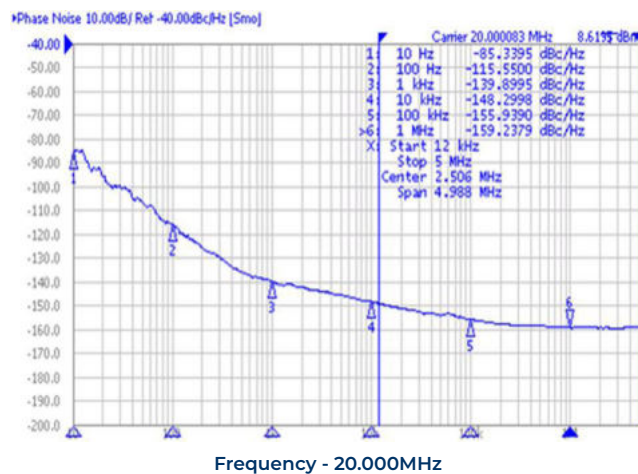


Test Circuit (CMOS/TTL Compatible)

Waveform (CMOS/TTL Compatible)



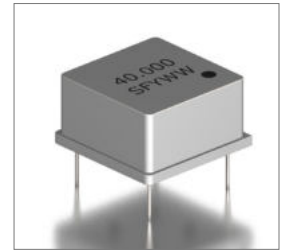
Typical Phase Noise and Jitter Performance (Measured By Agilent E5052A)



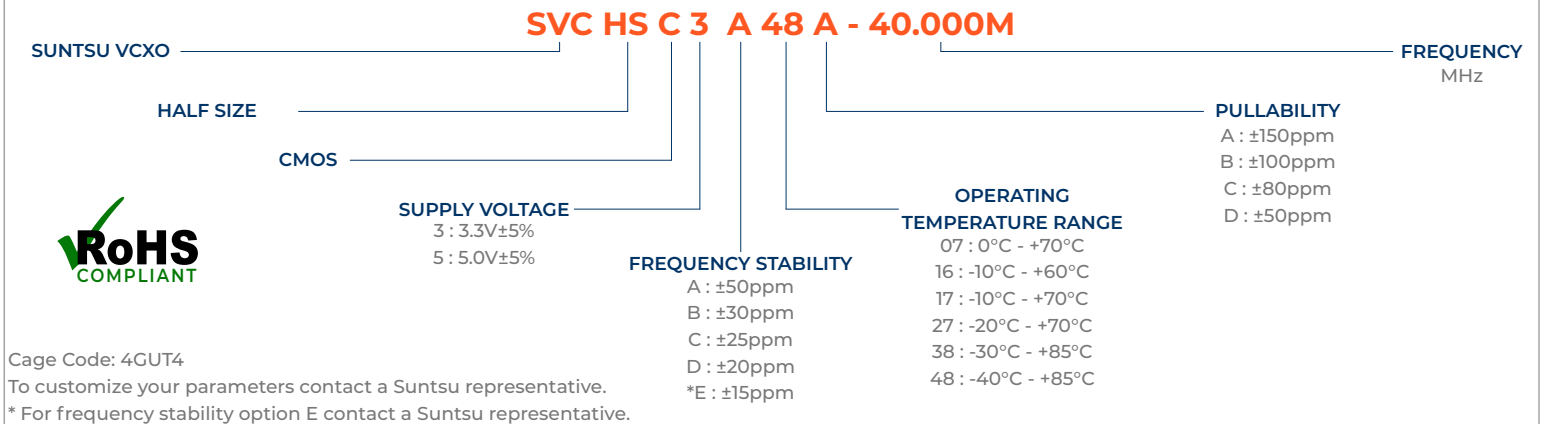
Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K

Features
<ul style="list-style-type: none"> ±20ppm (Frequency Stability) Available Standard Half Size Package CMOS/TTL Compatible Fundamental or PLL (Phase Lock Loop) Available

Applications
<ul style="list-style-type: none"> Phase Locked Loops Circuit Synthesizers Base Stations



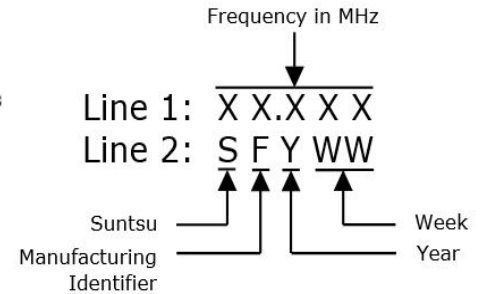
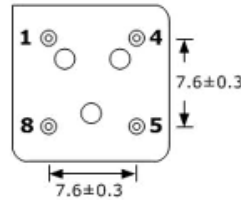
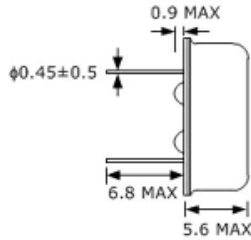
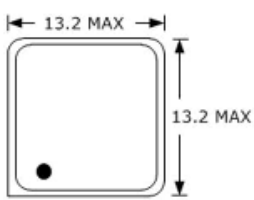
Part Numbering Guide



Electrical Parameters	Units	Minimum	Typical	Maximum	Remarks
Frequency Range	MHz	1		160	
Frequency Stability (Includes Initial Tolerance at 25°C, Frequency Stability over Operating Temperature, Output Load Change, Supply Voltage Change, and First Year Aging at 25°C.)	ppm	-20		+20	See part numbering guide for options.
Operating Temperature	°C	-40		+85	See part numbering guide for options.
Storage Temperature	°C	-55		+125	
Supply Voltage (V _{DD}) 3.3V Option	V	3.135	3.3	3.465	
Supply Voltage (V _{DD}) 5.0V Option	V	4.750	5.0	5.250	
Current (I _{DD}) 3.3V Option	mA			40	
Current (I _{DD}) 5.0V Option	mA			50	
Current Voltage (V _C) 3.3V Option	V	0.3		3.0	
Current Voltage (V _C) 5.0V Option	V	0.5		4.5	
Pullability	ppm	±50	±100	±150	See part numbering guide for options.
Linearity	%			10	
Output Load (CMOS)	pF			15	
Output Load (TTL)	TTL			10	
CMOS Output Logic HIGH (V _{OH})	V	0.9*V _{DD}			
CMOS Output Logic LOW (V _{OL})	V			0.1*V _{DD}	
TTL Output Logic HIGH (V _{OH})	V	2.4			
TTL Output Logic LOW (V _{OL})	V			0.4	
Rise (T _r) And Fall (T _f) Time	ns			5	
Symmetry (Duty Cycle)	%	45	50	55	
Start-Up Time	ms			10	
Phase Jitter (12KHz ~ 20MHz)	ps			1	AT-Cut Fundamental
Phase Jitter (12KHz ~ 20MHz)	ps			5	PLL (Phase Lock Loop)

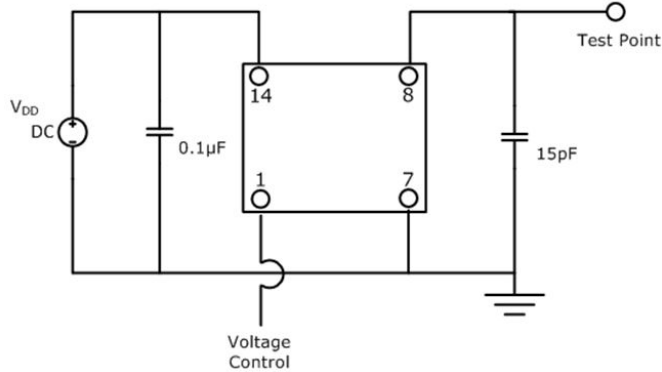
Outline Drawing & Part Marking

All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

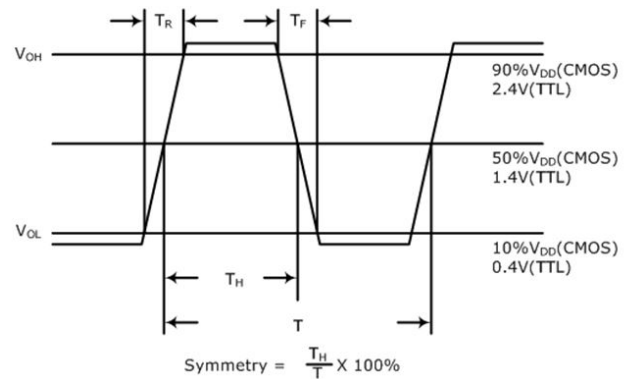


PIN	FUNCTION
1	VOLTAGE CONTROL
4	GND
5	OUTPUT
8	V _{DD}

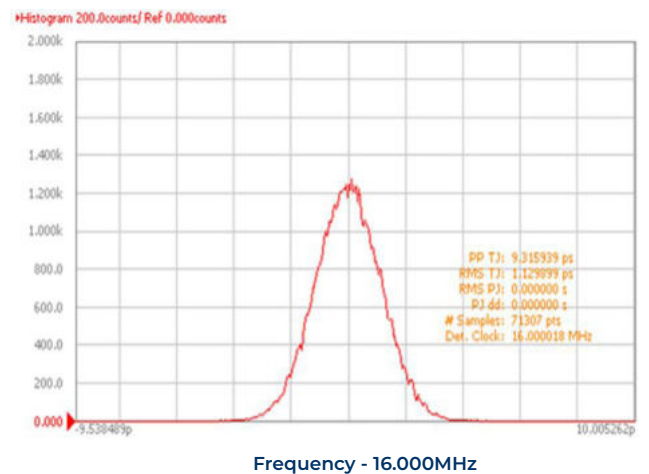
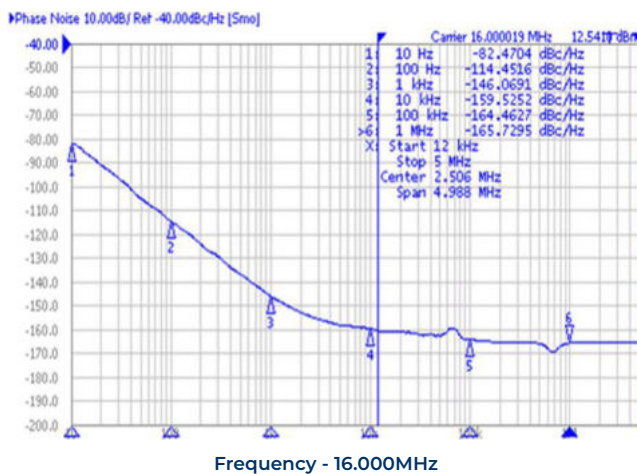
Test Circuit (CMOS/TTL Compatible)



Waveform (CMOS/TTL Compatible)



Typical Phase Noise and Jitter Performance (Measured By Agilent E5052A)



Environmental Specifications		Mechanical Specifications	
Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	MIL-STD-202, Method 213, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A	Vibration	MIL-STD-883, Method 2007, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C	Moisture Resistance	MIL-STD-883, Method 1004
Solderability	MIL-STD-883, Method 2003	Resistance to Solvents	MIL-STD-202, Method 215
Moisture Sensitivity	J-STD-020, MSL 1	Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K