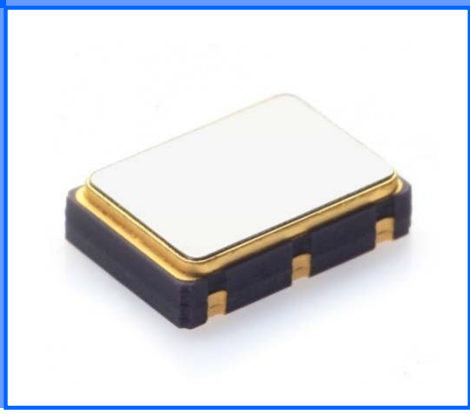
LVPECL TYPE

SPV-10 M

- 7×5 mm Industrial Standard Package
- *Multiplied*
- Low RMS phase jitter(12 kHz to 20 MHz)
- 3.3 V Supply Voltage
- LVPECL Output
- Voltage Controlled Crystal Oscillator
- Tri-state Function Available

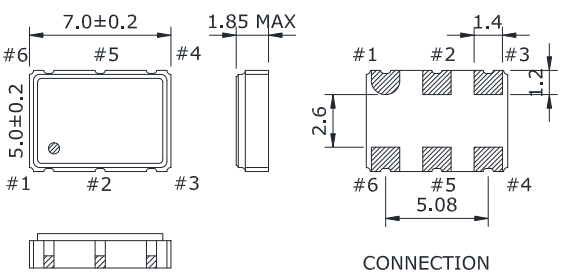


■ ELECTRICAL SPECIFICATIONS

ITEM	Value	Remarks
Output Logic Type	LVPECL	LVPECL VCXO
Frequency Range*	80.000 MHz to 622.080 MHz	Multiplied
Supply Voltage(V_{DD})	3.3 V_{DC} ±5 %	
Operating Temperature Range	-20 to +70 ℃, -40 to +85 ℃	
Storage Temperature Range	-55 to +125 ℃	
Frequency Stability	±50 ppm, ±100 ppm Max.	Over operating temperature range
Input Current	100 mA Max.	With Load
Output Voltage Logic High(V_{OH})	V_{DD} – 1.025 V_{DC} Min.	
Output Voltage Logic Low(V_{OL})	V_{DD} – 1.620 V_{DC} Max.	
Rise / Fall Time	0.4 ns Typ., 1 ns Max.	Measured over 20 % to 80 % of waveform
Duty Cycle	45 to 55 %, 40 to 60 %	Measured at 50% of waveform
Start-up Time	10 ms Max.	
Output Load Condition	50 Ω into V_{DD} - 2.0 V_{DC}	
Frequency Deviation	±50 ppm, ±80 ppm, ±100 ppm Min.	Over Vc range
Control Voltage(Vc)	1.65 ±1.35 V, 1.65 ±1.65 V	Please specify
Linearity	15 %, 20 % Max.	
Output Enable Function (V_{IH} and V_{IL})	70 % of V_{DD} min. to Enable Output 30 % of V_{DD} max. to Disable Output	High Impedance
RMS Phase Jitter	4 ps Max.	BW : 12 kHz to 20 MHz
Frequency Aging	±3 ppm Max.	25 ℃, First year

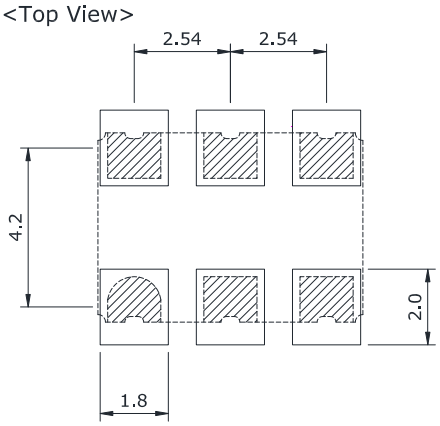
* Please contact us about developed standard frequencies

■ MECHANICAL DIMENSIONS (mm)



CONNECTION
#1 : V.C
#2 : Tri-state or N.C
#3 : GND
#4 : OUTPUT(Q)
#5 : OUTPUT(Q)
#6 : V_{DD}

■ LAND PATTERN (mm)



■ PART NUMBERING GUIDE

SPV-10 M 33 30 G D D S R – 125.000M

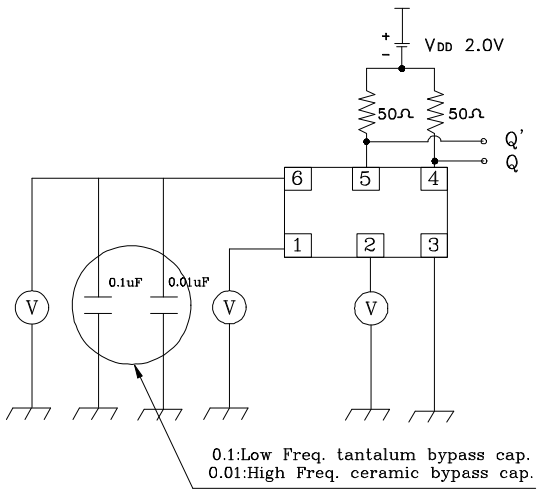
- **M : MULTIPLIED**
  BLANK : FUNDAMENTAL
- **SUPPLY VOLTAGE(V_{DD})**
  33 : 3.3 V
- **FREQUENCY STABILITY**
  TABLE 1
- **OPERATING TEMPERATURE RANGE**
  TABLE 1
- **DUTY CYCLE**
  D : 45/55, E : 40/60
- **DEVIATION**
  A : ±30 ppm min. B : ±50 ppm min.
  C : ±80 ppm min. D : ±100 ppm min.
- **FREQUENCY**
  M : MHz
- **PACKAGE OPTION**
  R : TAPE AND REEL
  BLANK : BULK
- **OE CONNECTION OPTION**
  S : TRI-STATE
  BLANK : NO CONNECTION

■ TABLE 1

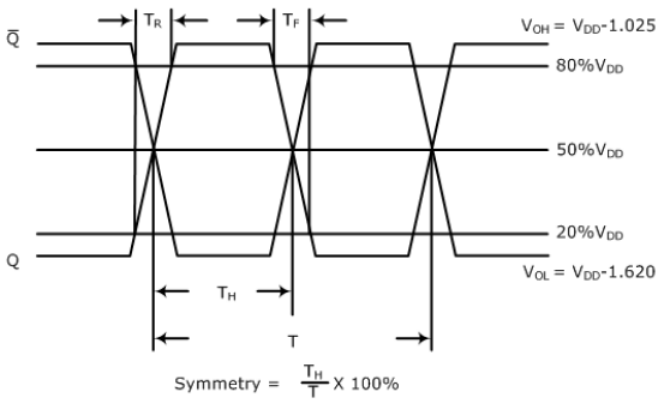
FREQUENCY STABILITY VS. TEMPERATURE RANGE

Temp \ Stability		±15	±20	±25	±30	±50	±100
		15	20	25	30	50	100
0~50 ℃	A	*	*	*	*	*	*
0~60 ℃	B		*	*	*	*	*
-10~60 ℃	C		*	*	*	*	*
0~70 ℃	D		*	*	*	*	*
-10~70 ℃	E		*	*	*	*	*
-20~70 ℃	F		*	*	*	*	*
-40~85 ℃	G			*	*	*	*

■ TEST CIRCUIT (PECL)



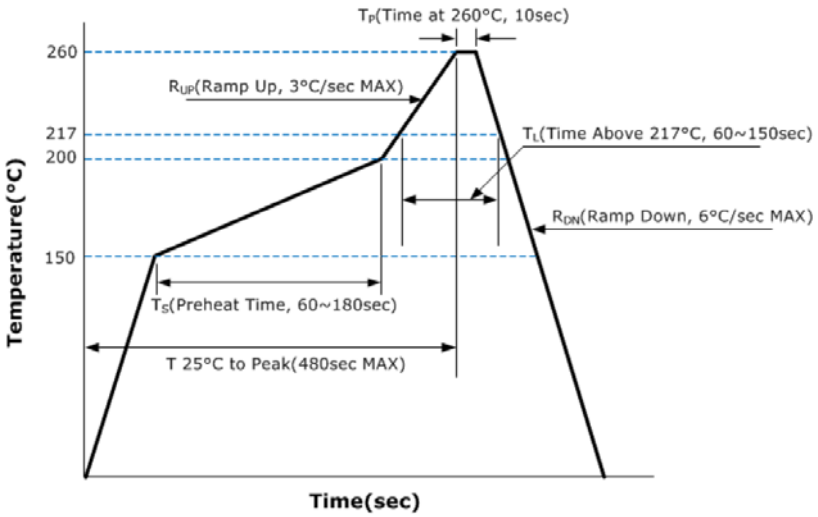
■ WAVEFORM (PECL)



■ ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Solderability	MIL-STD-883, Method 2003

■ REFLOW PROFILE



■ MARKING GUIDE

Model Name

LINE 1 : SPV-103

LINE 2 : XX.XXX

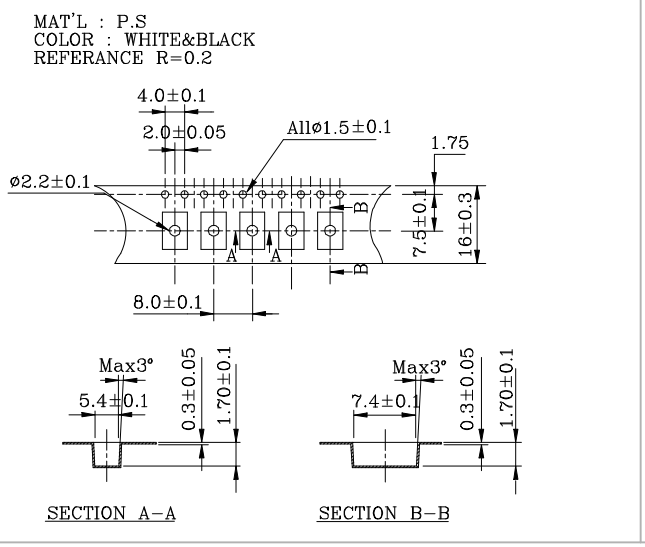
LINE 3 : ●YY WW

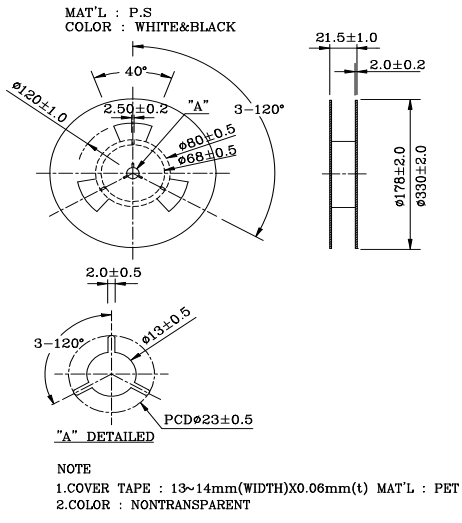
Year

Week

Frequency in MHz

■ TAPE AND REEL DIMENSIONS





■TYPICAL PHASE NOISE PERFORMANCE (MEASURED BY AGILENT E5052B)

122.880 MHz

