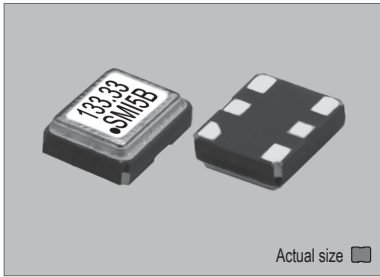
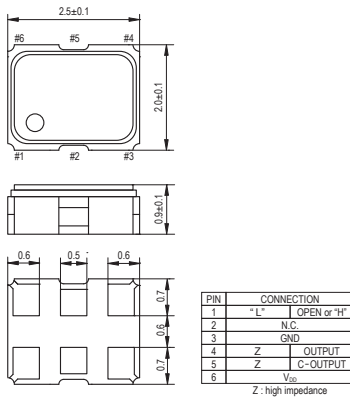


22SMO-LVD

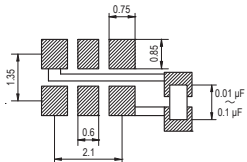


0.015 gm (wt.)

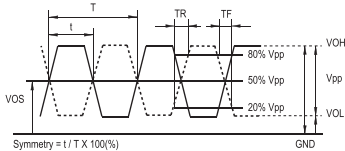
22SMO-LVD



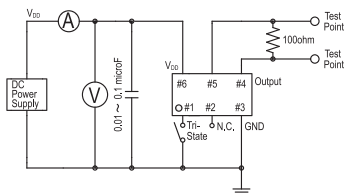
SOLDERING PATTERN



OUTPUT WAVEFORM



TEST CIRCUIT



STANDARD SPECIFICATIONS

● LVDS OUTPUT
● PACKAGE SIZE 2.5x2.0 mm

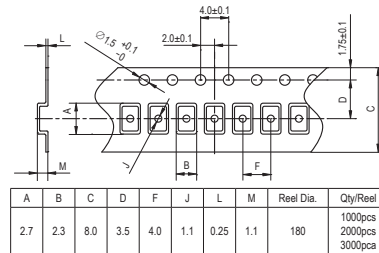
Item	Specifications	
General part number	22SMO-LVD*1	
Frequency range	6.000 MHz to 175.000 MHz	
Frequency stability (over all conditions)	22SMO-LVD(A) : ±100 ppm over -20°C to +70°C 22SMO-LVD(B) : ±50 ppm over -20°C to +70°C 22SMO-LVD(C) : ±30 ppm over -20°C to +70°C 22SMO-LVD(D) : ±25 ppm over -20°C to +70°C 22SMO-LVD(E) : ±20 ppm over -20°C to +70°C 22SMO-LVD(AW) : ±100 ppm over -40°C to +85°C 22SMO-LVD(BW) : ±50 ppm over -40°C to +85°C 22SMO-LVD(CW) : ±30 ppm over -40°C to +85°C 22SMO-LVD(DW) : ±25 ppm over -40°C to +85°C	
Operating Conditions	Operating temperature	-20°C to +70°C (Standard) -40°C to +85°C (W = Option)
	Supply voltage (V _{DD})	+2.5V DC ±5% +3.3V DC ±5%
	Stand-by control voltage (Pin#1)	V _{IH} : 70% V _{DD} min. V _{IL} : 30% V _{DD} max.*2
Absolute Max. Ratings	Supply voltage	-0.3V to +4.0V DC
	Storage temperature	-50°C to +125°C
Input current (Pin#1 = Open or V _{IH})	40 mA max.	
Stand-by current*2 (Pin#1 = V _{IL})	15 μA max.	
Output (-40°C to +85°C)	Symmetry	45% to 55% at crossing point
	Rise and fall times (20% to 80% of amplitude)	0.4 ns max.
	"0" Level	V _{OL} : +1.1V, Typical (+0.9V min.)
	"1" Level	V _{OH} : +1.43V, Typical (+1.6V max.)
Load	100 Ω (OUT-OUTN)	
Start-up time	10 ms max.	
SSB phase noise (at V _{DD} = +3.3V & 156.25 MHz)	-155 dBc / Hz, Typical at 10 MHz offset	
RMS jitter (12 kHz to 20.000 MHz band)	500 fs max. (100 fs, Typical at V _{DD} = +3.3V & 156.25 MHz)	
Disable delay time	200 ns max.	
Enable delay time	4 ms max.	
Differential output voltage	+0.33Vp-p, Typical (+0.25Vp-p min.)	
Aging	±5 ppm max. at +25°C ±3°C for first year	
Reflow condition	+250°C ±10°C for 10 seconds +175°C ±10°C for 1 to 2 minutes (preheating)	

(*1) Final part number to be assigned with package type, input voltage, frequency stability, operating temperature and frequency. e.g. 22SMO-LVD(2.5VC) 164.355MHz
(*2) Internal crystal oscillation to be halted (Pin#1 = V_{IL})

PACKAGE DATA

Item	Package	22SMO-LVD
Lid		Metal
Base		Ceramic
Sealing		Seam
Terminal		Tungsten (metalized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)

TAPE SPECIFICATIONS



XTAL

CLK OSC

VCXO

TCXO

OCXO

MCF