

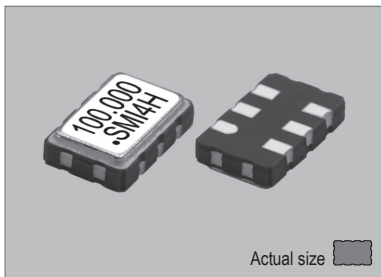
Low Voltage Positive Emitter Coupled Logic VCXO

VCXO WIDE FREQ. RANGE 30 to 170 MHz 5.0x3.2 mm LVPECL

55SMOVH (+3.3V FIXED LVPECL VCXO) 5.0x3.2 mm

STANDARD SMD VCXO

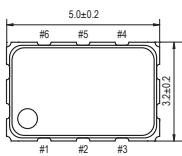
55SMOVH



Actual size

0.051 gm (wt.)

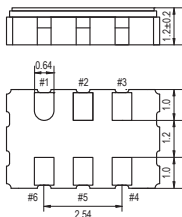
55SMOVH



55SMOVH-HE CONNECTION

PIN	CONNECTION
1	Vcontrol
2	"L" OPEN or "H"
3	GND
4	Z OUTPUT
5	Z C-OUTPUT
6	VDD

HE : high enable Z : high impedance

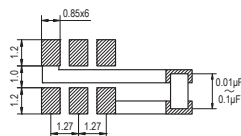


55SMOVH-LE CONNECTION

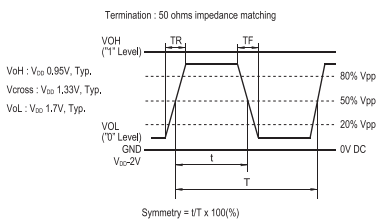
PIN	CONNECTION
1	Vcontrol
2	"L" OPEN or "H"
3	GND
4	OUTPUT Z
5	C-OUTPUT Z
6	VDD

LE : low enable Z : high impedance

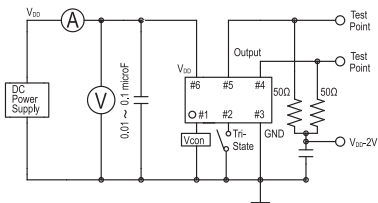
SOLDERING PATTERN



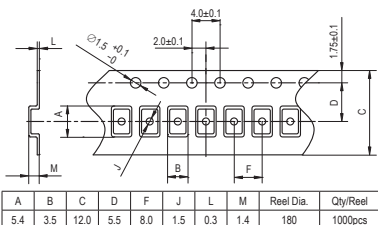
OUTPUT WAVEFORM



TEST CIRCUIT



TAPE SPECIFICATIONS



STANDARD SPECIFICATIONS

- LVPECL VCXO
- WIDE FREQUENCY RANGE
- PACKAGE SIZE 5.0x3.2 mm

Item	Specifications	
General part number	55SMOVH <sup>*1</sup>	
Frequency range	30.000 MHz to 170.000 MHz	
Frequency stability (over all conditions)	55SMOVH(3.3VB) : ±50 ppm over -20°C to +70°C 55SMOVH(3.3VC) : ±30 ppm over -20°C to +70°C 55SMOVH(3.3VD) : ±25 ppm over -20°C to +70°C 55SMOVH(3.3VE) : ±20 ppm over -20°C to +70°C 55SMOVH(3.3VBW) : ±50 ppm over -40°C to +85°C 55SMOVH(3.3VCW) : ±30 ppm over -40°C to +85°C 55SMOVH(3.3VDW) : ±25 ppm over -40°C to +85°C Vcon = 1/2 VDD	
Frequency pulling range	VDD = +3.3V Vcon = +1.65V ±1.65V ±80 ppm min.	
Frequency change vs. input voltage	±2 ppm max. (VDD ±10%)	
Operating Conditions	Operating temperature	-20°C to +70°C (Standard) -40°C to +85°C (W = Option)
	Supply voltage (VDD)	+3.3V DC ±10%
	Control voltage (Vcon = Pin#1)	+1.65V ±1.65V DC
	Stand-by control voltage (Pin#2)	VIH : 70% VDD min. VIL : 30% VDD max. <sup>*2</sup>
Absolute Max. Ratings	Supply voltage	-0.3V to +5.0V DC
	Vcontrol voltage	-0.3V to VDD +0.3V DC
	Storage temperature	-40°C to +100°C
Input current (Pin#2 = HE or LE)	90 mA max.	
Stand-by current (Pin#2 = LD or HD) <sup>*2</sup>	5.0 mA max.	
Output (-40°C to +85°C)	Symmetry	45% to 55% at crossing point
	Rise and fall times (20% to 80% of amplitude)	1.0 ns max.
	"0" Level ( 0°C to +85°C)	VOL : +1.68V max. (+1.49V min.)
	"1" Level ( 0°C to +85°C)	VOH : +2.42V max. (+2.275V min.)
	"0" Level (-40°C to 0°C)	VOL : +1.745V max. (+1.49V min.)
	"1" Level (-40°C to 0°C)	VOH : +2.42V max. (+2.215V min.)
Load	50 Ω into VDD -2V	
Start-up time	10 ms max.	
Frequency linearity	10 % max.	
Frequency slope	Positive	
Modulation bandwidth (-3 dB)	20 kHz min.	
SSB phase noise (at VDD = +3.3V & 122.880 MHz)	-157 dBc / Hz, Typical at 10 MHz offset	
RMS jitter (12 kHz to 20.000 MHz band)	0.3 ps max.	
Disable delay time	200 ns max.	
Enable delay time	20 µs max.	
Vcon input impedance (Vcon - GND)	10 MΩ min.	
Differential output voltage	+0.4V min.	
Aging	±5 ppm max. at +25°C ±3°C for first year	
Reflow condition	+250°C ±10°C for 10 seconds +170°C ±10°C for 1 to 2 minutes (preheating)	

(<sup>\*1</sup>) Final part number to be assigned with package type, input voltage, frequency stability, operating temperature and frequency. e.g. 55SMOVH-HE(3.3VE) 155.520 MHz  
(<sup>\*2</sup>) Internal crystal oscillation to be halted.  
LD : Low disable  
HD : High disable

PACKAGE DATA

Item	Package	55SMOVH
Lid		Metal
Base		Ceramic
Sealing		Seam
Terminal		Tungsten (metalized)
Terminal plating		Gold / Nickel (surface) / (under)
RoHS		Compliant (Pb-free)

XTAL

CLK OSC

VCXO

TCXO

OCXO

MCF