

# FEATURES

- HIGH RELIABILITY FOR LOW COST
- HCMOS/TTL COMPATIBLE
- FREQUENCY STABILITY OF +/-15 PPM AVAILABLE
- AVAILABLE IN 5.0 AND 3.3 VOLT
- EXCELLENT JITTER PERFORMANCE
- CHEAPEST AVAILABLE LEADED VCXO WITH HIGH FREQUENCIES UP TO 160.0 MHz
- EXTENDED TEMPERATURE RANGE TO -40/+85°C AVAILABLE
- APPLICATIONS: FIBER CHANEL, GIGABIT ETHERNET, SET-TOP BOX, BROADBAND, TELECOM, ETC.

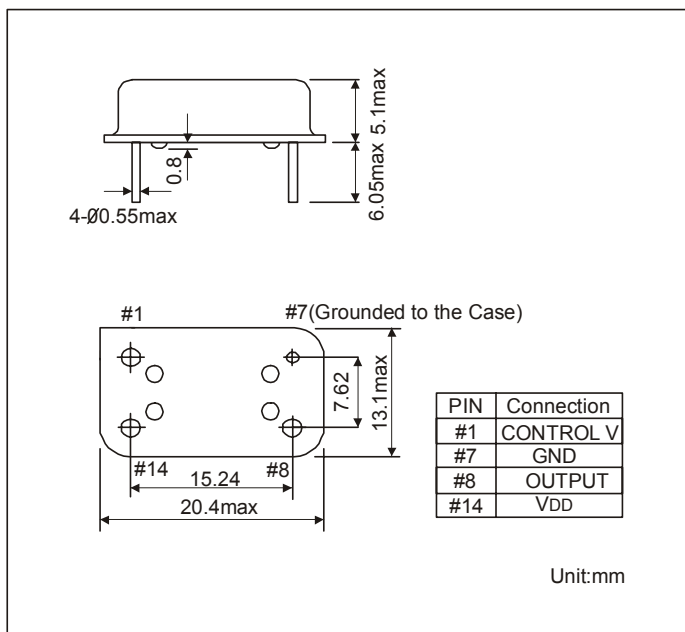
SERIES		M3502	
PACKAGE		DIP 14 PACKAGE	
FREQUENCY RANGE	5.0 VOLT	32.0 ~ 160.0 MHz	
	3.3 VOLT	48.0 ~ 192.0 MHz	
FREQUENCY STABILITY	VS. TEMPERATURE	+-15 ~ +-100 ppm max.	
	VS. SUPPLY VOLTAGE	+5 ppm max.	
	VS. LOAD	+1 ppm max.	
	VS. AGING	+5 ppm max. / first year	
OPERATING TEMPERATURE RANGE		-10/+60°C ~ -40/+85°C	
STORAGE TEMPERATURE RANGE		-55/+125°C	
INPUT	VOLTAGE	+5.0 VDC +-5%	+3.3 VDC +-5%
	CURRENT	40 mA max. < 45.0 MHz	30 mA max. < 100.0 MHz
		50 mA max. < 80.0 MHz	40 mA max. < 192.0 MHz
		60 mA max. < 120.0 MHz	
		70 mA max. < 160.0 MHz	
OUTPUT	SYMMETRY	STANDARD	40/60%
		OPTION	45/55%
	SIGNALS FOR 5.0 VOLT		HCMOS AND TTL
	SIGNAL FOR 3.3 VOLT		HCMOS ONLY
	RISE AND FALL TIME FOR HCMOS		10 ns max. (10% VDD TO 90% VDD)
	RISE AND FALL TIME FOR TTL		10 ns max. (0.4 TO 2.4 VOLT)
	"0" LEVEL	HCMOS 5.0 AND 3.3 VOLT	10% VDD max.
	"1" LEVEL		90% VDD min.
	"0" LEVEL	TTL FOR 5.0 VOLT ONLY	0.4 VDC max.
	"1" LEVEL		2.4 VDC min.
	LOAD	HCMOS 5.0 AND 3.3 VOLT	15 pF
TTL 5.0 VOLT ONLY		10 TTL	
START-UP TIME		10 mS max.	
INPUT IMPEDANCE		50 kΩ min.	
PERIOD JITTER RMS		25 ps typical for 5 volt version	
		15 ps typical for 3.3 volt version	
CONTROL VOLTAGE RANGE STANDARD		0.5 ~ 4.5 VDC	0.3 ~ 3.0 VDC
CONTROL VOLTAGE OPTIONAL		0 ~ 5.0 VDC	0 ~ 3.3 VDC
CENTER VOLTAGE		2.5 VDC	1.65 VDC
PULLABILITY		+-50 ppm min.	
LINEARITY		10% max.	
SLOPE		POSITIVE	
PIN CONNECTION	PIN 1	CONTROL VOLTAGE	
	PIN 7	CASE GROUND	
	PIN 8	OUTPUT	
	PIN 14	SUPPLY VOLTAGE	

**OTHER PARAMETERS ARE AVAILABLE ON REQUEST / CREATE HERE YOUR SPECIFICATION**

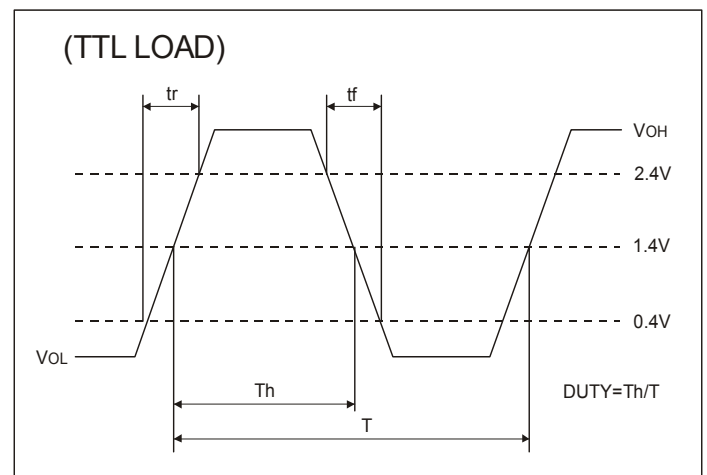
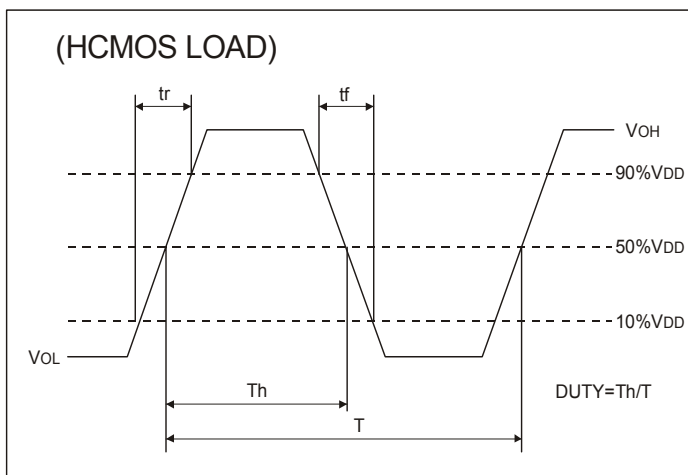
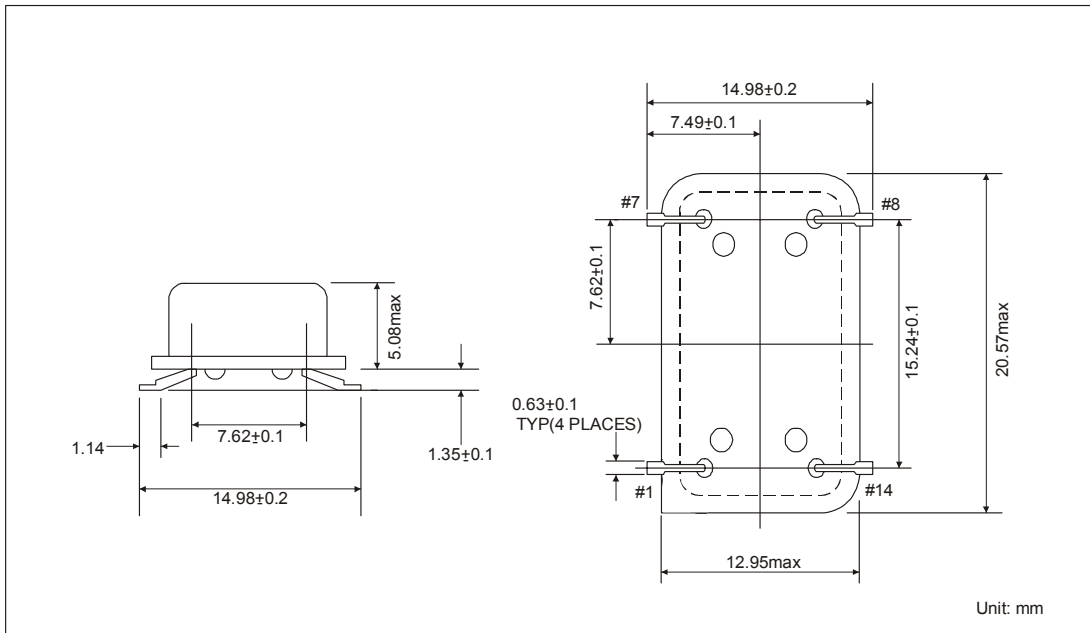
## PART NUMBERING GUIDE

EXAMPLE	M3302-25-W-S-VX3-50-155.520MHz
SERIES	M3502 FOR 5 VOLT M3302 FOR 3.3 VOLT
STABILITY VS. TEMPERATURE	BLANK = +/- 100 ppm 50 = +/-50 ppm 25 = +/-25 ppm 20 = +/-20 ppm 15 = +/-15 ppm X = OTHER VALUE - PLEASE INDICATE YOUR REQUIRED VALUE
TEMPERATURE RANGE	BLANK = 0/+70°C N = -10/+60°C M = -20/+70°C W = -40/+85°C X = OTHER VALUE - PLEASE INDICATE YOUR REQUIRED VALUE
SYMMETRY	BLANK = 40/60% S = 45/55%
CONTROL VOLTAGE	V = 0.5 ~ 4.5 V FOR 5 VOLT VERSION VX = 0 ~ 5.0 V FOR 5 VOLT VERSION V3 = 0.3 ~ 3.0 V FOR 3.3 VOLT VERSION VX3 = 0 ~ 3.3 V FOR 3.3 VOLT VERSION
PULLING RANGE	BLANK = +/-50 ppm min. IF YOU REQUIRE ANOTHER VALUE PLEASE INDICATE THE REQUIRED VALUE
FREQUENCY	FREQUENCY IN MHz
SMD-GULLWING PACKAGE	G

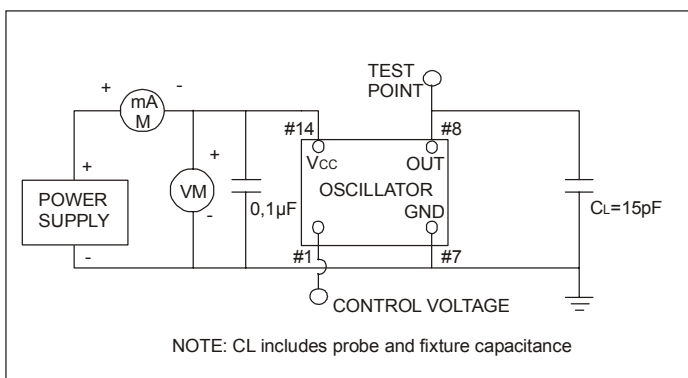
## OUTLINE DRAWING M3502 AND M3302



## OUTLINE DRAWING OF SMD-GULLWING PACKAGE



## TEST CIRCUIT FOR HCMOS



## TEST CIRCUIT FOR TTL

