

## HCMOS, 14 pin DIL compatible, MHz Range

- Package pin compatible with 14 pin DIL
- Wide frequency range: 1.25MHz to 156.0MHz
- Supply voltage 2.8, 3.0, 3.3 or 5.0 Volts
- Frequency stability from ±1ppm over -30 to +75°C
- RoHS compliant

#### DESCRIPTION

EM39GT series TCXOs are packaged in a conventional through hole-mounted package compatible with 14 pin DIL. With squarewave (CMOS) output, tolerances are available from  $\pm 1.0$ ppm over -30° to +75°C. The part has a  $0.01\mu F$  decoupling capacitor built in.

#### **SPECIFICATION**

**Product Series Code** 

TCXO: EM39GT VCTCXO: VEM39GT

Frequency Range: 1.25MHz to 156.0MHz

Output Waveform: Squarewave, HCMOS
Initial Calibration Tolerance: <±1.0ppm at +25°±2°C

Standard Frequencies: 10.0, 12.8, 13.0, 14.4, 1

10.0, 12.8, 13.0, 14.4, 15.36, 16.384, 19.2, 19.440, 19.68, 25.0, 20.0, 27.0, 38.880, 40.0, 77.760, 125.0, 155.520

(Partial list) See table

Operating Temperature Range:

Frequency Stability

vs. Ageing: ±1.0 ppm max. first year
vs. Voltage Change: ±0.3 ppm max. ±5% change
vs. Load Change: ±0.3 ppm max. ±10% change
vs. Reflow (SMD type): ±1.0ppm max. for one reflow
(Measured after 24 hours)

Mechanical Frequency Tuning: ±3ppm minimum

Supply Voltage: +2.8, +3.0, +3.3 or +5.0V

(See table)

Output Logic Levels: Logic High: 90% Vdd min. Logic Low: 10% Vdd max.

Rise and Fall Times: 10ns max.

Duty Cycle: 50%±10% standard,

50%±5% option

Start-up Time: 5ms typical, 10ms max.

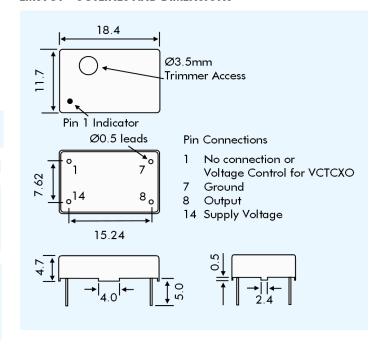
Current Consumption: See table below

Output Load: 15pF

Storage Temperature:  $-55 \sim +125$ °C

# RoHS

#### **EM39GT - OUTLINES AND DIMENSIONS**



#### **INPUT VOLTAGE & CURRENT CONSUMPTION**

Input Voltage/ Frequency	+2.8V	+3.0	+3.3V	+5.0 V
8.192MHz	2mA	2mA		5mA
10.0MHz	3mA	4mA		7mA
77.760MHz	14mA	17mA		32mA
155.520MHz	26mA	35mA		50mA

#### FREQUENCY STABILITY

Frequency Stability (ppm)		±0.5	±1.0	±1.5	±2.0	±2.5
Temperature Range (°C)	0 ~ +50	ASK	✓	✓	✓	✓
	-10 ~ +60	х	✓	✓	✓	✓
	<b>-20</b> ~ +70	х	х	✓	✓	✓
	-30 ~ +75	х	х	х	✓	✓
	-40 ~ +85	x	x	x	x	✓

 $\sqrt{\ }$  = available, x = not available, ASK = call Technical Sales

### SSB PHASE NOISE at 25°C

Offset		10Hz	100Hz	1kHz	10kHz	100kHz
Part = M39GT33	at 10.0Mhz (dBc/Hz)	-115	-135	-148	-152	-155
	at 155.250Mhz (dBc/Hz)	-72	-110	-125	-132	-125

#### **VEM39GT VOLTAGE CONTROL SPECIFICATION**

Control Voltage: Standard =  $+1.5\pm1.0$ Volts for all input

voltages. (Contact technical sales if

+2.5±2.0 Volts is required.)

Frequency Deviation: ±6.0 ppm min. (Vcon = +4.5V±1.0V)

Slope Polarity: +6.0 ppm min. (Vcon = +4.5V±1.0V)

Positive (increase of control voltage increases

output frequency.)

Input Impedance: 50kΩ minimum

Modulation Bandwidth: 20kHz minimum

Linearity: ±10% maximum

#### PART NUMBERING SCHEDULE

