

**MINIATURE CERAMIC SMD OSCILLATOR (7.0 x 5.0 x 1.9mm)**
**FEATURES**

- Available with output frequency from 10M~1.5GHz
- High reliability and low aging
- Available CMOS, LVDS, and LVPECL outputs
- 3.3V and 2.5V supply options

**APPLICATIONS**

- SONET
- Ethernet
- Storage Area Network
- Microprocessors / DSP / FPGA
- Broadband Access
- Industrial Controllers
- Fiber Channel

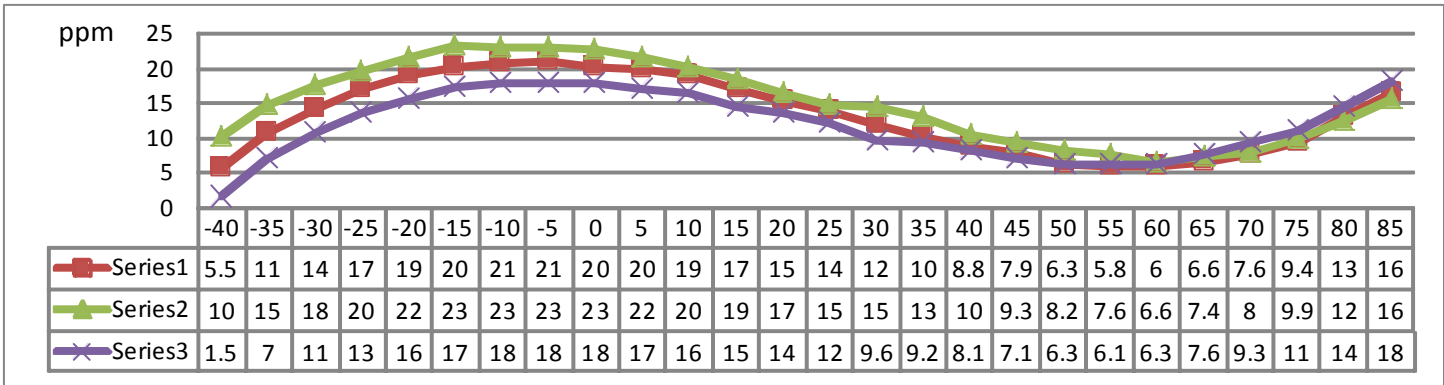

**■ SPECIFICATION**

PARAMETER		MIN.	TYP.	MAX.	UNIT	NOTE	
FREQUENCY RANGE	CMOS	10		250	MHz		
	LVDS	10		1500	MHz		
	LVPECL	10		1500	MHz		
FREQUENCY STABILITY		±10*	±50	±100	ppm		
OPERATING TEMPERATURE RANGE		-40		85	°C	* See P/N guide for other options	
STORAGE TEMPERATURE RANGE		-55		125	°C		
SUPPLY VOLTAGE ±10%	V <sub>DD</sub> = 2.5V <sub>DC</sub>	2.375	2.500	2.625	V	* See P/N guide for other options	
	V <sub>DD</sub> = 3.3V <sub>DC</sub>	2.970	3.300	3.630	V		
SUPPLY CURRENT	CMOS		20	45	mA	(V <sub>DD</sub> = 2.5V <sub>DC</sub> , 3.3V <sub>DC</sub> )	
	LVDS		23	45	mA		
	LVPECL		54	60	mA		
OUTPUT	LOAD	CMOS		15	pF		
		LVDS		100	Ω	Output - Complimentary Output	
		LVPECL		50	Ω	into V <sub>DD</sub> - 2V <sub>DC</sub>	
	LEVEL	CMOS (V <sub>OH</sub> )	0.9 x V <sub>DD</sub>			V	
		CMOS (V <sub>OL</sub> )			0.1 x V <sub>DD</sub>	V	
		LVDS (V <sub>OH</sub> )		1.4	1.6	V	
		LVDS (V <sub>OL</sub> )	0.9	1.1		V	
		LVPECL (V <sub>OH</sub> )	V <sub>DD</sub> - 1.03V		V <sub>DD</sub> - 0.60V	V	
		LVPECL (V <sub>OL</sub> )	V <sub>DD</sub> - 1.85V		V <sub>DD</sub> - 1.60V	V	
	SYMMETRY (DUTY CYCLE)	CMOS	45		55	%	
		LVDS	45		55	%	
		LVPECL	45		55	%	
	RISE AND FALL TIME (Tr/Tf)	CMOS		1.0	3.0	nS	
		LVDS		0.25	1.0	nS	
		LVPECL		0.25	1.0	nS	
START-UP TIME			2.0	3.0	mS		
STAND-BY VOLTAGE	ENABLE (V <sub>IH</sub> )	0.7 x V <sub>DD</sub>			V		
	DISABLE (V <sub>IL</sub> )			0.3 x V <sub>DD</sub>	V		
ENABLE DELAY TIME				100	nS		
DISABLE DELAY TIME				100	nS		
AGING	per 1year			±3.0	ppm	@ 25°C ±3°C	
	per 10years			±5.0	ppm		
PHASE JITTER RMS			0.60	1.50	pS	@ 12kHz ~ 20MHz	

\* Available in selected operating temperature range

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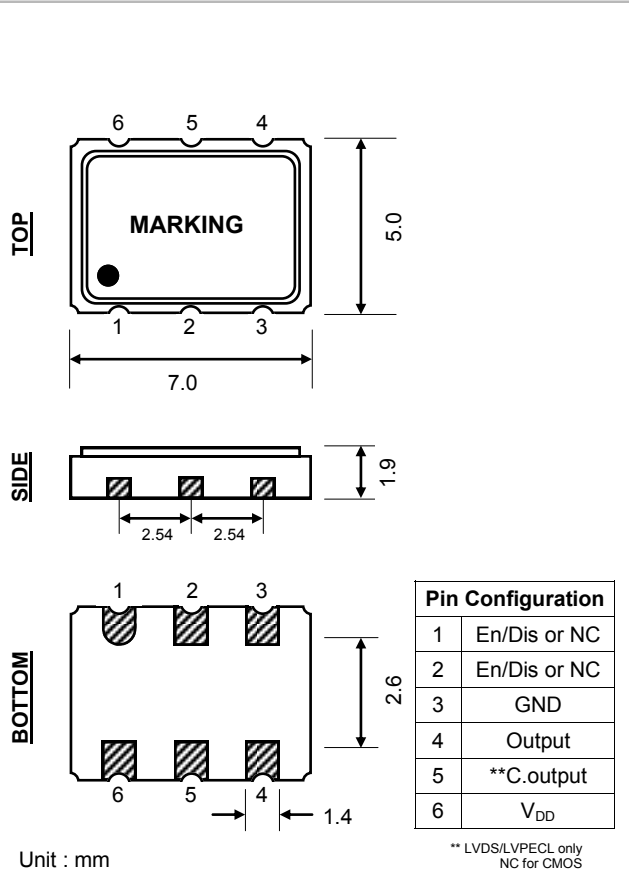
## ■ 27MHz 3.3V Temperature Test Data (-40°C ~ 85°C)



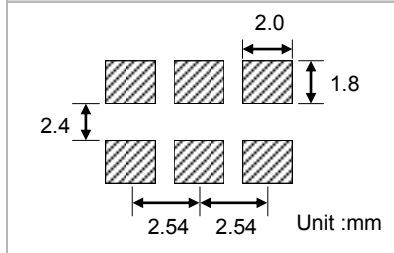
## ■ Typical Phase Noise

Frequency	1kHz	10kHz	100kHz	1MHz
156.25MHz	-114.70 dBc/Hz	-124.11 dBc/Hz	-126.23 dBc/Hz	-140.45 dBc/Hz
212.5MHz	-108.73 dBc/Hz	-115.58 dBc/Hz	-116.22 dBc/Hz	-136.02 dBc/Hz
622.08MHz	-100.38 dBc/Hz	-106.69 dBc/Hz	-106.43 dBc/Hz	-126.36 dBc/Hz

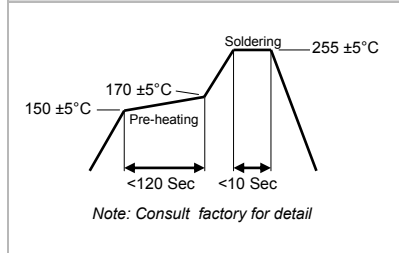
## ■ PACKAGE DIMENSIONS



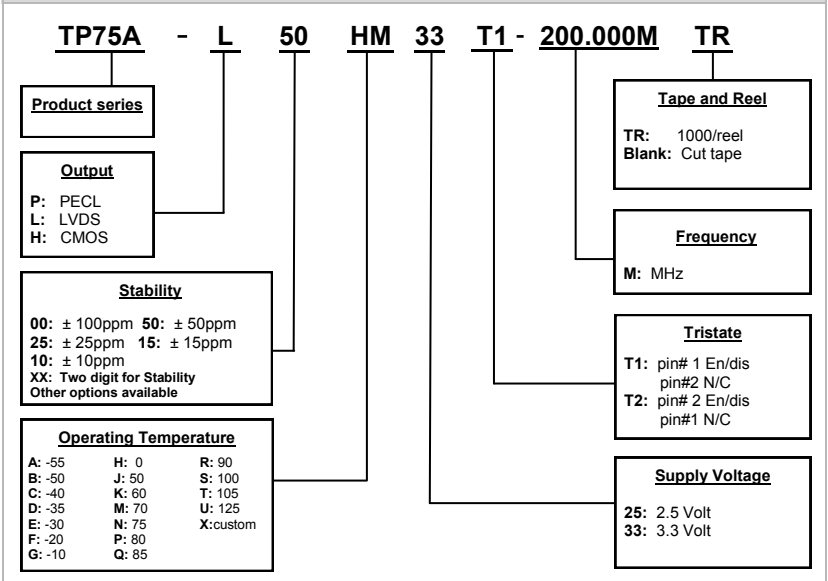
## ■ SOLDER PATTERN



## ■ REFLOW PROFILE



## ■ PART NUMBERING GUIDE



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