



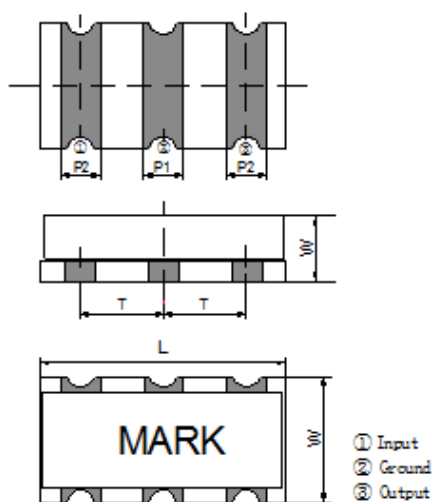
PN : SMD Type Ceramic Resonator

Series : ZTT (with built-in capacitor)

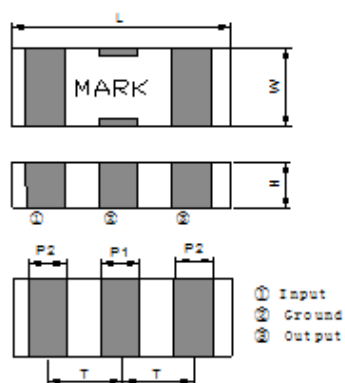
## Technical Characteristics

Part Number	Frequency Range	Frequency Accuracy	Stability Over Temperature	Operating Temperature (°C)	Aging For 10 Years (%)
	(MHz)	(%)	(-25~+85°C) (%)		
ZTCC*MG	2.00-8.00	±0.5	±0.3	-25~+85	±0.3
ZTTCR*MG	4.00-12.00	±0.5	±0.3	-25~+85	±0.3
ZTTCE*MG	8.00-12.00	±0.5	±0.3	-25~+85	±0.2
ZTTCS*MT	6.00-13.00	±0.5	±0.4	-25~+85	±0.3
ZTTCV*MT	6.00-13.00	±0.5	±0.4	-25~+85	±0.3
ZTTCS*MX	13.01-60.00	±0.5	±0.3	-25~+85	±0.2
ZTTCV*MX	16.00-60.00	±0.5	±0.3	-25~+85	±0.2
ZTTCW*MX	20.00-60.00	±0.5	±0.3	-25~+85	±0.2
ZTTCP*MG	2.00-12.00	±0.5	±0.3	-25~+85	±0.3

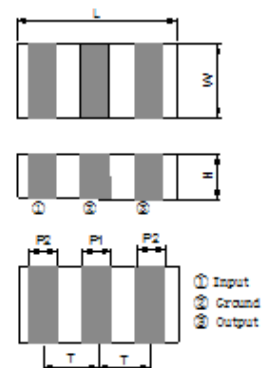
## Figure and Dimensions



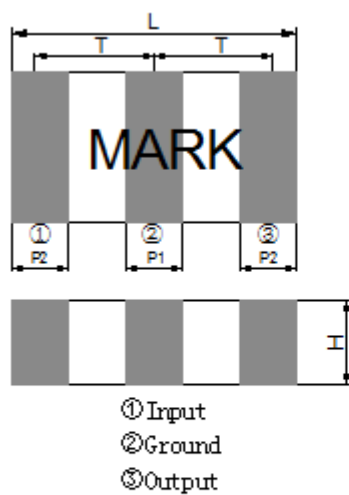
ZTTCC □ MG ↙



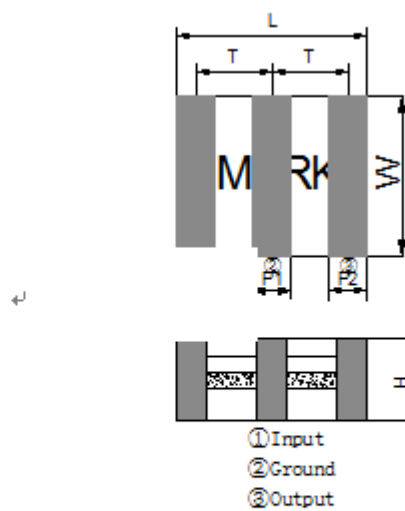
ZTTCR □ MG ↙



ZZTTC □ MG ↙



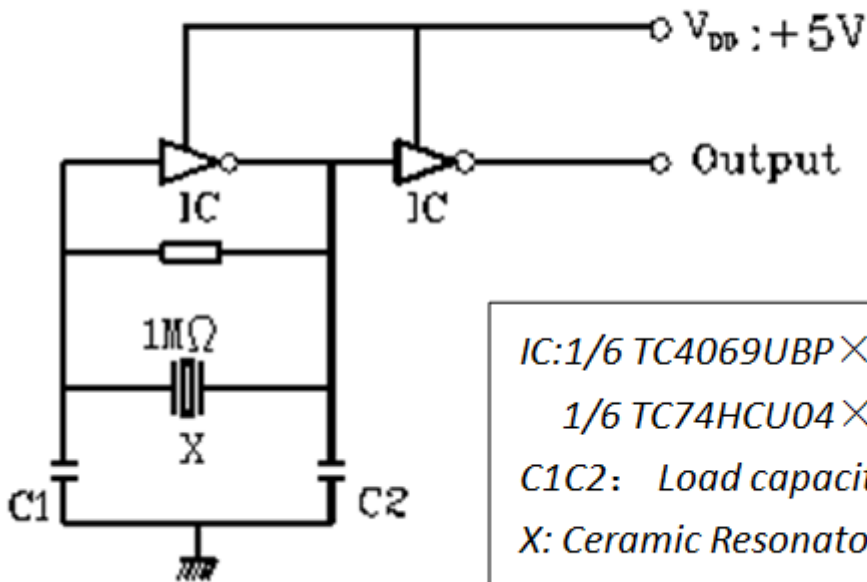
ZTTCP □ MG ↙



ZTTCS/CV/CW □ MT/MX ↙

Part Number	Size (mm)					
	L	W	H	P1	P2	T
ZTTCC*MG	$7.4 \pm 0.2$	$3.4 \pm 0.2$	$1.8 \pm 0.2$	$1.2 \pm 0.2$	$1.2 \pm 0.2$	$2.5 \pm 0.2$
ZTTCR*MG	$4.5 \pm 0.2$	$2.0 \pm 0.2$	1.2 Max	$0.8 \pm 0.2$	$0.8 \pm 0.2$	$1.5 \pm 0.2$
ZTTCE*MG	$3.2 \pm 0.2$	$1.3 \pm 0.2$	1.0 Max	$0.4 \pm 0.2$	$0.4 \pm 0.2$	$1.2 \pm 0.2$
ZTTCS*MT	$4.7 \pm 0.2$	$4.1 \pm 0.2$	$(1.2+A) \pm 0.2$	$1.0 \pm 0.2$	$0.8 \pm 0.2$	$1.95 \pm 0.2$
ZTTCV*MT	$3.7 \pm 0.2$	$3.1 \pm 0.2$	$(1.0+A) \pm 0.2$	$0.9 \pm 0.2$	$0.7 \pm 0.2$	$1.5 \pm 0.2$
ZTTCS*MX	$4.7 \pm 0.2$	$4.1 \pm 0.2$	$(1.2+A) \pm 0.2$	$1.0 \pm 0.2$	$0.8 \pm 0.2$	$1.95 \pm 0.2$
ZTTCV*MX	$3.7 \pm 0.2$	$3.1 \pm 0.2$	$(1.0+A) \pm 0.2$	$0.9 \pm 0.2$	$0.7 \pm 0.2$	$1.5 \pm 0.2$
ZTTCW*MX	$2.5 \pm 0.2$	$2.0 \pm 0.2$	1.2 Max	$0.5 \pm 0.2$	$0.4 \pm 0.2$	$1.0 \pm 0.2$
ZTTCP*MG	$6.0 \pm 0.2$	$3.0 \pm 0.2$	$1.5 \pm 0.2$	$1.2 \pm 0.2$	$1.2 \pm 0.2$	$2.5 \pm 0.2$
			$1.7 \pm 0.2$			
			$1.8 \pm 0.2$			

## TEST CIRCUIT FOR MOS IC



*IC: 1/6 TC4069UBP × 2 (2.00-13.00MHz)*  
*1/6 TC74HCU04 × 2 (13.01-60.00MHz)*  
*C1C2: Load capacitance*  
*X: Ceramic Resonator*