

# KBR -M, -MS, -MSA, -MSB Series Ceramic Resonators

## MHz Band Ceramic Resonators

$f_o$ : 2.00 to 13.00 MHz

### FEATURES

- 1) Ultracompact, lightweight design
- 2) Resistant to damage from impact and vibration
- 3) Excellent temperature stability ( $\pm 0.3\%$ )
- 4) Low cost
- 5) Bulk packaged 500 pieces per bag or 2000 pieces per reel
- 6) Sold in increments of 200 pieces

### HOW TO ORDER

#### KBR - 4.00 MSA TR

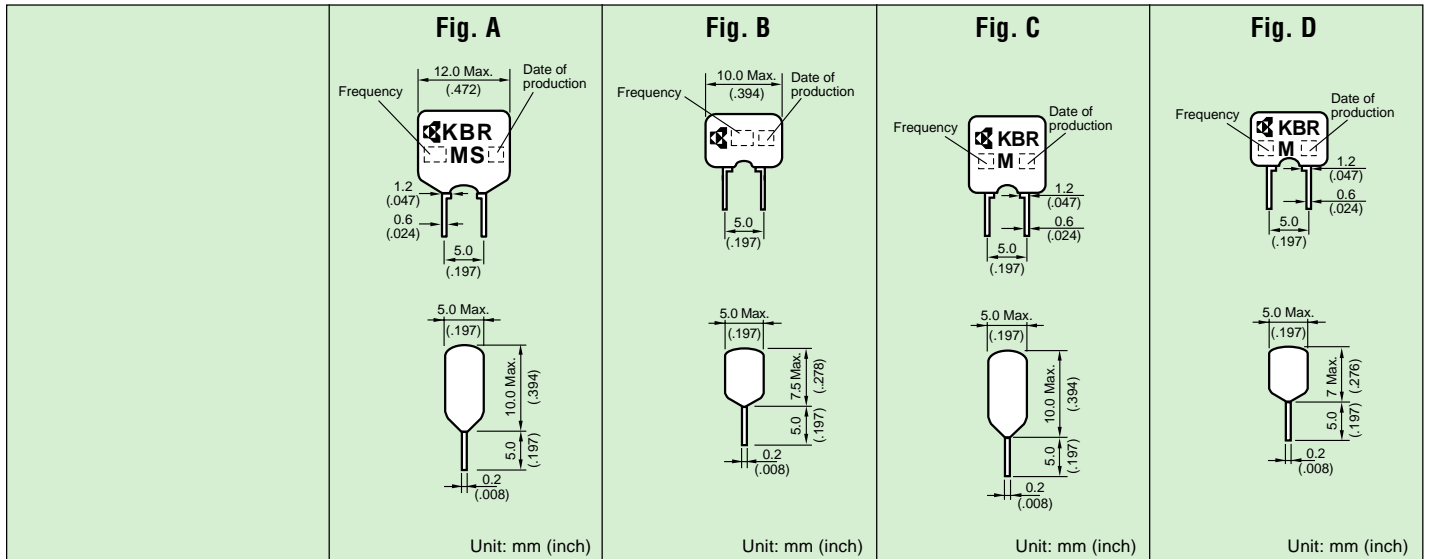
- ①      ②      ③      ④
- ① Type: (Kyocera Bulk Resonator)
  - ② Oscillation frequency (MHz)
  - ③ Resonator type:  
 MS = 2.00 to 3.57 MHz  
 MSA = 3.58 to 8.00 MHz (Water resistant)  
 MSB = 3.58 to 6.00 MHz ("No-Clean" Process only)  
 M = 6.01 to 13.00 MHz
  - ④ Packaging:  
 TR = Tape and reel  
 □ = Bulk



### SPECIFICATIONS (KBR-□MS/KBR-□MSA/KBR-□MSB/KBR-□M Series)

Series	MS	MSA, -MSB	M	M
Dimension	Fig. A	Fig. B	Fig. C	Fig. D
Oscillation Frequency	2.00 to 3.57 MHz	3.58 to 8.00 MHz	6.01 to 6.99 MHz	7.00 to 13.00 MHz
Frequency Tolerance	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$	$\pm 0.5\%$
Resonant Impedance	100 Max	30 Max	40 Max	40 Max
Temperature Characteristic (-20 to +80°C)	$\pm 0.3\%$	$\pm 0.3\%$	$\pm 0.5\%$	$\pm 0.5\%$

### DIMENSIONS



### KBR-3.58MSA - 200 series for Telephone D.T.M.F. Applications

P/N	Frequency	Frequency Tolerance	Resonant Resistance	Temperature Stability (-20 to +80°C)	Dimensions
KBR-3.58MSA-201	3.5795MHz	+0 -0.25%	30 Max	$\pm 0.3\%$	Fig. B
KBR-3.58MSA-202		+0.15 -0.10%			
KBR-3.58MSA-203		+0.30 -0.05%			
KBR-3.58MSA-204		+0.45 +0.20%			
KBR-3.58MSA-205		+0.60 +0.35%			
KBR-3.58MSA-206		-0.30 -0.55%			
KBR-3.58MSA-207		-0.15 -0.40%			

### TEST CIRCUIT

