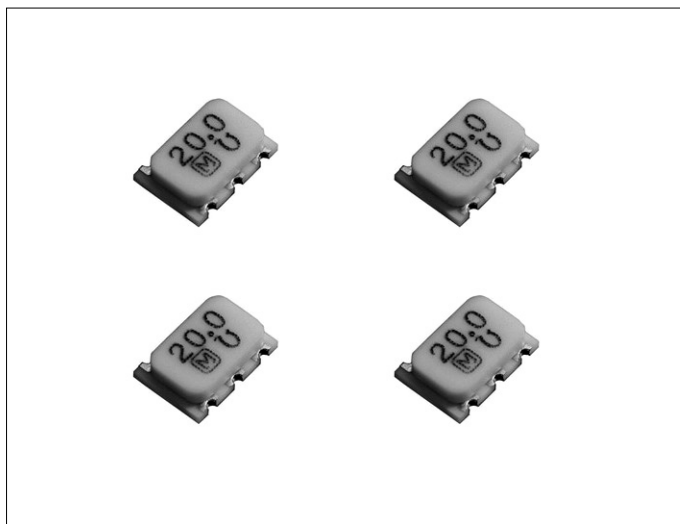


Using breakthrough technology,
we aim for products that will create new markets.

New Product News

Miniature Thin Type

Miniature thin type



Ceramic Resonators

Chip Type Ceramic Resonators (EFOBM Type)

Industry/Field: AV, OA • Information, Mobile communication, Automotive electronics, Home appliances,
Optical equipment, Industrial equipment, amusement, Electronics instruments

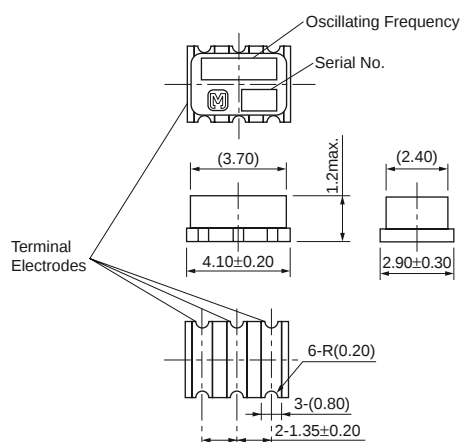
• Development Target:

Slim Type CD-ROM, DVD-ROM, HDD in note type
PC PDA, digital camera storage unit super thin
type

• Features:

- ① **Miniature Type**
(67% : Comparison with our previous products)
- ② **Oscillation Frequency Range : 12 to 20MHz**
- ③ **Excellent Temperature Characteristics :**
 $\pm 0.3\%$ (at -20 to 80°C)

• Construction:



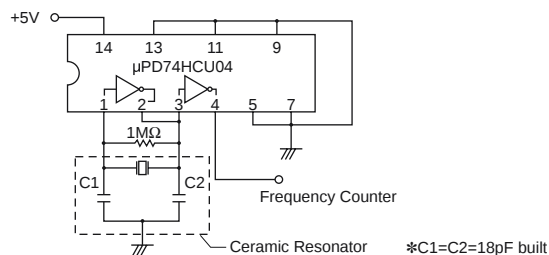
• Characteristics/specifications:

Item	Characteristics/specifications
Oscillation Frequency Range	12 to 20MHz
Oscillation Frequency Tolerance	$\pm 0.5\%$, $\pm 0.3\%$
Temperature Characteristics	Maximum frequency drift : $\pm 0.3\%$ (at -20 to $+80^{\circ}\text{C}$)
Dimensions	$4.1 \times 2.9 \times 1.2\text{mm}$

• Applications/usage examples:

- Clock generator for microprocessors in CD-ROM, HDD etc.

For Oscillation circuit



• Explanation of part numbers:

1	2	3	4	5	6	7	8	9	10	11	12	
E	F	O	B	M								
Product Code					Type		Nominal Frequency			Frequency Tolerance		Design No.
EFO	Ceramic Resonators		BM		1605 16.0MHz			0 ±1.0%				
					1695 16.9MHz			3 ±0.3%				
					2005 20.0MHz			5 ±0.5%				
					(Example)							
Packaging Style Code												
B Bulk												
E Embossed Taping												