

貫通セラミックコンデンサ(段付形) FEEDTHROUGH CERAMIC CAPACITORS (STEPPED TYPE)

OPERATING TEMP. -25~+85°C



特長 FEATURES

- ・電極がニッケルのため半田くわれやマイグレーションの心配がなく量産性に優れる
- ・Nickel plated electrodes reduce the possibility of corrosion, migration and improve productivity.

用途 APPLICATIONS

- ・チューナ・通信機等の妨害対策として最適・高周波領域におけるノイズ吸収性が優れ、光ディスク関連など各種デジタル機器のEMC対策として有効
- ・Used as an interference countermeasure in tuners and telecommunication equipment
- ・Excellent as a EMC countermeasure in various types of digital equipment due to their noise absorption features in high frequency applications.

形名表記法 ORDERING CODE

G series

1	2	3	4	5
定格電圧 (VDC)	形状	温度特性	公称静電容量 (pF)	容量許容差
U 50	G3 φ2.8 mm 段付形 G1 φ1.85mm 段付形	△Y ± 22% SL +350~-1000ppm/°C △=スペース	例 020 2 102 1,000	D ± 0.5 pF K ± 10 % M ± 20 % V ± $\frac{20}{10}$ % P ± $\frac{100}{0}$ % Z ± 20 %
6	7			
芯線寸法	当社管理記号			
0607 A寸 6.0mm・B寸 7.0mm } } 1714 A寸 17.0mm・B寸 14.0mm	---A 標準品			



1	2	3	4	5
Rated voltage[VDC]	Shape	Temperature characteristics	Nominal capacitance[pF]	Capacitance Tolerances
U 50	G3 φ2.8mm G1 φ1.85mm	△Y ± 22% S L +350~-1000ppm/°C △=Blank space	020 2 102 1,000	D ± 0.5 pF K ± 10 % M ± 20 % V ± $\frac{20}{10}$ % P ± $\frac{100}{0}$ % Z ± $\frac{80}{20}$ %
6	7			
Lead Length	Internal code			
0607 A 6.0mm・B 7.0mm } } 1714 A 17.0mm・B 14.0mm	---A Standard product			

		Gシリーズ Series G	
		リード付 Led type	
Fig.			
	Dimensions		
		G1	G3
	D1	1.85 ^{+0.1} _{-0.15} (0.073)	2.8±0.2 (0.110±0.008)
	D2	1.4±0.1 (0.055±0.004)	2.0±0.1 (0.079±0.004)
	d	0.6±0.05 (0.024±0.002)	0.6±0.05 (0.024±0.002)
	L	1.4±0.1 (0.055±0.004)	2.0±0.5 (0.079±0.020)
	ℓ	0.5(参考値) (0.020) (reference)	0.7(参考値) (0.028) (reference)
	A	6.0~17.0(1mmステップ) (0.236~0.669)(0.039 Step)	
	B	7.0~14.0(1mmステップ) (0.276~0.551)(0.039 Step)	

Unit : mm(inch)

バリエーション AVAILABLE CAPACITANCE RANGE

G series

形名 Type	温度特性 Temperature characteristics	公称静電容量 Capacitance [pF]	Q or tan δ	容量許容差 Capacitance tolerance	定格電圧 Rated voltage (DC)	耐電圧 withstanding voltage (DC)	
G1	SL	2	Q≥50	± 0.5pF	50V	150V	
		10	Q≥100	± 20%			
		33 43 82	Q≥100	± 10%			
G3	SL	1000	tan δ ≤ 5.0%	± 80%		50V	100V
		2	Q≥50	± 0.5pF			
		22 33 43	Q≥100	± 10%			
Y(Y5S)	SL	82	Q≥100	± 20%	50V		150V
		1000	tan δ ≤ 5.0%	± 100%			
		2000	tan δ ≤ 5.0%	± 80%			
Y(Y5S)	SL	2	Q≥50	± 0.5pF		50V	100V
		22 33 43	Q≥100	± 10%			
		82	Q≥100	± 20%			
Y(Y5S)	SL	1000	tan δ ≤ 5.0%	± 100%	50V		150V
		2	Q≥50	± 0.5pF			
		22 33 43	Q≥100	± 10%			
Y(Y5S)	SL	82	Q≥100	± 20%		50V	100V
		1000	tan δ ≤ 5.0%	± 100%			
		2000	tan δ ≤ 5.0%	± 80%			

(注)温度特性の()はEIA規格相当表示です。

() Indicates EIA standard.

セレクションガイド
Selection Guide

アイテム一覧
Part Numbers

特性図
Electrical Characteristics

梱包
Packaging

信頼性
Reliability Data

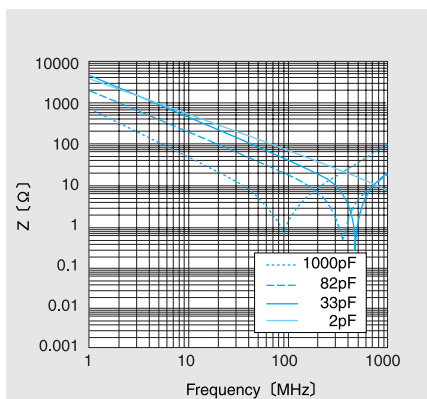
使用上の注意
Precautions



etc

特性図 ELECTRICAL CHARACTERISTICS

インピーダンス—周波数特性例 Impedance - vs - Frequency characteristics



梱包 PACKAGING

最小受注単位数 Minimum Quantity

区分 Category	形式 Type	最小受注単位数 Minimum Quantity(pcs) 袋詰め Bulk
段付 Stepped type	UG1 UG3	1000

FEEDTHROUGH CERAMIC CAPACITORS (STEPPED TYPE)

No.	Item	Specified Value		Test Methods and Remarks	
		Stepped feed-through capacitor			
		series G			
		(Class 1)	(Class 3)		
1.	Operating Temperature Range	-25 to +85°C			
2.	Storage Temperature Range	-25 to +85°C			
3.	Rated Voltage	50 VDC			
4.	Withstanding Voltage	Between terminals	No abnormality	According to JIS C 5102 clause 7.1.3. Applied voltage: 125V DC (Class 1) 100V DC (Class 3) Duration: 60±5 sec.	
5.	Insulation Resistance	Between terminals	10000MΩ min.	1000MΩ min.	Applied voltage: Rated voltage Duration: 60±5 sec. Charge/discharge current shall not exceed 10mA. (Class 3)
6.	Capacitance and Tolerance	2pF : ± 0.5pF 22pF~43pF : ±10% 82pF : ± $\frac{20}{10}$ % ※But series G110pF±20%82pF±10%	1000pF:± $\frac{100}{0}$ % 2000pF:± $\frac{80}{20}$ %	Measuring frequency: 1MHz±20% (Class 1) 1KHz±20% (Class 3) Measuring voltage: 1.0±0.5Vrms Bias application: None	
7.	Q or Tangent of Loss Angle (tanδ)	See the attached table.			
8.	Temperature Characteristic of Capacitance, without voltage application	SL: +350 to -1000ppm/°C	Y: ±22%	According to JIS C 5102 clause 7.12. Measurement of capacitance at 20°C and 85°C shall be made to calculate temperature characteristic by the following equation. (Class 1) $\frac{(C_{85} - C_{20})}{C_{20} \times \Delta T} \times 10^6 \text{ (ppm/°C)}$ (Class 2, 3) Change of maximum capacitance deviation in step 1 to 5 Temperature at step 1: 20°C Temperature at step 2: -25°C Temperature at step 3: 20°C (Reference temperature) Temperature at step 4: 85°C Temperature at step 5: 20°C	
9.	Terminal Strength	Tensile	No abnormalities, such as cuts or looseness of terminals	Applied force : 10N (Leaded type G series) Duration: 5sec.	
		Torsional	No abnormality such as cut lead, or looseness.	Fix the body, incline the terminal end through angle of 45° and return it to initial position. Then second bend in the opposite direction shall be made. Number of bends: 2 times	
10.	Resistance to Vibration	Appearance: No significant abnormality Capacitance change: Shall satisfy the initial characteristic.		According to JIS C 5102 clause 8.2. Vibration type: A Directions: 2hrs each in X, Y, and Z directions Total: 6hrs Frequency range: 10 to 55 to 10Hz (1min.) Amplitude: 1.5mm Mounting method: Soldering onto PC board	
11.	Solderability	At least 75% of terminal electrode is covered by new solder.		According to JIS C 5102 clause 8.4. Solder temperature: 230±5°C	
12.	Damp Heat	Appearance: No significant abnormality Capacitance change: Within ±5.0% or ±0.5pF, whichever is larger. Q: 2pF : 50min. 10pF to 82pF : 75 min.	Appearance: No significant abnormality Capacitance change : Within ±20% tanδ : 7.5%max.	Temperature: 40±2°C Humidity: 90 to 95% RH Duration: 500 ± $\frac{24}{0}$ hrs Recovery: 1hr of recovery under the standard condition after the removal from test chamber.	

FEEDTHROUGH CERAMIC CAPACITORS (STEPPED TYPE)

No. Item	Specified Value		Test Methods and Remarks
	Stepped feed-through capacitor		
	series G		
	(Class 1)	(Class 3)	
13. Loading under Damp Heat	Appearance : No significant abnormality Capacitance change : Within $\pm 5.0\%$ or ± 0.5 pF, whichever is the larger. Q : 2pF : 50min. 10pF to 82pF : 75min.	Appearance : No significant abnormality Capacitance change : Within $\pm 20\%$ $\tan\delta$: 7.5% max.	Duration: $500 \pm \frac{24}{0}$ hrs Applied voltage: Rated voltage Recovery: 1 hr of recovery under the standard condition after the removal from test chamber.
14. High Temperature Loading Test	Appearance : No significant abnormality Capacitance change : Within $\pm 5.0\%$ or ± 0.5 pF, whichever is the larger. Q : 2pF : 50 min. 10pF to 82pF : 75 min.	Appearance : No significant abnormality Capacitance change : Within $\pm 20\%$ $\tan\delta$: 7.5% max.	According to JIS C 5102 clause 9.10. Temperature: $85 \pm 2^\circ\text{C}$ Humidity: 90 to 95% RH Duration: $1000 \pm \frac{48}{0}$ hrs Applied voltage: Rated voltage $\times 2$ Recovery: 1 to 2 hrs of recovery under the standard condition after the removal from test chamber. Charge/discharge current shall not exceed 50mA. (Class 1) Charge/discharge current shall not exceed 10mA. (Class 3)

Withstanding voltage is also referred to as "voltage proof" under IEC specifications.

PRECAUTIONS

FEEDTHROUGH CERAMIC CAPACITORS (STEPPED TYPE)

Stages	Precautions	Technical considerations
1. Circuit Design	<ul style="list-style-type: none"> ◆Verification of operating environment, electrical rating and performance 1. A malfunction in medical equipment, spacecraft, nuclear reactors, etc. may cause serious harm to human life or have severe social ramifications. As such, any capacitors to be used in such equipment may require higher safety and/or reliability considerations and should be clearly differentiated from components used in general purpose applications. ◆Operating Environment precautions 1. capacitors should not used in the following environments: <ul style="list-style-type: none"> (1)Environmental conditions to avoid <ul style="list-style-type: none"> a. exposure to water or salt water. b. exposure to moisture or condensation. c. exposure to corrosive gases (such as hydrogen sulfide, sulfuric acid, chlorine, and ammonia) 	