



Chip Type, 105°C High Reliability



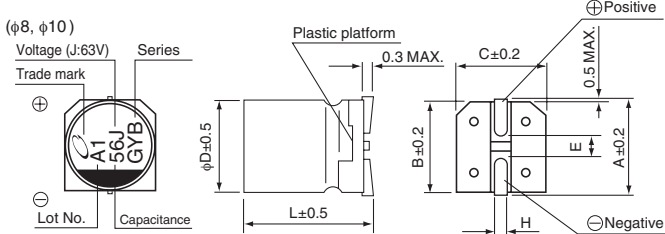
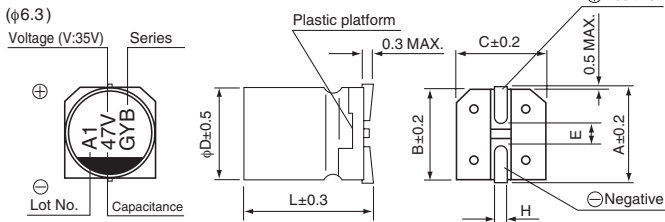
- High Reliability, Low ESR, High ripple current.
- Long life of 10000 hours at 105°C.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.



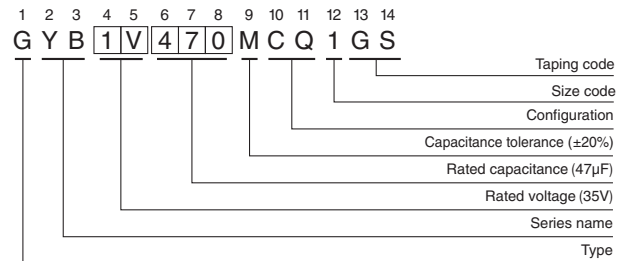
■ Specifications

Item	Performance Characteristics					
Category Temperature Range	-55 to +105°C					
Rated Voltage Range	25 to 63V					
Rated Capacitance Range	10 to 330μF					
Capacitance Tolerance	±20% at 120Hz, 20°C					
Tangent of loss angle (tan δ)	Rated voltage (V)	25	35	50	63	120Hz 20°C
	tan δ (MAX.)	0.14	0.12	0.10	0.08	
ESR	Less than or equal to the specified value at 100kHz, 20°C					
Leakage Current	After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01CV(μA).					
Temperature Characteristics (Max. Impedance Ratio)	Z-25°C / Z+20°C ≤ 2 Z-55°C / Z+20°C ≤ 2.5 (100kHz)					
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 10000 hours at 105°C, the peak voltage shall not exceed the rated voltage.	Capacitance change	Within ± 30% of initial capacitance value			
		tan δ	200% or less of the initial specified value			
		ESR	200% or less of the initial specified value			
		Leakage current	Less than or equal to the initial specified value			
Shelf Life	After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.					
Damp Heat (Steady State)	The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 85°C, 85% RH.	Capacitance change	Within ±30% of the initial capacitance value			
		tan δ	200% or less of the initial specified value			
		Leakage current	Less than or equal to the initial specified value			
Resistance to Soldering Heat	The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.	Capacitance change	Within ±10% of the initial capacitance value			
		tan δ	Less than or equal to the initial specified value			
		Leakage current	Less than or equal to the initial specified value			
Marking	Black print on the case top.					

■ Dimensions



Type numbering system (Example : 35V 47μF)



	(mm)			
φD×L	φ6.3×5.8	φ6.3×7.7	φ8×10	φ10×10
A	7.3	7.3	9.0	11.0
B	6.6	6.6	8.3	10.3
C	6.6	6.6	8.3	10.3
E	2.2	2.2	3.1	4.5
L	5.8	7.7	10.3	10.3
H	0.5 to 0.8	0.5 to 0.8	0.8 to 1.1	0.8 to 1.1

Voltage				
V	25	35	50	63
Code	E	V	H	J

※ φ6.3×7.7L, φ8×10L, φ10×10L :
The vibration structure-resistant product is also available upon request, please ask for details.

● Dimension table in next page.

GYB

■ Dimensions

Cap.(μ F)	V (Code) Code	25			35			50			63		
		1E			1V			1H			1J		
10	100										6.3 × 5.8	120	1000
22	220							6.3 × 5.8	80	1100	6.3 × 7.7	80	1500
33	330							6.3 × 7.7	40	1600	8 × 10	40	1600
47	470				6.3 × 5.8	60	1300						
56	560	6.3 × 5.8	50	1300							10 × 10	30	1800
68	680				6.3 × 7.7	35	2000	8 × 10	30	1800			
100	101	6.3 × 7.7	30	2000				10 × 10	28	2000			
150	151				8 × 10	27	2300						
220	221	8 × 10	27	2300									
270	271				10 × 10	20	2500						
330	331	10 × 10	20	2500							ϕ D×L	ESR m Ω	Ripple mArms

ESR at 20°C 100kHz
Rated ripple Current at 105°C 100kHz

● Frequency coefficient of rated ripple current

Frequency	120Hz	1kHz	10kHz	100kHz or more
Coefficient	0.15	0.40	0.75	1.00

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18,19.
- Please refer to page 3 for the minimum order quantity.