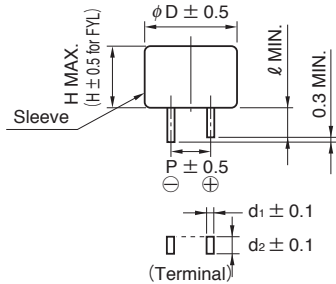
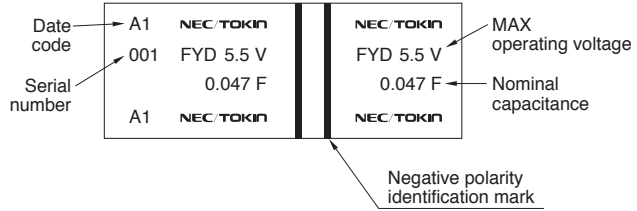


6.5 FY Series

Dimensions



Markings on sleeve



● FYD Type

Specifications

Part Number	MAX operating voltage (Vdc)	Nominal capacitance		MAX ESR (at 1 kHz) (Ω)	MAX current at 30 min. (mA)	Voltage holding characteristics (V)	Dimension (unit:mm)						Weight (g)
		Charge system (F)	Discharge system (F)				φ D	H	P	ℓ	d ₁	d ₂	
FYD0H223ZF	5.5	0.022	0.033	220	0.033	4.2	11.5	8.5	5.08	2.7	0.4	1.2	1.6
FYD0H473ZF	5.5	0.047	0.070	220	0.071	4.2	11.5	8.5	5.08	2.7	0.4	1.2	1.7
FYD0H104ZF	5.5	0.10	0.14	100	0.15	4.2	13.0	8.5	5.08	2.2	0.4	1.2	2.4
FYD0H224ZF	5.5	0.22	0.35	120	0.33	4.2	14.5	15.0	5.08	2.4	0.4	1.2	4.3
FYD0H474ZF	5.5	0.47	0.75	65	0.71	4.2	16.5	15.0	5.08	2.7	0.4	1.2	6.0
FYD0H105ZF	5.5	1.0	1.6	35	1.5	4.2	21.5	16.0	7.62	3.0	0.6	1.2	11.0
FYD0H145ZF	5.5	1.4	2.1	45	2.1	4.2	21.5	19.0	7.62	3.0	0.6	1.2	12.0
FYD0H225ZF	5.5	2.2	3.3	35	3.3	4.2	28.5	22.0	10.16	6.1	0.6	1.4	22.9

● FYH Type

Specifications

Part Number	MAX operating voltage (Vdc)	Nominal capacitance		MAX ESR (at 1 kHz) (Ω)	MAX current at 30 min. (mA)	Voltage holding characteristics (V)	Dimension (unit:mm)						Weight (g)
		Charge system (F)	Discharge system (F)				φ D	H	P	ℓ	d ₁	d ₂	
FYH0H223ZF	5.5	0.022	0.033	200	0.033	4.2	11.5	7.0	5.08	2.7	0.4	1.2	1.5
FYH0H473ZF	5.5	0.047	0.075	100	0.071	4.2	13.0	7.0	5.08	2.2	0.4	1.2	2.2
FYH0H104ZF	5.5	0.10	0.16	50	0.15	4.2	16.5	7.5	5.08	2.7	0.4	1.2	3.4
FYH0H224ZF	5.5	0.22	0.30	60	0.33	4.2	16.5	9.5	5.08	2.7	0.4	1.2	3.6
FYH0H474ZF	5.5	0.47	0.70	35	0.71	4.2	21.5	10.0	7.62	3.0	0.6	1.2	7.2
FYH0H105ZF	5.5	1.0	1.5	20	1.5	4.2	28.5	11.0	10.16	6.1	0.6	1.4	13.9

● FGL Type

Specifications

Part Number	MAX operating voltage (Vdc)	Nominal capacitance		MAX ESR (at 1 kHz) (Ω)	MAX current at 30 min. (mA)	Voltage holding characteristics (V)	Dimension (unit:mm)						Weight (g)
		Charge system (F)	Discharge system (F)				φ D	H	P	ℓ	d ₁	d ₂	
FYL0H103ZF	5.5	0.01	0.013	300	0.015	4.2	11.0	5.0	5.08	2.7	0.2	1.2	0.9
FYL0H223ZF	5.5	0.022	0.028	200	0.033	4.2	11.0	5.0	5.08	2.7	0.2	1.2	1.0
FYL0H473ZF	5.5	0.047	0.061	200	0.071	4.2	12.0	5.0	5.08	2.7	0.2	1.2	1.2



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Specifications

Item	Series name	FY type (FYD, FYH, FYL)	Test conditions (conforming to JIS C 5160-1)	
Category temperature range		-25°C to +70°C		
MAX operating voltage		5.5Vdc		
Capacitance		Refer to standard ratings	Refer to "Measurement Conditions"	
Capacitance allowance		+80%, -20%	Refer to "Measurement Conditions"	
ESR		FYD : 0.022F to 2.2F FYH : 0.022F to 1.0F FYL : 0.010F to 0.047F	Measured at 1kHz, 10mA ; See also "Measurement Conditions"	
Current (30-minutes value)		Refer to standard ratings	Refer to "Measurement Conditions"	
Surge	Capacitance	More than 90% of initial ratings	Surge voltage : 6.3V Charge : 30 sec. Discharge : 9min 30sec. Number of cycles : 1000 Series resistance : 0.010F 1500Ω : 0.022F 560Ω : 0.047F 300Ω : 0.068F 240Ω : 0.10F 150Ω : 0.22F 56Ω : 0.47F 30Ω : 1.0F, 1.4F 15Ω : 2.2F 10Ω Discharge resistance : 0Ω Temperature : 70±2°C	
	ESR	Not to exceed 120% of initial ratings		
	Current (30 minutes value)	Not to exceed 120% of initial ratings		
	Appearance	No obvious abnormality		
Characteristics in different temperature	Capacitance	Phase 2	50% or higher than initial value	
	ESR		400% or less than initial value	
	Capacitance	Phase 3		
	ESR			
	Capacitance		200% or less than initial value	
	ESR	Phase 5	Satisfy initial ratings	
	Current (30 minutes value)		1.5CV (mA) or below	
	Capacitance		Within ±20% of initial value	
ESR	Phase 6	Satisfy initial ratings	Conforms to 4.17 Phase1 : +25±2°C Phase2 : -25±2°C Phase4 : +25±2°C Phase5 : +70±2°C Phase6 : +25±2°C	
	Current (30 minutes value)	Satisfy initial ratings		
Lead strength (tensile)		No terminal damage	Conforms to 4.9	
Vibration resistance	Capacitance	Satisfy initial ratings	Conforms to 4.13 Frequency : 10 to 55 Hz Testing time : 6 hours	
	ESR			
	Current (30 minutes value)			
	Appearance			No obvious abnormality
Solderability		Over 3/4 of the terminal should be covered by the new solder	Conforms to 4.11 Solder temp : 245±5°C Dipping time : 5±0.5 sec. 1.6mm from the bottom should be dipped.	
Solder heat resistance	Capacitance	Satisfy initial ratings	Conforms to 4.10 Solder temp : 260±10°C Dipping time : 10±1 sec. 1.6mm from the bottom should be dipped.	
	ESR			
	Current (30 minutes value)			
	Appearance			No obvious abnormality
Temperature cycle	Capacitance	Satisfy initial ratings	Conforms to 4.12 Temperature condition : -25°C → Room temperature → +70°C → Room temperature Number of cycles : 5 Cycles	
	ESR			
	Current (30 minutes value)			
	Appearance			No obvious abnormality
High temp. and high humidity resistance	Capacitance	Within ±20% of initial value	Conforms to 4.14 Temperature : 40±2°C Relative humidity : 90 to 95 %RH Testing time : 240±8 hours	
	ESR	Not to exceed 120% of initial ratings		
	Current (30 minutes value)	Not to exceed 120% of initial ratings		
	Appearance	No obvious abnormality		
High temperature load	Capacitance	Within ±30% of initial value	Conforms to 4.15 Temperature : 70±2°C Voltage applied : MAX operating voltage Series protection resistance : 0Ω Testing time : 1000 [±] Hours	
	ESR	Below 200% of initial ratings		
	Current (30 minutes value)	Below 200% of initial ratings		
	Appearance	No obvious abnormality		
Self discharge characteristics (voltage holding characteristics)		Voltage between terminal leads higher than 4.2V	Charging condition	Voltage applied : 5.0Vdc (Terminal at the case's side be negative) Series resistance : 0Ω Charging time : 24 hours
			Storage	Let stand for 24 hours in condition described below with terminals opened. Ambient temperature : Lower than 25°C Relative humidity : Lower than 70%RH



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