FM Series for Automatic Assembly

The FM series includes small, resin-molded electric double-layer capacitors suitable for automatic assembly. These capacitors are ideal as long-time backup devices for minute-current loads in VCRs, audio systems, cordless telephones, and compact electronic systems. (FME types are backup devices adaptable to current consumption mA level.)

Features

- · High adaptability to automatic assembly
- · Can be cleaned
- Excellent voltage holding characteristics ideal for long-time supply of 1 µA to several hundred µA (Except 3.5 V type, FME type)
- · Space saving

Applications

Backup of CMOS microcomputers, static RAMs, and DTSs

Part Number System



Number of Packed Capacitors

Tape: 1000 pcs./box

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Markings



Dimensions



Standard Rating

• 5.5 V Type

Par	t Number Ammo pack	Max. Operating Voltage (VDC)	Nominal Capacitance Charge System (F)	Discharge System	Max. ESR (at 1 kHz) (Ω)	Max. Current at 30 minutes (mA)	Voltage Holding Characteristic Min. (V)	T mm (inch)	Weight g (oz)
FM0H103ZF	FM0H103ZFTP()	5.5	0.01	0.014	300	0.015	4.2	5.0 (0.197)	1.3 (0.046)
FM0H223ZF	FM0H223ZFTP()	5.5	0.022	0.028	200	0.033	4.2	5.0 (0.197)	1.3 (0.046)
FM0H473ZF	FM0H473ZFTP()	5.5	0.047	0.06	200	0.071	4.2	5.0 (0.197)	1.3 (0.046)
FM0H104ZF	FM0H104ZFTP()	5.5	0.10	0.13	100	0.15	4.2	6.5 (0.256)	1.6 (0.056)
FM0H224ZF	FM0H224ZFTP()	5.5	-	0.22	100	0.33	4.2	6.5 (0.256)	1.6 (0.056)

Note: To complete part number, insert lead length H. (16 or 18 mm: Refer to Taping Specification on page 26.)

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• 3.5 V Type

Part Number		Max. Operating Voltage	Nominal Capacitance	Discharge System	Max. ESR (at 1 kHz)	Max. Current at 30 minutes	T mm	Weight g
	Ammo pack	(VDC)	(F)	(F)	(Ω)	(mA)	(inch)	(oz)
FM0V473ZF	FM0V473ZFTP()	3.5	0.047	0.06	200	0.042	5.0 (0.197)	1.3 (0.046)
FM0V104ZF	FM0V104ZFTP()	3.5	0.10	0.13	100	0.090	5.0 (0.197)	1.3 (0.046)
FM0V224ZF	FM0V224ZFTP()	3.5	0.22	0.30	100	0.20	6.5 (0.256)	1.6 (0.056)

Note: To complete part number, insert lead length H. (16 or 18 mm: Refer to Taping Specification on page 26.)

• FME Type (Backup Large Current, mA Order)

Part Number		Max. Operating	Nominal Capacitance	Discharge Sustam	Max. ESR (at 1 kHz)	Max. Current at 30	T mm	Weight g
	Ammo pack	(VDC)	(F)	(F)	(Ω)	(mA)	(inch)	(oz)
FME0H223ZF	FME0H223ZFTP()	5.5	0.022	0.028	40	0.033	5.0	1.3
							(0.197)	(0.046)
FME0H473ZF	FME0H473ZFTP()	5.5	0.047	0.06	20	0.071	5.0	1.3
							(0.197)	(0.046)

Note: To complete part number, insert lead length H. (16 or 18 mm: Refer to Taping Specification on page 26.)

• FMR Type (Max. Operating Temperature 85°C type)

Part Number		Max. Operating Voltage	Nominal Capacitance	Discharna Sustam	Max. ESR (at 1 kHz)	Max. Current at 30 minutes	Voltage Holding Characteristic	T mm	Weight g
	Ammo pack	(VDC)	(F)	(F)	(Ω)	(mA)	Min.(V)	(inch)	(oz)
FMR0H473ZF	FMR0H473ZFTP()	5.5	0.047	0.062	200	0.071	4.2	6.5	1.6

Note: To complete part number, insert lead length H. (16 or 18 mm: Refer to Taping Specification on page 26.)

• 6.5V Type

Part Number		Max. Operating Voltage	Nominal Capacitance		Max. ESR (at 1 kHz)	Max. Current at 30 minutes	T mm	Weight g	
	Ammo pack	(VDC) (F) (F)		(F)	(Ω)	(mA)	(inch)	(oz)	
FM0J473ZF	FM0J473ZFTP()	6.5	0.047	0.062	200	0.085	6.5	1.6	

Note: To complete part number, insert lead length H. (16 or 18 mm: Refer to Taping Specification on page 26.)

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Specifications: FM Series 5.5V Type

					Test Conditions		
Item			Specifications	Confo	rming to JIS C 5102-1994		
Operating Temperat	ure Range	-25°C to +70°C					
Maximum Operatin	g Voltage	5.5 VDC					
Nominal Capacitar	ice Range	Refer to standard rating	S				
Capacitance Allow	ance	+80%, -20%		Refer to cha	aracteristics measuring method.		
Equivalent Series I	Resistance	Refer to standard rating	S	Refer to cha	aracteristics measuring method.		
Current (30-minute	s value)	Refer to standard rating	S	Refer to cha	aracteristics measuring method.		
		Capacitance	More than 90% of initial requirement	Conforms to 7.14			
		Equivalent series resistance	Not to exceed 120% of initial requirement	Surge Volt	age: 6.3 V re: 70+2°C		
		Current (30-minute value)	Not to exceed 120% of initial requirement	Charge:	30 sec.		
Surge Voltage		Appearance	No obvious abnormality.	Discharge Number of Series resi 0.01F: 0.022 F: 0.047 F: 0.10 F: Discharge	: 9 min. 30 sec. cycles 1000 cycles. istance: 1500 Ω 0.22F: 56 Ω 560 Ω 300 Ω 150 Ω resistance: 0 Ω		
Phase 2		Capacitance	50% or higher of initial value	Conforms	to 7.12		
_	Fliase 2	Equivalent series resistance	4 or less times initial value	Phase 1:	+25 ± 2°C		
Temperature		Capacitance	200% or below of initial value	Phase 2: ·	-25 ± 2°C		
Variation of Characteristics	Phase 5	Equivalent series resistance	Satisfy initial standard value	Phase 4:	+25 ± 2°C +70 + 2°C		
Characteristics		Current (30-minute value)	1.5 CV (mA) or below	Phase 6:	+70 ± 2 0 +25 ± 2°C		
		Capacitance	Within ±20% of initial value				
Phase 6		Equivalent series resistance	Satisfy initial standard value				
		Current (30-minute value)	Satisfy initial standard value				
Lead Strengh (Tensile)		No loosening nor perma	nent damage of the leads	Conforms 1 kg 10sec	to 8.1.2 (1) c.		
		Capacitance			to 8.2.3		
		Equivalent series resistance	Satisfy initial standard value	Frequency	: 10 to 55 Hz		
Vibration Resistant	ce	Current (30-minute value)		Test durati	on : 6 hours		
		Appearance	No obvious abnormality	1			
Solderability		3/4 or more of the pin su	rface should be covered with new solder	Conforms Solder tem Dipping du Dipped up of the capa	to 8.4 sperature: $245 \pm 5^{\circ}$ C iration: 5 ± 0.5 sec. to 1.6 mm from the lower end actor.		
		Capacitance		Conforms to 8.5			
		Equivalent series resistance	Satisfy initial standard value	Solder tem	perature: 260 ± 10°C		
Soldering Heat Re	sistance	Current (30-minute value)		Dipping duration: 10 ± 1 sec.			
		Appearance	No obvious abnormality	of the capa	acitor.		
		Capacitance		Conforms	to 9.3		
Tomporaturo Ovala		Equivalent series resistance	Satisfy initial standard value	Temperatu	re condition:		
Temperature Cycle		Current (30-minute value)		$\rightarrow +70^{\circ}$	$^{\circ}C \rightarrow normal temperature$		
		Appearance	No obvious abnormality	Number of	cycles: 5 cycles		
		Capacitance	Within 20% of initial value	Conforms	to 9.5		
Humidity Resistant	20	Equivalent series resistance	1.2 or less times initial standard value	Temperatu	re: 40 ± 2°C		
Truthiulty riesistand		Current (30-minute value)	1.2 or less times initial standard value	Relative h	umidity: 90 to 95% RH		
		Appearance	No obuious abnormality	Test durati	on: 240 ± 8 hours		
		Capacitance	Within 30% of initial value	Conforms	to 9.10		
High Temperature Load		Equivalent series resistance	Twice or less times initial standard value	Voltage an	re: /0 ± 2°C		
High Temperature Load		Current (30-minute value)	Twice or less times initial standard value	Series pro	tection resistance: 0Ω		
		Appearance	No obvious abnormality	Test durati	on: 1000 ⁺⁴⁸ hours		
Voltage Holding Characteristics		Voltage between termina	al leads higher than 4.2 V	Charging condition	Voltage applied: 5.0 VDC Series resistance: 0 Ω Charging time: 24hours		
(Self Discharge)				Storage	Temperature:Lower than 25°C Humidity:Lower than 70%RH		

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Specifications: FM Series 3.5V Type

Item Jechtige Conforming to JIS C 5102*** Contarting to JIS C 51 to +70°C 33 VOC Contarting to JIS C 5102*** Namina Capacitance Tange Refer to standard ratings Refer to characteristics measuring method. Capacitance Market Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Refer to standard ratings Refer to characteristics measuring method. Surge Voltage Capacitance More than 90% of initial requirement Conforme to 7.14 Surge Voltage Appearance Not to exceed 120% of initial requirement Conforme to 7.14 Surge Voltage Appearance No divisus abnormality Conforme to 7.12 Phase 8 Capacitance 20% or higher of initial value Phase 8: -20 = 2°C Phase 9 Capacitance Satify initial standard value Phase 8: -70 = 2°C Phase 6 Capacitance Satify initial standard value Phase 8: -70 = 2°C Variation Affect Conforms to 8.12 (1) 14 g 10 sec Phase 8: -70 = 2°C Phas					Test Conditions					
Operating Temperature Range -28°C to +70°C Image: Constraint of the Constraint of	Item			Specifications	Conforming to JIS C 5102 ⁻¹⁹⁹⁴					
Maximum Operating Voltage 3.5 VDC Nominal Capacitance Range Refer to standard ratings Refer to characteristics measuring method. Equivalent Series Resistance Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Refer to standard ratings Refer to characteristics measuring method. Surge Voltage Capacitance Nor than 90% of initial requirement Equivalent series resistance. Conforms to 7.1 Surge Voltage Appearance No obvious abnormality Ontore series of the series resistance. On of the series resistance	Operating Temperat	ture Range	-25°C to +70°C							
Nominal Capacitance Allowance Refer to standard ratings Refer to characteristics measuring method. Capacitance Allowance Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Refer to standard ratings Refer to characteristics measuring method. Surge Voltage Equivalent Standard ratings Refer to characteristics measuring method. Surge Voltage Current (30-minute value) Not to exceed 120% of initial requirement Conforms to 7.14 Surge Voltage Appearance No obvious abnormality On 47 F: 300 0 0.10 F: 100 0 Yubmetor of cycles Capacitance 50% or higher of initial value Phase 1: 2: 2: 0 Phase 2: -25 : 2: 0 Phase 2: Capacitance 200% or bolow of initial value Phase 2: -25 : 2: 0 Phase 3: -25 : 2: 0 Phase 5: Equivalent exister estandard value Phase 3: -25 : 2: 0 Phase 4: -25 : 2: 0 Phase 6: Capacitance 200% or bolow of initial value Phase 3: -25 : 2: 0 Phase 7: Capacitance 20% or bolow of initial value Phase 3:	Maximum Operatin	g Voltage	3.5 VDC							
Capacitance Allowance +40%,-20% Refer to standard rating method. Equivalent Series Resistance Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Refer to standard ratings Refer to characteristics measuring method. Surge Voltage Capacitance More than 90% of initial requirement Content (30-minute value) No to exceed 120% of initial requirement Surge Voltage Appearance No obvious abnormality Content (30-minute value) No to exceed 120% of initial requirement Temperature Phase 2 Capacitance S0% or higher of initial value Content (30-minute value) No obvious abnormality Content (30-minute value) No obvious abnormality Discharge resistance: 0.00 Phase 1: .425 ± 2°C Phase 2: .25 ± 2°C Phase 2: .25 ± 2°C Phase 2: .25 ± 2°C Phase 4: .25 ± 2°C<	Nominal Capacitar	nce Range	Refer to standard rating	S						
Equivalent Series Resistance Refer to standard ratings Refer to characteristics measuring method. Current (30-minutes value) Capacitance More than 90% of initial requirement Conforms to 7.14 Surge Voltage Equivalent series resistance No to exceed 120% of initial requirement Conforms to 7.14 Surge Voltage Appearance No to oxceed 120% of initial requirement Serie conformation of the 200 Conformatio the 2.0 Conformation of the 200 Conformation of the 200	Capacitance Allow	ance	+80%, -20%		Refer to characteristics measuring method.					
Current (30-minutes value) Refer to standard ratings: Refer to standard rating: Refer to standard ratind: Refer to standard rating:	Equivalent Series I	Resistance	Refer to standard rating	S	Refer to characteristics measuring method.					
Surge Voltage Equivalent series resistance More than 90% of initial requirement Current (30-minute value) Not to exceed 120% of initial requirement Out a exceed 120% of initial requirement Surge Voltage Surge Voltage Surge Voltage Appearance Not to exceed 120% of initial requirement Appearance Not to exceed 120% of initial requirement Not to exceed 120% of initial requirement Appearance Surge Voltage Surge Voltage Pinase 2 Capacitance 50% or higher of initial value Out 7 : 30 sp. 0.047 F: 300 sp. 0.047 F: 300 sp. 0.02 F: 55 sp. 20 Pinase 2 Capacitance 200% or bolow of initial value Phase 1: 425 ± 20° Pinase 5 Equivalent series resistance: 0 20 Out 7 : 30 sp. 0.047 F: 300 sp. 0.047	Current (30-minute	es value)	Refer to standard rating	S	Refer to characteristics measuring method.					
Surge Voltage Equivalent series resistance Current (30-minute value) Not to exceed 120% of initial requirement to exceed 120% of initial requirement Appearance Surge Voltage No obvious abnormality Surge Voltage The problem Surge Voltage Surge Voltage Surge Voltage Surge Voltage Surge Voltage Surge Voltage Surge Voltage Surge Voltage Surge Voltage Surge Volt			Capacitance	More than 90% of initial requirement	Conforms to 7.14					
Surge Voltage Current (30-minute value) Not to exceed 120% of initial requirement On-therein set in the set in t			Equivalent series resistance	Not to exceed 120% of initial requirement	Surge voltage: 4.0 V Temperature: $70 \pm 2^{\circ}\text{C}$ Charge: 30 sec. Discharge: $9 \text{ min. } 30 \text{ sec.}$ Number of output of the product of the prod					
Surge Voltage Appearance No obvious abnormality Discharge: Number of cycles: 0.047 f: 300 c; 0.047 f: 300 c; 0.042 f: 1.425 f: Conforms to 7.12 Phase f: 425 f: Conforms to 7.12 Phase f: 425 f: Conforms to 8.1.2 (1) 1 kg 10 sec Lead Strengh (Tensle) No loosening nor permament damage of the leads Conforms to 8.1.2 (1) 1 kg 10 sec Conforms to 8.1.2 (1) 1 kg 10 sec Lead Strengh (Tensle) No loosening nor permament damage of the leads Satisfy initial standard value Conforms to 8.1.2 (1) 1 kg 10 sec Vibration Resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.1.2 (1) 1 kg 10 sec Solder temperature: Appearance No obvious abnormality Conforms to 8.1 c; (1) fist duration: Conforms to 8.1 c; (1) fist duration: Fequency Capacitance Satisfy initial standard value Conforms	Surge Voltage		Current (30-minute value)	Not to exceed 120% of initial requirement	Charge: 30 sec.					
Promperature Variation of Characteristics Phase 2 Capacitance Equivalent series resistance Capacitance 50% or higher of initial value Conforms to 7.12 Phase 1: ±25 ± 2°C Phase 5: ±2°C Phase 5: ±2°C Phase 5: ±2°C Phase 5: ±2°C Phase 5 Phase 5 Capacitance 200% or below of initial value Phase 1: ±25 ± 2°C Phase 5: ±70 ± 2°C Characteristics Phase 5 Capacitance 200% or below of initial value Phase 5: ±70 ± 2°C Characteristics Phase 6 Capacitance Within ±20% of initial value Phase 5: ±70 ± 2°C Characteristics Capacitance Within ±20% of initial value Phase 5: ±70 ± 2°C Current (30-minute value) Satisfy initial standard value Conforms to 8.1.2 (1) 1 kg 10 sec Ubration Resistance Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.4 Solder temperature: 245 ± 5°C Solderability 3/4 or more of the pin surface should be covered with new solder Conforms to 8.4 Solder temperature: 245 ± 10°C Solder remperature Cycle Capacitance Satisfy initial standard value Conforms to 8.5 Solder temperature: 260 ± 10°C Temperature Cycle Capacitance Satisfy initial standard value Conforms to 9.3 Temperat			Appearance	No obvious abnormality	Number of cycles 1000 cycles. Series resistance: $0.047 \text{ F: } 300 \Omega$ $0.10 \text{ F: } 150 \Omega$ $0.22 \text{ F: } 56 \Omega$ Discharge resistance: 0Ω					
Phase 2 Equivalent series resistance 4 or less times initial value Phase 1: +25 ± 2°C Phase 2: -25 ± 2°C <			Capacitance	50% or higher of initial value	Conforms to 7.12					
Temperature Variation of Characteristics Phase 5 (capacitance Current (30-minute value) 200% or below of initial value Phase 6: Current (30-minute value) Conforms to 8.1.2 (1) Current (30-minute value) Lead Strengh (Tensile) No loosening nor permanent damage of the leads Conforms to 8.1.2 (1) Current (30-minute value) Conforms to 8.1.2 (1) Current (30-minute value) Vibration Resistance Capacitance Satisfy initial standard value Conforms to 8.2.3 Frequency: 10 to 55 Hz Tequency: 10 to 55 Hz Solderability 3/4 or more of the pin surface should be covered with new solder Conforms to 8.4 Solder temperature: 245 ± 5°C Dipping duration: 5 ± 0.5 sec. Dipping duration: 5 ± 0.5 sec. Dipping duration: 10 ± 1 sec. Dipping durat		Phase 2	Equivalent series resistance	4 or less times initial value	Phase 1: +25 ± 2°C					
Imperature Variation of Characteristics Phase 5 Equivalent series resistance Current (30-minute value) Satisfy initial standard value Phase 4: +25 ± 2°C Phase 6: +25 ± 2°C Phase 6: +25 ± 2°C Phase 6 Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: +25 ± 2°C Phase 6: Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Phase 6: -25 ± 2°C Phase 6: +25 ± 2°C Vibration Resistance Satisfy initial standard value Conforms to 8.1.2 (1) 1 kg 10 sec Vibration Resistance 24 or more of the pin surface should be covered with new solder Conforms to 8.4 Solderability 3/4 or more of the pin surface should be covered with new solder Dipped up to 1.6 mm from for the lower end of the capacitor. Solder remperature Cycle Equivalent series resistance Satisfy initial standard value Conforms to 8	_		Capacitance	200% or below of initial value	Phase 2: -25 ± 2°C					
Characteristics Current (30-minute value) 1.5 CV (mA) or below Phase 6: 4.05 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Phase 6: 4.25 ± 2.°C Vibration Resistance Capacitance Satisfy initial standard value Conforms to 8.1.2 (1) Current (30-minute value) No considerable abnormality Conforms to 8.4 Solder temperature: 10 to 55 Hz Solder ability 3/4 or more of the pin surface should be covered with new solder Dipped up 1.6 nm from for the lower end of the capacitor. Dipped up 1.6 nm from for the lower end of the capacitor. Solder temperature: 260 ± 10°C Dipping duration: 10 ± 1 sec. Dipped up 1.6 nm from for the lower end of the capacitor. Dipped up 1.6 nm from for the	Temperature	Phase 5	Equivalent series resistance	Satisfy initial standard value	- Phase 4: +25 ± 2°C					
Phase 6 Capacitance Within ±20% of initial value Equivalent series resistance Satisfy initial standard value Lead Strengh (Tensile) No loosening nor permanent damage of the leads Conforms to 8.1.2 (1) 1 kg 10 sec Vibration Resistance Capacitance Conforms to 8.1.2 (1) 1 kg 10 sec Current (30-minute value) Satisfy initial standard value Conforms to 8.2.3 Frequency: 10 to 55 Hz Test duration: 6 hours Solderability 3/4 or more of the pin surface should be covered with new solder Conforms to 8.4 Solder temperature: 245 ± 5°C Soldering Heat Resistance Capacitance Conforms to 8.5 Solder temperature: 260 ± 10°C Temperature Cycle Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.5 Solder temperature: 260 ± 10°C Temperature Cycle Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 9.3 Temperature condition: -25°C -> normal temperature -+70°C -> normal temperature -+70°C -> normal temperature -+70°C -> normal temperature Humidity Resistance Equivalent series resistance Equivalent series resistance 1.2 or less times initial standard value Conforms to 9.5 Temperature (30-minute value) Humidity Resistance Equivalent series resistance Current (30-minute value)	Characteristics		Current (30-minute value)	1.5 CV (mA) or below	Phase 5: $+70 \pm 2$ C Phase 6: $+25 \pm 2^{\circ}$ C					
Phase 6 Equivalent series resistance Satisfy initial standard value Lead Strengh (Tensile) No loosening nor permanent damage of the leads Conforms to 8.1.2 (1) 1 kg 10 sec Vibration Resistance Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.2.3 Frequency: 10 to 55 Hz Test duration: 6 hours Solderability Appearance No considerable abnormality Conforms to 8.4 Solder temperature: 245 ± 5°C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Soldering Heat Resistance Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.4 Solder temperature: 245 ± 5°C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Solder itemperature: Capacitance Satisfy initial standard value Solder temperature: 260 ± 10°C Dipping duration: 10 ± 1 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Temperature Cycle Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 9.5 Temperature condition: -25°C → normal temperature -25°C → normal temperature -26°C → normal tempe			Capacitance	Within ±20% of initial value						
Image: Current (30-minute value) Satisfy initial standard value Conforms to 8.1.2 (1) 1 kg 10 sec Lead Strengh (Tensile) No loosening nor permant damage of the leads Conforms to 8.1.2 (1) 1 kg 10 sec Vibration Resistance Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.2.3 Frequency: 1 0 to 55 Hz Test duration: 6 hours Solderability Appearance No considerable abnormality Conforms to 8.4 Solder temperature: 245 ± 5°C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Soldering Heat Resistance Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 8.5 Solder temperature: 260 ± 10°C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Temperature Cycle Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 9.3 Temperature: 260 ± 10°C Dipping duration: -25°C - normal temperature end of the capacitor. Temperature Cycle Equivalent series resistance Current (30-minute value) Satisfy initial standard value Conforms to 9.3 Temperature: 40 ± 2°C Relative modition: -25°C - normal temperature + 10°C - normal temperature - 10°C - Relative numidity. Humidity Resistance Equivalent series resistance C		Phase 6	Equivalent series resistance	Satisfy initial standard value						
Lead Strengh (Tensile) No loosening nor perment damage of the leads Conforms to 8.1.2 (1) 1 kg 10 sec Vibration Resistance Capacitance Conforms to 8.2.3 Fequivalent series resistance Conforms to 8.2.3 Frequency: 10 to 55 Hz Test duration: 6 hours Solder ability Appearance No considerable abnormality Conforms to 8.4 Solder temperature: 245 ± 5°C Dipped up to 1.6 mm from for the lower end of the capacitor. Conforms to 8.4 Solder temperature: 245 ± 5°C Dipped up to 1.6 mm from for the lower end of the capacitor. Soldering Heat Resistance Capacitance Conforms to 8.5 Solder temperature: 260 ± 10°C Dipped up to 1.6 mm from for the lower end of the capacitor. Conforms to 8.5 Solder temperature: 260 ± 10°C Dipped up to 1.6 mm from for the lower end of the capacitor. Solder temperature: Querent (30-minute value) No obvious abnormality Conforms to 9.3 Temperature condition: -25°C → normal temperature -25°C → normal temperature -240 ± 2°C			Current (30-minute value)	Satisfy initial standard value						
Vibration Resistance Capacitance Satisfy initial standard value Conforms to 8.2.3 Frequency: 10 to 55 Hz Test duration: 6 hours Solderability Appearance No considerable abnormality Conforms to 8.4. Solder temperature: 245 ± 5°C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Soldering Heat Resistance Capacitance Satisfy initial standard value Conforms to 8.4 Solder temperature: 245 ± 5°C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Soldering Heat Resistance Capacitance Satisfy initial standard value Conforms to 8.5 Solder temperature: 260 ± 10°C Dipping duration: 10 ± 1 sec. Dipped up to 1.6 mm from for the lower end of the capacitor. Temperature Cycle Capacitance Satisfy initial standard value Conforms to 9.3 Temperature condition: -25°C → normal temperature → +70°C → normal temperature Humidity Resistance Capacitance Within ±20% of initial value Conforms to 9.5 Temperature: 40 ± 2°C Relative humidity: 90 to 95% RH Test duration: 240 ± 8 hours Humidity Resistance Capacitance No obvious abnormality Conforms to 9.10 Temperature: 240 ± 8 hours	Lead Strengh (Ten	sile)	No loosening nor perma	ment damage of the leads	Conforms to 8.1.2 (1) 1 kg 10 sec					
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Capacitance Within 30% of initial value Conforms to 9.10 Equivalent series resistance Twice or less times initial standard value Temperature: 70 ±2°C			Appearance	No obvious abnormality	240 ± 8 hours					
Equivalance Twice or loss times initial standard value Temperature: 70 ±2°C			Canacitance	Within 30% of initial value	Conforms to 9 10					
			Equivalent series resistance	Twice or less times initial standard value	Conforms to 9.10 Temperature: 70 ± 2°C					
High Temperature Load	High Temperature	Load	Current (30-minute value)	Twice or less times initial standard value	Voltage applied: 3.5 Vdc					
Appearance No obvious abnormality Test duration: 1000 ± 48 hours			Appearance	No obvious abnormality	\square Series protection resistance: 0 Ω Test duration: 1000 + $\frac{48}{28}$ bours					

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Specifications: FM Series FME Type

			Oracifications	Test Conditions		
Item			Specifications	Conforming JIS C 5102 ⁻¹⁹⁹⁴		
Operating Tempera	ture Range	-25°C to +70°C				
Maximum Operatin	g Voltage	5.5 VDC				
Nominal Capacitar	nce Range	Refer to standard rating	s			
Capacitance Allow	ance	+80%, -20%		Refer to characteristics measuring method.		
Equivalent Series	Resistance	Refer to standard rating	s	Refer to characteristics measuring method.		
Current (30-minute	es value)	Refer to standard rating	S	Refer to characteristics measuring method.		
		Capacitance	More than 90% of initial requirement	Conforms to 7.14		
		Equivalent series resistance	Not to exceed 120% of initial requirement	Temperature: 7.4 V		
Surge Voltage		Current (30-minute value)	Not to exceed 120% of initial requirement	Chargs: 30 sec.		
		Appearance	No obvious abnormality	Dischargs: 9 min. 30 sec. Number of cycles 1000 cycles. Series resistance: 0.022 F: 560 Ω 0.047 F: 300 Ω Discharge resistance: 0 Ω		
		Capacitance	50% or higher of initial value	Conforms to 7.12		
	Phase 2	Equivalent series resistance	3 or less times initial value	Phase 1: +25 ± 2°C		
Temperature		Capacitance	150% or below of initial value	Phase 2: -25 ± 2°C		
Variation of	Phase 5	Equivalent series resistance	Satisfy initial standard value	Phase 4: +25 ± 2°C		
Characteristics		Current (30-minute value)	1.5 CV (mA) or below	Phase 5: $\pm 70 \pm 2$ C Phase 6: $\pm 25 \pm 2^{\circ}$ C		
		Capacitance	Within ±20% of initial value			
	Phase 6	Equivalent series resistance	Satisfy initial standard value			
		Current (30-minute value)	Satisfy initial standard value	1		
Lead Strengh (Ten	sile)	No loosening nor perma	nent damage of the leads	Conforms to 8.1.2 (1) 1 kg 10 sec		
		Capacitance		Conforms to 8.2.3		
		Equivalent series resistance	Satisfy initial standard value	Frequency: 10 to 55 Hz		
Vibration Resistan	ce	Current (30-minute value)		Test duration: 6 hours		
		Appearance	There should be no considerable abnormality	1		
Solderability		3/4 or more of the pin surface should be covered with new solder		Conforms to 8.4 Solder temperature: $245 \pm 5^{\circ}$ C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from the lower end of the capacitor.		
		Capacitance		Conforms to 8.5		
Oaldarian U.a.: D.		Equivalent series resistance	Satisfy initial standard value	Solder temperature: $260 \pm 10^{\circ}$ C		
Soldering Heat Re	sistance	Current (30-minute value)		Dipped up to 1.6 mm from the lower end		
		Appearance	No obvious abnormality	of the capacitor.		
		Capacitance		Conforms to 9.3		
Tomporature Oct		Equivalent series resistance	Satisfy initial standard value	Temperature condition:		
remperature Cycle)	Current (30-minute value)		\rightarrow +70°C \rightarrow normal temperature		
		Appearance	No obvious abnormality	Number of cycles: 5 cycles		
Humidity Resistance		Capacitance	Within ±20% of initial value	Conforms to 9.5		
		Equivalent series resistance	1.2 or less times initial standard value	Temperature: $40 \pm 2^{\circ}C$		
riamuity riesistan		Current (30-minute value)	1.2 or less times initial standard value	Relative humidity: 90 to 95% RH		
		Appearance	No obvious abnormality	Test duration: 240 ± 8 hours		
		Capacitance	Within 30% of initial value	Conforms to 9.10		
High Tomporchure	Lood	Equivalent series resistance	Twice or less times initial standard value	Temperature: $70 \pm 2^{\circ}C$		
night temperature	LUdu	Current (30-minute value)	Twice or less times initial standard value	Series protection resistance: 0Ω		
		Appearance	No obvious abnormality	Test duration: 1000 ⁺⁴⁸ / ₀ hours		

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Specifications: FM Series FMR Type

literer			Specifications		Test Conditions		
Item			Specifications	Confo	rming to JIS C 5102-1994		
Operating Temperat	ure Range	-40°C to +85°C					
Maximum Operatin	g Voltage	5.5 VDC					
Nominal Capacitar	ice Range	Refer to standard rating	S				
Capacitance Allow	ance	+80%, -20%		Refer to cha	aracteristics measuring method.		
Equivalent Series	Resistance	Refer to standard rating	S	Refer to cha	aracteristics measuring method.		
Current (30-minute	s value)	Refer to standard rating	S	Refer to cha	aracteristics measuring method.		
		Capacitance	More than 90% of initial requirement	Conforms	to 7.14		
		Equivalent series resistance	Not to exceed 120% of initial requirement	Surge Volt	age: 6.3 V		
		Current (30-minute value)	Not to exceed 120% of initial requirement	lemperatu	re: 85 ± 2 C		
Surge Voltage		Appearance	No obvious abnormality	Discharge: 9 min. 30 sec. Number of cycles 1000 cycles. Series resistance: 300Ω Discharge resistance: 0Ω			
Phase 2		Capacitance	50% or higher initial value	Conforms to 7.12			
	1 11030 2	Equivalent series resistance	4 or less times initial value	Phase 1: -	+25 ± 2°C		
	Phase 3	Capacitance	30% or higher initial value	Phase 2: -	$-25 \pm 2^{\circ}C$		
		Equivalent series resistance	7 or less times initial value	Phase 3: -	-40 ± 2 C		
Temperature		Capacitance	200% or below initial value	Phase 5	+23 ± 2 0 +85 + 2°C		
Variation of	Phase 5	Equivalent series resistance	Satisfy initial standard value	Phase 6:	+00 ± 2 0 +25 + 2°C		
Characteristics		Current (30-minute value) 1.5 CV (mA) or below		1 11000 0.			
		Capacitance	Within ±20% of initial value				
	Phase 6	Equivalent series resistance	Satisfy initial standard value				
		Current (30-minute value)	Satisfy initial standard value				
Lead Strengh (Tensile)		No loosening nor perma	anent damage of the leads	Conforms 1 kg 10sec	to 8.1.2 (1) c.		
		Capacitance		Conforms	to 8 2 3		
		Equivalent series resistance	Satisfy initial standard value	Frequency	: 10 to 55 Hz		
Vibration Resistant	ce	Current (30-minute value)		Test durati			
		Appearance	No obvious abnormality				
				Conforms	to 8.4		
				Solder tem	perature: 245 ± 5°C		
Solderability		3/4 or more of the pin su	rface should be covered with new solder.	Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from the lower end of the capacitor			
		Capacitance		Conforms to 8 5			
		Equivalent series resistance	Satisfy initial standard value	Solder tem	perature: 260 ± 10°C		
Soldering Heat Re	sistance	Current (30-minute value)	· · · · · · · · · · · · · · · · · · ·	Dipping duration: 10 ± 1 sec.			
		Appearance	No obvious abnormality	of the capa	acitor.		
		Capacitance		Conforms t	to 9.3		
T		Equivalent series resistance	Satisfy initial standard value	Temperatu	re condition:		
Temperature Cycle		Current (30-minute value)		-40°C -	\rightarrow normal temperature		
		Appearance	No obvious abnormality	Number of	cycles: 5 cycles		
		Capacitance	Within 20% of initial value	Conforms	to 9.5		
LL STATE DESTATES		Equivalent series resistance	1.2 or less times initial standard value	Temperatu	re: 40 ± 2°C		
Humidity Resistand	ce	Current (30-minute value)	1.2 or less times initial standard value	Relative hu	umidity: 90 to 95% RH		
		Appearance	No obuious abnormality	Test durati	on: 240 ± 8 hours		
		Capacitance	Within 30% of initial value	Conforms	to 9.10		
High Temperature Load		Equivalent series resistance	Twice or less times initial standard value	Temperatu	re: $85 \pm 2^{\circ}C$		
		Current (30-minute value)	Twice or less times initial standard value	Series prot	tection resistance: 0 Ω		
		Appearance	No obvious abnormality	Test durati	on: 1000 ⁺⁴⁸ ₀ hours		
Voltage Holding Characteristics		Voltage between termin	al leads higher than 4.2 V	Charging condition	Voltage applied: 5.0 VDC Series resistance: 0 Ω Charging time: 24hours		
(Self Discharge)				Storage	Time: 24hours Temperature:Lower than 25°C Humidity:Lower than 70%RH		

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Specifications: FM Series 6.5V Type

				Test Conditions			
Item			Specifications	Conforming to JIS C 5102-1994			
Operating Tempera	ture Range	-25°C to +70°C					
Maximum Operatin	g Voltage	6.5 VDC					
Nominal Capacitar	nce Range	Refer to standard rating	s				
Capacitance Allow	ance	+80%, -20%		Refer to characteristics measuring method.			
Equivalent Series	Resistance	Refer to standard rating	s	Refer to characteristics measuring method.			
Current (30-minute	es value)	Refer to standard rating	S	Refer to characteristics measuring method.			
		Capacitance	More than 90% of initial requirement	Conforms to 7.14			
		Equivalent series resistance	Not to exceed 120% of initial requirement	Surge Voltage: 7.4 V			
		Current (30-minute value) Not to exceed 120% of initial requirement		Charge: 70 ± 2 C			
Surge Voltage		Appearance	No obvious abnormality	Discharge: 9 min. 30 sec. Number of cycles 1000 cycles. Series resistance: 0.047 F : 300 Ω Discharge resistance: 0 Ω			
		Capacitance	50% or higher of initial value	Conforms to 7.12			
	Phase 2	Equivalent series resistance	4 or less times initial value	Phase 1: $+25 \pm 2^{\circ}C$			
_		Capacitance	200% or below of initial value	Phase 2: –25 ± 2°C			
Temperature	Phase 5	Equivalent series resistance	Satisfy initial standard value	- Phase 4: +25 ± 2°C			
Characteristics	1 11400 0	Current (30-minute value)	1.5 CV (mA) or below	- Phase 5: +70 ± 2°C Phase 6: +25 ± 2°C			
onaraotonotico		Capacitance	Within ±20% of initial value				
	Phase 6	Equivalent series resistance	Satisfy initial standard value	-			
		Current (30-minute value)	Satisfy initial standard value	-			
Lead Strengh (Ten	sile)	No loosening nor perma	anent damage of the leads	Conforms to 8.1.2 (1) 1 kg 10sec.			
		Capacitance		Conforms to 8.2.3			
		Equivalent series resistance	Satisfy initial standard value	Frequency : 10 to 55 Hz			
Vibration Resistan	ce	Current (30-minute value)		Test duration : 6 hours			
		Appearance	No obvious abnormality				
Solderability		3/4 or more of the pin su	rface should be covered with new solder	Conforms to 8.4 Solder temperature: $245 \pm 5^{\circ}$ C Dipping duration: 5 ± 0.5 sec. Dipped up to 1.6 mm from the lower end of the capacitor.			
		Capacitance		Conforms to 8.5			
Calderine List D	alatans -	Equivalent series resistance	Satisfy initial standard value	Solder temperature: 260 ± 10°C			
Soldering Heat Re	sistance	Current (30-minute value)		Dipped up to 1.6 mm from the lower end			
		Appearance	No obvious abnormality	of the capacitor.			
		Capacitance		Conforms to 9.3			
Temperature Cycle		Equivalent series resistance	Satisfy initial standard value	Temperature condition:			
		Current (30-minute value)		\rightarrow +70°C \rightarrow normal temperature			
		Appearance	No obvious abnormality	Number of cycles: 5 cycles			
Humidity Besistance		Capacitance	Within 20% of initial value	Conforms to 9.5			
		Equivalent series resistance	1.2 or less times initial standard value	Temperature: $40 \pm 2^{\circ}C$			
. amany resistant		Current (30-minute value)	1.2 or less times initial standard value	Helative humidity: 90 to 95% RH			
		Appearance	No obuious abnormality				
		Capacitance	Within 30% of initial value	Conforms to 9.10			
High Temperature	Load	Equivalent series resistance	Twice or less times initial standard value	- Voltage applied: 6.5 Vdc			
		Current (30-minute value)	Twice or less times initial standard value	Series protection resistance: 0Ω			
		Appearance	No obvious abnormality	Test duration: 1000 ⁺⁴⁸ hours			

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• FMC Type

Markings ONegative polarity identification ΝT \bigcirc \bigcirc Nominal capacitance Maximum rated voltage 5.5 V 473 - \bigcirc C C:FMC type Marking \bigcirc K1 + Date code Polarity

Dimensions



Standard Ratings

Part	Number	Max. Operating	Nominal Capacitance Charne System	Discharne System	Max. ESR (at 1 kHz)	Max. Current at 30	Voltage Holding	а	b	Т	d1	d2	Weight
	Ammo pack	(VDC)	(F)	(F)	(Ω)	(mA)	Min. (V)	(mm)	(mm)	(mm)	(mm)	(mm)	(g)
FMC0H473ZF	FMC0H473ZFTP()	5.5	0.047	0.062	less than 100	less than 0.071	more than 4.2V	11.5	10.5	5.0	0.5	0.4	1.3
FMC0H104ZF	FMC0H104ZFTP()	5.5	0.10	0.13	less than 50	less than 0.15	more than 4.2V	11.5	10.5	6.5	0.5	0.4	1.6
FMC0H334ZF	FMC0H334ZFTP()	5.5	-	0.33	less than 25	less than 0.50	more than 4.2V	15.0	14.0	9.0	0.6	0.6	3.5

Chip parts applicable to treatment in bond hardening furnace (160 \pm 5°C for 120 \pm 10 seconds)

Note: To complete part number, insert lead length H. (16 or 18 mm: Refer to Taping Specification on page 26 or 27.)

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Specifications: FM Series FMC Type

			Charificationa		Test Conditions			
Item			opecinications	Confo	rming to JIS C 5102-1994			
Operating Temperat	ture Range	-25°C to +70°C						
Maximum Operatin	ig Voltage	5.5 VDC						
Nominal Capacitar	nce Range	Refer to standard rating	s					
Capacitance Allow	ance	+80%, -20%		Refer to cha	aracteristics measuring method.			
Equivalent Series	Resistance	Refer to standard rating	S	Refer to cha	aracteristics measuring method.			
Current (30-minute	es value)	Refer to standard rating	S	Refer to cha	aracteristics measuring method.			
		Capacitance	More than 90% of initial requirement	Conforms	to 7.14			
		Equivalent series resistance	Not to exceed 120% of initial requirement	Surge Voltage: 6.3 V - Temperature: 70 ± 2°C - Chargs: 30 sec. Dischargs: 9 min. 30 sec.				
		Current (30-minute value)	Not to exceed 120% of initial requirement	Chargs:	30 sec.			
Surge Voltage		Appearance	No obvious abnormality.	Dischargs Number of Series res 0.047 F: 0.1 F: 0.33 F: Discharge	: 9 min. 30 sec. cycles 1000 cycles. istance: 300Ω 150Ω 51Ω resistance: 0 Ω			
Phase 2		Capacitance	50% or higher of initial value	Conforms	to 7.12			
FildSe 2		Equivalent series resistance	4 or less times initial value	Phase 1:	+25 ± 2°C			
Temperature		Capacitance	200% or below of initial value	Phase 2:	-25 ± 2°C			
Variation of	Phase 5	Equivalent series resistance	Satisfy initial standard value	Phase 4:	+25 ± 2°C			
Characteristics		Current (30-minute value)	1.5 CV (mA) or below	Phase 5:	+70 ± 2°C			
		Capacitance	Within ±20% of initial value	Phase 6:	+25±20			
	Phase 6	Equivalent series resistance	Satisfy initial standard value					
		Current (30-minute value)	Satisfy initial standard value					
Lead Strengh (Tenile)		No loosening nor perma	anent damage of the leads	Conforms 1 kg 10 se	to 8.1.2 (1) ec			
		Capacitance		Conforms	to 8.2.3			
Vibratian Desistan		Equivalent series resistance	Satisfy initial standard value	Frequency	10 to 55 Hz			
vibration Resistant	ce	Current (30-minute value)		Test durati	on: 6 hours			
		Appearance	There should be no considerable abnormality					
Solderability		3/4 or more of the pin su	urface should be covered with new solder	Conforms Solder tem Dipping du Dipped up of the capa	to 8.4 sperature: $245 \pm 5^{\circ}C$ irration: 5 ± 0.5 sec. to 1.6 mm from the lower end actor.			
		Capacitance		Conforms to 8.5				
		Equivalent series resistance	Satisfy initial standard value	Solder ten	perature: 260 ± 10°C			
Soldering Heat Re	sistance	Current (30-minute value)		Dipping du	to 1.6 mm from the lower end			
		Appearance	No obvious abnormality	of the capa	acitor.			
		Capacitance		Conforms	to 9.3			
Tomporature Out		Equivalent series resistance	Satisfy initial standard value	Temperatu	ire condition:			
remperature Cycle	;	Current (30-minute value)		-25° $\rightarrow +70^{\circ}$	\sim normal temperature			
		Appearance	No obvious abnormality	Number of	cycles: 5 cycles			
		Capacitance	Within ±20% of initial value	Conforms	to 9.5			
	<u>.</u>	Equivalent series resistance	1.2 or less times initial standard value	Temperatu	ire: 40 ± 2°C			
Humidity Resistance High Temperature Load		Current (30-minute value)	1.2 or less times initial standard value	Relative h	umidity: 90 to 95% RH			
		Appearance	No obvious abnormality	lest durati	on: 240 ± 8 hours			
		Capacitance	Within 30% of initial value	Conforms	to 9.10			
		Equivalent series resistance	Twice or less times initial standard value	Voltage an	rre: 70 ± 2°C			
		Current (30-minute value)	Twice or less times initial standard value	Series pro	tection resistance: 0Ω			
		Appearance	No obvious abnormality	Test durati	on: 1000 ⁺⁴⁸ hours			
Voltage Holding Characteristics		Voltage between terminal le	eads higher then 4.2V	Charging condition	Voltage applied: 5.0 VDC Series resistance: 0 Ω Charging time: 24hours			
(Self Dischage)				Storage	Time: 24hours Temperature:Lower than 25°C Humidity:Lower than 70%RH			

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<u>Taping Specification</u> (except FMC0H334ZFTP())



Unit : mm

Item	Symbol	Value	Tolerance	Remarks
Component Height	а	11.5	±0.5	
Component Width	b	10.5	±0.5	
Component Thickness	С	_	±0.5	5.5 V Type: 5.0/0.010 F~0.047 F; 6.5/0.047 F 3.5 V Type: 5.0/0.047 F~0.10 F; 6.5/0.22 F FME Type: 5.0/0.022 F~0.047 F 6.5 Type: 6.5/0.047 F FMR Type: 6.5/0.047 F FMC Type: 5.0/0.047 F, 6.5/0.10 F
Lead-wire Width	W4	0.5	±0.1	
Lead-wire Thicknesst3	t3	0.4	±0.1	
Pitch of Component	Р	12.7	±1.0	
Sprocket Pitch	Po	12.7	±0.3	
Sprocket Hole Center to Lead	P1	3.85	±0.7	
Sprocket Hole to Component Center	P2	6.35	±1.3	
Lead Spacing	F	5.0	±0.5	
Component Alignment	⊿h	2.0 Max.	-	Including tiltiing caused by bending of lead wire
Tape Width	W	18.0	+1.0 -0.5	
Hold-down tape Width	Wo	12.5 Min.	-	
Sprocket Hole Position	W1	9.0	±0.5	
Hold-down Tape Position	W2	3.0 Max.	-	No protrusion of tape
Height of Component from Tape Center	Н	16.0	±0.5	
		18.0	±0.5	
Sprocket Hole Diameter	Do	φ4.0	±0.2	
Total Tape Thickness	t1	0.7	±0.2	
	t2	1.5 Max.	-	
Length of Shipped Lead	L	11.0 Max.	-	

Packing Quantity

1000 pcs. / box

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Taping Specifications [FMC0H334ZFTP()]



Unit : mm

Item	Symbol	Value	Tolerance	Remarks
Component Height	а	15.0	±0.5	
Component Width	b	14.0	±0.5	
Component Thickness	с	9.0	±0.5	
Lead-wire Width	W4	0.6	±0.1	
Lead-wire Thickness	t3	0.6	±0.1	
Pitch of Component	Р	25.4	±1.0	
Sprocket Pitch	Po	12.7	±0.3	
Sprocket Hole Center to Lead	P1	3.85	±0.7	
Sprocket Hole to Component Center	P2	6.35	±1.3	
Lead Spacing	F	5.0	±0.5	
Component Alignment	⊿h	2.0 Max.	-	Including tiltiing caused by bending of lead wire
Tape Width	W	18.0	+1.0 -0.5	
Hold-down tape Width	Wo	12.5 Min.	-	
Sprocket Hole Position	W1	9.0	±0.5	
Hold-down Tape Position	W2	3.0 Max.	-	No protrusion of tape
Height of Component from Tape Center	н	16.0	±0.5	
		18.0	±0.5	
Sprocket Hole Diameter	Do	<i>φ</i> 4.0	±0.2	
Total tape thickness	t1	0.67	±0.2	
	t2	1.7 Max.	-	
Length of Shipped Lead	L	11.0 Max.	-	

Packing Quantity

400 pcs. / box

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