

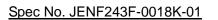
Part Number	Part Number	Characteristics	Capacitance	Voltage	Voltage	(Typical value)	
	DSS6NB32A220Q55B	±10%				0.43g	
	DSS6NB32A220Q56B					0.43g	
	DSS6NB32A220Q54B					0.43g	
	DSS6NB32A220T51B						0.47g
	DSS6NB32A220T41B		22pF± 20%	100V(DC)	250 V(DC)	0.47g	
	DSS6NB32A220Q91A					0.43g	
	DSS6NB32A220Q92A					0.43g	
	DSS6NB32A220Q93A					0.43g	
	DSS6NB32A220U21A					0.43g	
	DSS6NB32A220U31A					0.43g	

Spec No. JENF243F-0018K-01

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Customer Murata Temperature Rated Withstanding Unit Mass Capacitance Characteristics Part Number Part Number Voltage Voltage (Typical value) DSS6NB32A330Q55B 0.43g DSS6NB32A330Q56B 0.43g DSS6NB32A330Q54B 0.43g DSS6NB32A330T51B 0.47g DSS6NB32A330T41B 0.47g 33pF± 20% DSS6NB32A330Q91A 0.43g DSS6NB32A330Q92A 0.<u>43g</u> DSS6NB32A330Q93A 0.43g DSS6NB32A330U21A 0.43g DSS6NB32A330U31A 0.43g DSS6NB32A470Q55B 0.42g DSS6NB32A470Q56B 0.42g DSS6NB32A470Q54B 0.42g DSS6NB32A470T51B 0.46g DSS6NB32A470T41B 0.46g 47pF± 20% DSS6NB32A470Q91A 0.42g 0.42g DSS6NB32A470Q92A DSS6NB32A470Q93A 0.42g DSS6NB32A470U21A 0.42g DSS6NB32A470U31A 0.42g DSS6NB32A101Q55B 0.42g DSS6NB32A101Q56B 0.42g DSS6NB32A101Q54B 0.42g 0.46g DSS6NB32A101T51B DSS6NB32A101T41B 100pF± 0.46g 100V(DC) 250 V(DC) ±10% 20% DSS6NB32A101Q91A 0.42g DSS6NB32A101Q92A 0.42g 0.42g DSS6NB32A101Q93A DSS6NB32A101U21A 0.42g DSS6NB32A101U31A 0.42g DSS6NB32A151Q55B 0.42g DSS6NB32A151Q56B 0.42g DSS6NB32A151Q54B 0.42g DSS6NB32A151T51B 0.46g DSS6NB32A151T41B 0.46g 150pF± 20% DSS6NB32A151Q91A 0.42g DSS6NB32A151Q92A 0.42g DSS6NB32A151Q93A 0.42g DSS6NB32A151U21A 0.42g DSS6NB32A151U31A 0.42g DSS6NB32A221Q55B 0.42g DSS6NB32A221Q56B 0.42g DSS6NB32A221Q54B 0.42g DSS6NB32A221T51B 0.46g DSS6NB32A221T41B 220pF± 0.46g 20% DSS6NB32A221Q91A 0.42g DSS6NB32A221Q92A 0.42g DSS6NB32A221Q93A 0.42g DSS6NB32A221U21A 0.42g DSS6NB32A221U31A 0.42g



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Customer	Murata	Temperature	Capacitance	Rated	Withstanding	Unit Mass
Part Number	Part Number	Characteristics	Capacitance	Voltage	Voltage	(Typical value)
	DSS6NB32A271Q55B					0.42g
	DSS6NB32A271Q56B	-				0.42g
	DSS6NB32A271Q54B					0.42g
	DSS6NB32A271T51B					0.46g
	DSS6NB32A271T41B		270pF±			0.46g
	DSS6NB32A271Q91A		20%			0.42g
	DSS6NB32A271Q92A					0.42g
	DSS6NB32A271Q93A					0.42g
	DSS6NB32A271U21A					0.42g
	DSS6NB32A271U31A	-				0.42g
	DSS6NB32A471Q55B					0.43g
	DSS6NB32A471Q56B					0.43g
	DSS6NB32A471Q54B					0.43g
	DSS6NB32A471T51B					0.47g
	DSS6NB32A471T41B	100/	470pF±			0.47g
	DSS6NB32A471Q91A	±10%	20%			0.43g
	DSS6NB32A471Q92A					0.43g
	DSS6NB32A471Q93A					0.43g
	DSS6NB32A471U21A					0.43g
	DSS6NB32A471U31A					0.43g
	DSS6NB32A102Q55B					0.42g
	DSS6NB32A102Q56B			100V(DC)		0.42g
	DSS6NB32A102Q54B					0.42g
	DSS6NB32A102T51B					0.46g
	DSS6NB32A102T41B	- - -	1000pF± 20%		250 V(DC)	0.46g
	DSS6NB32A102Q91A					0.42g
	DSS6NB32A102Q92A					0.42g
	DSS6NB32A102Q93A					0.42g
	DSS6NB32A102U21A					0.42g
	DSS6NB32A102U31A					0.42g
	DSS6NE32A222Q55B	$\pm \frac{20}{55}$ %	2200pF±			0.42g
	DSS6NE32A222Q56B					0.42g
	DSS6NE32A222Q54B					0.42g
	DSS6NE32A222T51B					0.46g
	DSS6NE32A222T41B					0.46g
	DSS6NE32A222Q91A					0.42g
	DSS6NE32A222Q92A					0.42g
	DSS6NE32A222Q93A					0.42g
	DSS6NE32A222U21A					0.42g
	DSS6NE32A222U31A					0.42g
	DSS6NZ82A103Q55B					0.42g
	DSS6NZ82A103Q56B	± ³⁰ %				0.42g
	DSS6NZ82A103Q54B		10000pF± 30 %			0.42g
	DSS6NZ82A103T51B					0.46g
	DSS6NZ82A103T41B					0.46g
	DSS6NZ82A103Q91A					0.42g
	DSS6NZ82A103Q92A					0.42g
	DSS6NZ82A103Q93A					0.42g
	DSS6NZ82A103U21A					0.42g
	DSS6NZ82A103U31A					0.42g



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4.Testing Conditions

<Unless otherwise specified>
 Temperature : Ordinary Temperature 15 to 35°C
 Humidity : Ordinary Humidity 25 to 85 %(RH)

<In case of doubt> Temperature : 20 ± 2°C Humidity : 60 to 70 %(RH) Atmospheric Pressure : 86 to 106 kPa

5.Style and Dimension

See item 9.

6.Marking

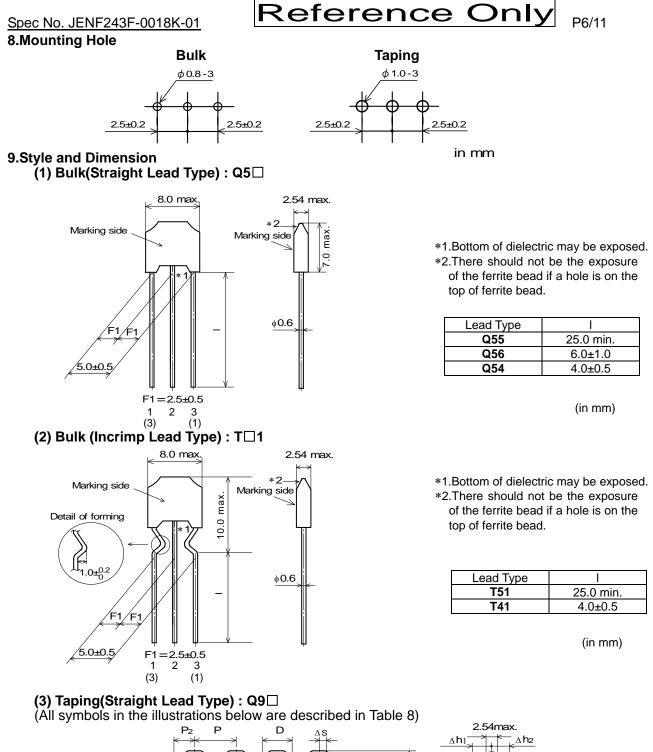
Capacitance	Marked real number. (22pF to 47pF) Ex. 22pF \rightarrow 22 Marked three digits system.(100pF) Ex.1000pF \rightarrow 102		
Rated Voltage	Marked voltage value.(100V)		
Trade Mark	Marked as 🕑		

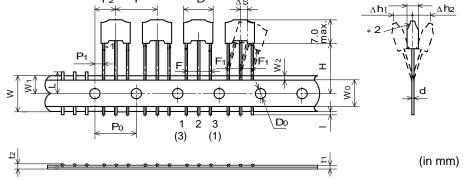
7.Performance

-	ormance				
No.	Item	Specification	Test Method		
7.1	Appearance and Dimensions	Meet item 9.	Visual Inspection and measured with Slide Calipers.		
7.2	Marking	Marking is able to be read easily.	Visual Inspection.		
7.3	Capacitance and Tolerance	Meet item 3.	Table 2FrequencyTest VoltageCapacitance1±0.1MHz3 V(rms) max.22pF~100pF1±0.1kHz3 V(rms) max.150pF~10000pF		
7.4	Insulation Resistance(I.R.)	Meet item 3.	Test Voltage : Rated Voltage Time : 1 minute through a suitable resistor $1M\Omega$.		
7.5	Withstanding Voltage	Products shall not be damaged.	Test Voltage : 2.5 times for Rated Voltage Time : 1 to 5 seconds Charge Current : 10 mA max. It shall be applied between input / output terminal and ground terminal.		
7.6	Temperature Characteristics	Meet item 3.	Capacitance shall be measured at each step specified in Table 3 after reaching the thermal equilibrium. The capacitance change against the capacitance at step 3 shall be calculated. () is for DSS6NZ82A103. Table3 Step 1 2 3 4 5 Temp. +20 \pm 2 -25 \pm 2 +20 \pm 2 +85 \pm 2 +20 \pm 2 (°C) (-10) (60)		
7.7	Solderability	Along the circumference of terminal shall be covered with new solder at least 75%.	Flux : Ethanol solution of rosin,25(wt)% (dipped for 5 to 10 seconds) Pre-heat : $150\pm10^{\circ}$ C, $60 \sim 90$ s Solder : Sn-3.0Ag-0.5Cu Solder Temperature $245\pm5^{\circ}$ C Immersion Time : 2 ± 0.5 seconds Immersion Depth : 2 to 2.5 mm from the bottom of the body.		

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No.	Item	Specification	Test Method
7.8	Resistance to Soldering Heat	Meet Table 4. Table 4 Appearance No damaged. Capacitance B3 within ± 5% Change E3 within ± 15% Z8 within ± 20% Withstanding No damaged. Voltage No damaged.	Flux : Ethanol solution of rosin,25(wt)% (dipped for 5 to 10 seconds) Pre-heat : $150\pm10^{\circ}$ C, $60 \sim 90$ s Solder : Sn-3.0Ag-0.5Cu Solder Temperature : $270 \pm 5 ^{\circ}$ C Immersion Time : 3 ± 0.5 seconds Immersion Depth : 1.6 ± 0.7 mm from the bottom of the body. Then measured after exposure in the room condition for 4 to 24hours.
7.9	Humidity	$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$	Temperature : 40 ± 2°C Humidity : 90 to 95 %(RH) Time : 500 hours(+24-0 hours) Then measured after exposure in the room condition for 4 to 24hours.
7.10	Humidity Life	Meet Table6. Table 6 Appearance No damaged. Capacitance B3 within ± 10% Change E3 within ± 20% Z8 within ± 30% Insulation B3,E3 500MΩ min.	Temperature : $40 \pm 2^{\circ}$ C Humidity : 90 to 95 %(RH) Time : 500 hours(+24-0 hours) Applying Voltage : Rated Voltage Charge Current : 10 mA max. Then measured after exposure in the room condition for 4 to 24hours.
7.11	Heat Life	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Temperature : $85 \pm 3^{\circ}$ C Time : 1000 hours(+48-0 hours) Applying Voltage : B3,E3 character : 2 times of DC rated voltage Z8 character : 1.5times of DC rated voltage Charge Current : 10 mA max. Then measured after exposure in the room condition for 4 to 24hours.





*1.Bottom of dielectric may be exposed.

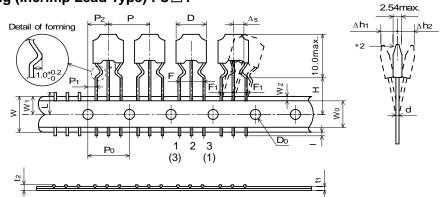
*2. There should not be the exposure of the ferrite bead if a hole is on the top of ferrite bead.

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(4) Taping (Incrimp Lead Type) : U 1



*1.Bottom of dielectric may be exposed.*2.There should not be the exposure of the ferrite bead if a hole is on the top of ferrite bead.

Table 8				
Code	Description	Dimensions		Remark
Р	Pitch of Component	12.7		Product Inclination
				∆S Determines Crossing
P0	Pitch of Sprocket Hole		12.7±0.2	
P1	Length from Hole Center to Lead		3.75±0.7	
P2	Length from Hole Center to Component Center		6.35±1.3	Shift In Tape In Direction of Feed
D	Width of Body		7.0 max.	
ΔS	Deviation along tape, Left or Right		0±1.0	
W	Carrier Tape Width		17.0±0.5	
W1	Position of Sprocket Hole		9.0+0,-0.5	Tape Widthwise Shift
I	Protrusion Length		+0.5 ~ -1.0	
D0	Diameter of Sprocket Hole	φ 4.0±0.1		
d	Lead Diameter	φ 0.6		
t1	Total Tape Thickness	0.7±0.2		Includes Thickness of
t2	Total Thickness, Tape and Lead Wire	1.5 max.		Bonding Tape
∆h1	Deviation across Tape, front		1.0 max.	
∆h2	Deviation across Tape, rear	1.0 max.		
L	Portion to Cut in Case of Defect	11.0+0,-1.0		
Wo	Hold Down Tape Width	12.0±0.5		
W2	Hold Down Tape Position	1.5±1.5		
		Q91	20.0±1.0	
Н	Lead length between sprocket hole and forming position	Q92 U21	16.5±1.0	
	The and forming position	Q93 U31	18.5±1.0	
F	Load Spacing		5.0+0.7,-0.2	
F1	 Lead Spacing 		2.5+0.4,-0.2	

(in mm)

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10.Taping

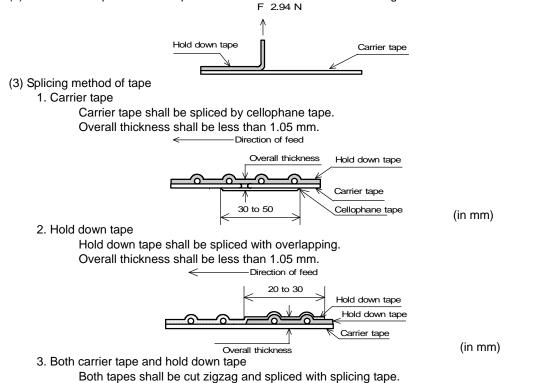
10.1 Supplement condition of taping

(1) A maximum of 0.3% of the components quantity per reel or Ammo pack may be missing without consecutive missing components.

Reference Onl

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(2) The adhesive power of the tape shall have over 2.94N at the following condition.



11. Packing

11.1 Packing quantity

The standard packing quantity is as follows.

(The packing quantity may be changed due to a fraction of order.) Minimum Packing Form and Quantity

Terminal Configuration		A Unit Quantity	* Standard Quantity		
		Bulk : in a plastic bag	in a container		
		Taping : in an ammo pack	(corrugated cardboard box)		
Bulk	Long Lead Type (Q55/T51)	250 pcs.	5000 pcs.		
DUIK	Short Lead Type (Q54/Q56/T41)	500 pcs.	10000 pcs.		
Taping (Q91/ Q92/ Q93/U21/U31)		2000 pcs.	20000 pcs.		

* A quantity in a container is depending on a quantity of an order.

11.2 Packing Form

- (1) Bulk
 - <A plastic bag pack>

1. Products are packed into a plastic bag.

2.The plastic bags are put into a container (corrugated cardboard box) depending on a quantity of an order.

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the plastic bag with products a containe

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(2) Taping

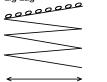
<An ammo pack>

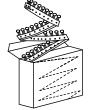
1. Folding the tape per 25 pitches, products are packed into an ammo package so that each product of each layer wound zigzag is put on top of one another. [Fig 1]

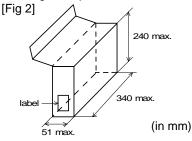
Reference Onl[®]

- 2. The dimensions of the ammo package are indicated in [Fig 2].
- 3. The ammo packages are put into a container (corrugated cardboard box) depending on a quantity of an order.
- 4. Not less than 3 consecutive of component shall be missing on both edge of tape.

[Fig 1] _{zig zag}







The unloading direction : Right The hold down tape : Upper

The product body : Left along the unloading direction

12.Marking on package

12.1 Unit Package

Bulk : Marked on a plastic bag.

Taping : Marked on a label stuck on an ammo package.

Marking on a unit package consists of :

Customer part number, MURATA part number, Inspection number(*1), RoHS marking (*2), Quantity, etc 0000 ××× *1) « Expression of Inspection No. »

(1) (3)(1) Factory Code : Year / Last digit of year First digit (2) Date : Month / Jan. to Sep. \rightarrow 1 to 9, Oct. to Dec. \rightarrow O,N,D Second digit Third, Fourth digit : Day (3) Serial No. R

*2) « Expression of RoHS marking »

(1) RoHS regulation conformity parts.

(2) MURATA classification number

12.2 Container

Marking on the label stuck on a container consists of : Customer name Purchasing Order Number, Customer Part Number, MURATA part number, RoHS marking (*2), Quantity, etc

13. A Caution

13.1 Mounting holes

Mounting holes should be designed as specified in this specifications. Or different design from this specifications may cause cracks in ceramics which may lead to smoking / firing.

13.2 Caution for the product angle adjust work

Take care not to apply any mechanical stress to product body at the lead terminal bending process for product angle adjustment after insertion.

13.3 Limitation of Applications

Please contact us before using our products for the applications listed below which require especially high reliability for the prevention of defects which might directly cause damage to the third party's life, body or property.

- (1) Aircraft equipment
 - (7) Traffic signal equipment (7) Disaster prevention / crime prevention equipment
- (2) Aerospace equipment
- (3) Undersea equipment (9) Data-processing equipment
- (4) Power plant control equipment (10) Applications of similar complexity and /or reliability requirements to the applications listed in the above
- (5) Medical equipment
- (6) Transportation equipment (vehicles, trains, ships, etc.)

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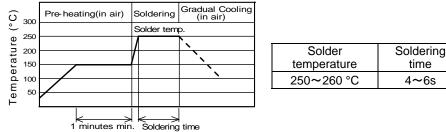
14. Notice

14.1 Soldering

 Use rosin-based flux. Do not use strong acidic flux with halide content exceeding 0.2(wt)% (chlorine conversion value).

Use Sn-3.0Ag-0.5Cu solder

(2) Standard flow soldering profile.



- (3) Resistance to soldering iron goes in the following condition that tip temperature is 350 °C max. and soldering time is 5 s max.
- (4) Products and the leads should not be subjected to any mechanical stress during soldering process. (and also while subjected to the equivalent high temperature.)

14.2 Cleaning

Products shall be cleaned on following conditions.

- (1) Cleaning Temperature: 60°C max.(40°C max. for Isopropyl alcohol).
- (2) Ultrasonic cleaning shall comply with the following conditions, avoiding the resonance phenomenon at the mounted products and P.C.B.

Power : 20W / I max.

Frequency : 28kHz ~ 40kHz

- Time : 5 minutes max.
- (3) Cleaning agent
 - 1. alcohol cleaning agents.
 - Isopropyl alcohol (IPA)
 - 2. Aqueous cleaning agent
 - Pine Alpha ST-100S
- (4) Ensure that residual flux and residual cleaning agent is completely removed.
- Products should be thoroughly dried after aqueous agent has been removed with de-ionized water.
- (5) For other cleaning methods, please contact Murata engineering.

14.3 Operating Environment

- (1) Do not use products in corrosive gases such as chlorine gas, acid or sulfide gas.
- (2) Do not use products in the environment where water, oil or organic solvents may adhere to products.
- (3) Do not adhere any resin to products, coat nor mold products with any resin (including adhesive)to prevent mechanical and chemical stress on products.

14.4.Storage and handling requirements.

- (1) Storage period
 - Use the products within 12 months after delivered.

Solderability should be checked if this period is exceeded.

- (2) Storage environment condition
 - To prevent products quality deterioration, stored conditions should be controlled as follows ;
 - 1. Temperature : -10 to 40 degrees centigrade
 - 2. Humidity : 15 to 85% relative humidity
 - 3. Products should be stored without sudden changes in temperature and humidity. Don't keep products in corrosive gases such as sulfur,chlorine gas or acid, or it may cause oxidization of lead terminals resulting in poor solderability.
 - Products should be stored on the palette for the prevention of the influence from humidity, dust and so on.

5. Products should be stored in the warehouse without heat shock, vibration, direct sunlight and so on.

(3) Handling Conditions

Care should be taken when transporting or handling product to avoid excessive vibration or mechanical shock.



15. **A**Note

- (1)Please make sure that your product has been evaluated in view of your specifications with our product being mounted to your product.
- (2)You are requested not to use our product deviating from the reference specifications.
- (3)The contents of this reference specification are subject to change without advance notice. Please approve our product specifications or transact the approval sheet for product specifications before ordering.

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 4701

 001MLF
 4701-002MLF
 SSM1-402E-10B
 SSM1-501P-10T1
 SSM1-402E-10T1
 SSM1-152P-05T1
 4700-009MLF
 SSM1-101Z-05B
 SSM1F

 402E-10T1
 SSM1-202P-05T1
 0805J0500471MATE03
 PSM4-103Z-20T0
 0805J1000470MATE03
 SF0603C101SBNBB
 PSM4F-402Z-20T0

 CX0603MRX7R6BB104
 CX1206MKX7R9BB104
 CX0603MRX7R9BB103
 YFF15PC0J105MT000N
 NFM15CC222D1A3D

 NFM15CC223C1C3D
 NFM18PC225B1A3D
 CX0603MRX5R6BB224
 CX0603MRX7R9BB103

 CX0805MRX7R0BB103
 CX0805MRX7R8BB223
 CX1206MKX7R7BB224
 CX1206MKX7R9BB104
 NFM31HK104R1H3L

 NFM31HK223R1H3L
 NFM15PC224R1A3D
 DSS1NB32A223Q91A
 DSS1NB31H104Q91A
 NFE31PT101C1E9L
 NFE31PT220R1E9L

 NFE61PT330B1H9L
 NFE61PT681B1H9L
 NFM31KC104R1H3L
 NFM41CC223R2A3L
 DSS1NB32A103Q91A
 DSS1NB32A102Q91A