Document Receipt Acknowledgement

Date: Section: Name:



Attention: DIGI-KEY/THIEF RIVER FALLS/MN/HQ

Product Withdrawal Notice

Ceramic Trimmer Capacitor TZ Series

Dear Valued Customer,

Thank you very much for your great and continuous support for business with Murata. This is the official notification that one of our products will be discontinued as detailed below. Please review documents and kindly indicate your feedback for this Notice in writing by due date. Also, please place Last Time Buy Order by the Last Time Order Due Date as needed. Your understanding and support are highly appreciated.

1. Product Type, Customer/Murata/Alternative Part Numbers:

Product Type: Ceramic Trimmer Capacitor TZ Series

It includes all Trimmer Capacitors (TZ***) and all adjustment tools (KM***). Please refer to the attached documents for detailed competitors Part Numbers' information. Accumulation delivery quantity after April, 2013 1,812,240

2. Reasons/Background:

Demand decreased due to the rise of alternative adjustment method of mechanical adjustment method using TZ series product. Because production scale reduced with demand decrease, business maintenance became difficult.

3. Product Withdrawal Schedule and Feedback Due

Feedback items	Feedback Due	Explanation			
1. Confirmation		Please choose an applicable response from			
Letter (Page 2)	Mar.,31,2019	choices mentioned in Page 2. Please fill out			
	Mal.,51,2019	required quantity if you need after April 1, 2019.			
2. Last Time Order		If it is difficult to meet Last time Due or Last			
Due	Mar.,31,2019	Shipment Due Dates written in left column,			
3. Last Shipment Due	Mar.,31,2021	please fill out your requested due date in confirmation letter (Page 2).			

4. Contact Window:

Should you have any questions or concerns, please contact Murata Sales, Representative, or Distributor in your area.

Truly Yours. Thank you.

Murata Manufacturing, Co., Ltd. Planning and Promotion Department. Sensor Products Division. General Manager, Yoshitaka Nagao Feedback Due:Mar.,31,2019



Confirmation Letter

DIGI-KEY/THIEF RIVER FALLS/MN/HQ

Murata Manufacturing, Co., Ltd.

Product Withdrawal Confirmation

Withdrawal is approved since countermeasure for replacement or change to alternative technology has been completed.

 \Box Since we need more time to complete countermeasure for replacement or change to alternative technology, we approve withdrawal under condition that Murata will hold interim stock

Withdrawal is approved since LTB required quantity is decided.

Withdrawal is approved since model/design using this product has ended or abolished and no plan to

[Detail of Interim Stock / LTB Required Stock]

If you need to extend Last Time Order Due or Last Shipment Due, please fill out your request date below.

1. Last Time Order Due:Mar.,31,2019 2. Last Shipment Due: Mar.,31,2021

=>[=>[

Signature Date: (MM, DD, YYYY)

Title:

Name:

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Comparison Table / TZB4_A series VS VOLTRONICS



1	INNOVATOR IN ELECTRONICS								
	Series Name	Appearance	Dimensions (Unit:mm)			Land Pattern(Unit : mm) URL			
Current	TZB4 ****A series MURATA		<u>1.4±0.1 dia</u> Depth 0.5±0			Tolerance : ±0.5)	2.4±0.1	http://www.murata.co m/ja- ip/products/capacitor/t rimmer/tzb4	
Replacement	JZ series JZ series Chrowles DL-Johanson MFG-Novacap-Syfer-Voltronics CORPORATION		Φ2.2	4.5±0.254				http://www.knowl escapacitors.com /Products/Trimm er/Half-Turn/JZ- Series.aspx	
	MURATA P/N	Stator color	Capacitance (pF)		Temp. Characteristics		Potod voltogo	Withstanding Valtage	
	VOLTRONICS P/N	Stator color	Min.(+0%)	Max.(+50/-0%)	(ppm/°C)	Q at 1MHz (min.)	Rated voltage	Withstanding Voltage	
Current	TZB4Z030A	Brown	1.4	3	NP0±200	300			
Replacement	JZ030	Black	1.5	0	111 01200	500			
Current	TZB4Z060A	Blue	2.0	6	NP0±200	500	100Vdc	220Vdc	
Replacement	JZ060	Bide	2.0	U	NP0±300	000			
Current	TZB4Z100A	White	3.0		NP0±300				
Replacement	JZL100	Gray	4.0	10	N1200±500	500	250Vdc	550Vdc	
Replacement	JZ100	White	2.0		NP0±300		100Vdc	220Vdc	
Current	TZB4R200A		4.5		N750±400	300	100140		
Replacement	JZL200	Red	7.0	20	N1200±500	500	250Vdc	550Vdc	
Replacement	JZ200		4.5		$NP0\pm500$	500			
Current	TZB4P300A	Green	6.5	30	N1200±500	300		220Vdc	
Replacement	JZ300	Orange	5.5	50	N1500±1000	200	100Vdc		
Current	TZB4P400A	Yellow	8.5	40	N1200±500	300			
Replacement	JZ400	Tellow	8.0	40	N1500±1000	200			
Current	TZB4Z250A	Black+Marking	4.0	25(+100/-0%)	NP0±300	300	50Vdc	110Vdc	
Replacement	JZL250	-	6.0	25	N1200±500	300	250Vdc	550Vdc	
Current	TZB4R500A	Black+Marking	7.0	50(+100/-0%)	N750±300	300	50Vdc	110Vdc	
Replacement	JZ500	Yellow	8.0	50	N1500±1000	200	100Vdc	220Vdc	

Comparison Table / TZC3 series VS VOLTRONICS



		Appearance	Dimensions (Unit : mm)				Land Pattern (Unit : mm)			
Current	TZC3 series MURATA	TZC3_A110 TZC3_AA01		2.5 dia.	TZC3_A110	(Tolerance : ±0.1)	5.0 +0 -0.5 3.3 (Tolerance :	http://www.murata. m/ia- jp/products/capaci rimmer/tzc3 ±0.1)		
Replacement	JZ series JZ series Choose and the series DLJ ochans on MFG-Novacap-Syfer-Voltronics DLJ ochans on MFG-Novacap-Syfer-Voltronics CORPORATION	0.		0.254 +0.45 +0.45 +0.45 +92:0#CE Marking				http://www.knc escapacitors.c /Products/Trim er/Half-Turn/J2 Series.aspx	com nm	
	MURATA P/N VOLTRONICS P/N	Stator color(Current) Marking	Capacita Min.(+0%)	ance (pF) Max.(+50/-0%)	Temp. Characteristics (ppm/°C)	Q at 1MHz (min.)	Rated voltage	Withstanding Voltag	je	
Current	TZC3Z030	Brown ※1	1.4		NP0±300	300	400)/11-			
Replacement	JZ030	Black	1.5	3	NP0±200	500	100Vdc	220Vdc		
Current	TZC3Z060	Blue ※1		6		500	100) (da	000)///-		
Replacement	JZ060	Blue	2.0	6	NP0±300	500	100Vdc	220Vdc		
Current	TZC3R100	White ※1	3.0		N750±300	500	100Vdc	220Vdc		
Poplacement	JZL100	Gray	4.0	10	N1200±500	- 500	250Vdc	550Vdc		
Replacement	JZ100	_	2.0		NP0±300		100Vdc	220Vdc		
Current	TZC3P200	Red ※1	5.0		N1200±500	300	100Vdc	220Vdc		
Peplacoment	JZL200	Red	7.0 4.5	20	N1200±500		250Vdc	550Vdc		
Replacement -	JZ200	Reu			NP0±500	500	100Vdc	220Vdc		
Current	TZC3P300	Green ※1	6.5	- 30	N1200±500	00 300	100Vdc	220Vdc		
Replacement	JZ300	Orange	5.5		N1500±1000	200	100 vac	220 VUC	220 VUC	

※1: Stator color of TZC3□▲▲AA01 is black.

Comparison Table / TZY2 series VS VOLTRONICS



220Vdc

100Vdc

	Series Name	Арреа	arance	Dimensions (U	nit : mm)	Land Pattern (Unit:mm)		
Current	TZY2 series MURATA			⊕ 202 (Tolerance : ±0.1)		(Tolerance : ±0.1)	http://www.murata. com/ja- jp/products/capaci tor/trimmer/tzy2	
Replacement	JR series JR series LLJohanson MFG-Novacap-Syler-Voltronics CORPORATION					4.4 2.4 1.8 (Tolerance : ±0.15)	http://www.knowlesc apacitors.com/Produ cts/Trimmer/Half- Turn/JR-Series.aspx	
	MURATA P/N	Capacita	ance (pF)	Temp. Characteristics			Withstanding	
	VOLTRONICS P/N	Min.(+0%)	Max.(+100/-0%)	(ppm/°C)	Q at 1MHz (min.)	Rated voltage	Voltage	
Current	TZY2Z010AC01	0.6	1	NP0±300	200	25Vdc	55Vdc	
Replacement								
Current	TZY2Z2R5AC01	1.0	2.5	NP0±300	200	25Vdc	55Vdc	
Replacement	JR030	1.5	3	NP0±200	500	100Vdc	220Vdc	
Current	TZY2Z030AC01	1 5	2	NP0±300	300	25Vdc	55Vdc	
Replacement	JR030	1.5	3	NP0±200	500	100Vdc	220Vdc	
Current	TZY2Z060AC01	2.5	C	NP0±300	500	25Vdc	55Vdc	
Replacement	JR060	2.0	6	NP0±300	500	100Vdc	220Vdc	
Current	TZY2Z100AC01	3.0		NP0±300		25Vdc	55Vdc	
Deplessment	JRL100	4.0	10	N1200±500	500	250Vdc	550Vdc	
Replacement	JR100	2.0		NP0±300		100Vdc	220Vdc	
Current	TZY2R200AC01	4.5		N750±500	500	25Vdc	55Vdc	
Replacement	JRL200	7	20	N1200±500	300	250Vdc	550Vdc	
Replacement	JR200	4.5		N750±500	500	100Vdc	220Vdc	
Current	TZY2R250AC01		0-	N750±500	300	25Vdc	55Vdc	
Replacement	JRL250	5.5	25	N1200±500	300	250Vdc	550Vdc	
Current	TZY2K450AC01	0.0	45	N1000±500	300	25Vdc	55Vdc	
-	8.0				1	1	1	

N1500±1000

200

8.0

JR400

Replacement

40