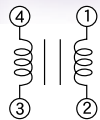


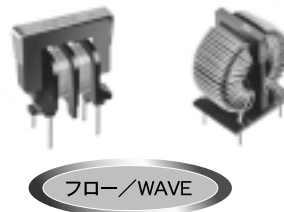
コモンモードチョークコイル (ACライン用) COMMON MODE CHOKE COIL (FOR AC LINES)

等価回路 (Equivalent circuit)



OPERATING TEMP.	TLF25RAタイプ以外 Other than TLF25RA type : -25~+115°C
	TLF25RAタイプ TLF25RA type : -25~+105°C

(製品自己発熱を含む)
(Including self-generated heat)



特長 FEATURES

- TLF 9UA タイプ 小型形状
- TLF12UA タイプ 普通形状
- TLF12UB タイプ 高周波特性改善
- TLF12UA (N) タイプ 高周波特性良好
- TLF25RA タイプ 大電流容量
- TLF 9UA TYPE Small-sized configuration
- TLF12UA TYPE Ordinary configuration
- TLF12UB TYPE Improved high-frequency characteristics
- TLF12UA(N) TYPE Improved high-frequency characteristics
- TLF25RA TYPE Large current capacity for power supply line use

用途 APPLICATIONS

TV、VTR、SW電源、NCマシン、コンピュータおよび周辺機器、各種計測器、各種制御装置などの雑音端子電圧、電源ラインノイズ対策

- TLF 9UA TYPE 小電力用の機器
- TLF12UA、12UB TYPE 入力電力数10Wの機器
- TLF25RA TYPE 高電力用の機器

As a preventive measure against noise terminal voltage or power supply noise in TV or VCR units, SW power supplies, NC machines, computer systems, peripheral units, measuring instruments, and controllers.

- TLF 9UA Type ... low-current applications
- TLF12UA and 12UB Types ... equipment with several tens of watts of input power
- TLF25RA Type high-current applications

形名表記法 ORDERING CODE

1 形式 TLF ラインフィルタ	3 形状 RA△ リングコア縦形 UA△ U字コア縦形 UAH U字コア横形 UB△ U字コア分割巻縦形 △=スペース	4 公称インダクタンス(μH) 例 102 1000 103 10000	5 インダクタンス許容差(%) △ 公称値以上 W ± 100/10 △=スペース	6 定格電流 (A) R54 0.54 0R8 0.8 R=小数点
2 コア寸法 (mm) △9 9 12 12 25 25 △=スペース			7 製品区分記号 △ 一般 N 高周波対応品 △=スペース	8 当社管理記号 △ 標準品 △=スペース

T L F △ 9 U A H 1 0 2 W 0 R 8 ○ ○

1 2 3 4 5 6 7 8

1 Type TLF Line filter	3 Shape RA△ Ring core, vertical type UA△ U core, vertical type UAH U core, horizontal type UB△ split wound U core, vertical type △=Blank space	4 Nominal Inductance(μH) example 102 1000 103 10000	5 Inductance tolerance(%) △ Nominal Values or higher W ± 100/10 △=Blank space	6 Rated current(A) R54 0.54 0R8 0.8 R=decimal point
2 Core dimensions(mm) △9 9 12 12 25 25 △=Blank space			7 Product classification code △ Standard N For high frequency △=Blank space	8 Internal code △ Standard Product △=Blank space

外形寸法 EXTERNAL DIMENSIONS

TLF12UA	TLF12UB	TLF25RA
<p>17.0max (0.669max) 19.0max (0.748max) 22.0max (0.866max) 13.0±0.5 (0.512±0.020) 10.0±0.5 (0.394±0.020) 4.0±1.0 (0.157±0.039) φ0.8 (φ0.031)</p>	<p>17.0max (0.669max) 19.0max (0.748max) 22.0max (0.866max) 13.0±0.5 (0.512±0.020) 10.0±0.5 (0.394±0.020) 4.0±1.0 (0.157±0.039) φ0.8 (φ0.031)</p>	<p>22.0max (0.866max) 34.0max (1.34max) 33.0max (1.30max) 5.0±1.0 (0.197±0.039) φ0.6 (φ0.024) 18(0.709) [16(0.630)]</p>
TLF9UA Type	TLF9UA H Type	
<p>11.0max (0.433max) 17.0max (0.669max) 16.0max (0.630max) 8.0±0.5 (0.315±0.020) 7.0±0.5 (0.276±0.020) 4.5±1.0 (0.177±0.040) φ0.6 (φ0.024)</p>	<p>15.0max (0.591max) 17.0max (0.669max) 12.0max (0.472max) 8.0±0.5 (0.315±0.020) 7.0±0.5 (0.276±0.020) 4.5±1.0 (0.177±0.040) φ0.6 (φ0.024)</p>	<p>[] 参考値 [] Reference Values</p>
unit : mm (inch)		

アイテム一覧 PART NUMBERS

Type	形名 Ordering code	インダクタンス[mH] Inductance (+100% -10%)	直流抵抗[Ω] DC resistance (max)	定格電流[A] Rated current (max)	定格電圧[V] Rated voltage(max)	耐電圧[V] Withstanding voltage [AC/1 minute] (min)	適用周波数[MHz] Applicable frequency 参考値 Reference Value							
TLF9UA TLF9UAH	TLF 9UAH 102W0R8	1	0.5	0.80	AC250	2000	0.1~10							
	TLF 9UA 102W0R8													
	TLF 9UAH 202WR54													
	TLF 9UA 202WR54													
	TLF 9UAH 302WR42													
	TLF 9UA 302WR42													
	TLF 9UAH 502WR32													
	TLF 9UA 502WR32													
	TLF 9UAH 802WR25													
	TLF 9UA 802WR25													
TLF12UA	TLF12UA 102W2R0	1	0.15	2.0	AC250	2000	0.1~10							
	TLF12UA 202W1R6													
	TLF12UA 502W1R0													
	TLF12UA 802W0R8													
	TLF12UA 103W0R7													
	TLF12UA 203W0R5													
	TLF12UA 303W0R4													
	TLF12UA 601W2R0													
	TLF12UB 102W1R5													
	TLF12UB 202W1R2													
TLF12UB	TLF12UB 302W0R9	1	0.20	1.5	AC250	2000	0.2~30							
	TLF12UB 502W0R7													
	TLF12UB 802W0R6													
	TLF12UB 103W0R5													
	TLF12UA 150 3R0N													
	TLF12UA 300 1R7N													
	TLF12UA(N)							TLF12UA 150 3R0N	0.015 min	0.05	3.0	AC250	2000	0.1~20
								TLF12UA 300 1R7N						
								TLF25RA 102W9R0						
								TLF25RA 202W5R5						
TLF25RA 302W5R0														
TLF25RA 502W5R0														
TLF25RA 802W3R5														
TLF25RA 103W2R5														
TLF25RA 103W2R5														
TLF25RA 103W2R5														

セレクションガイド
Selection Guide

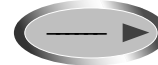
アイテム一覧
Part Numbers

特性図
Electrical Characteristics

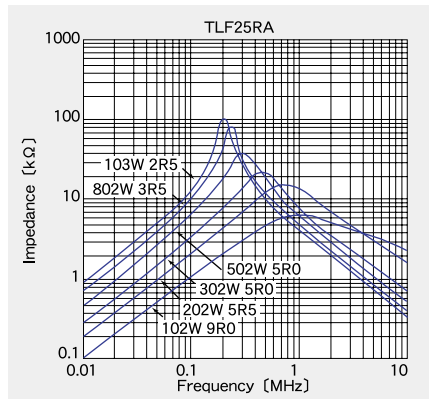
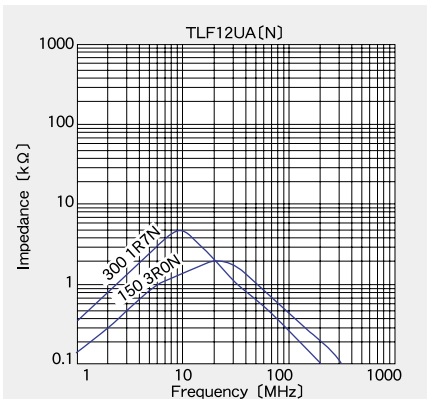
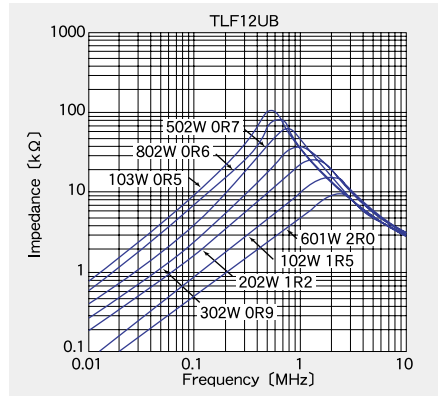
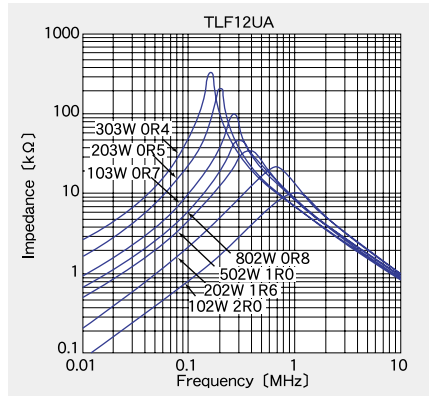
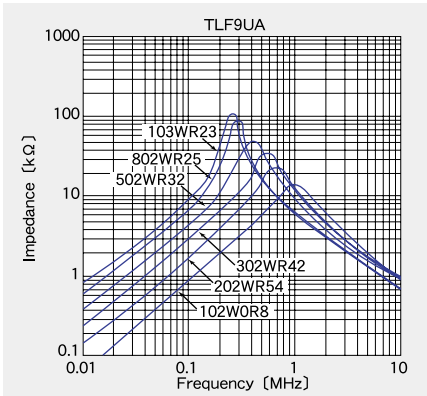
梱包
Packaging

信頼性
Reliability Data

使用上の注意
Precautions



etc

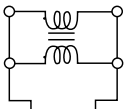


(測定条件)

使用測定器 : HP-4192A

Vosc=0.35V

測定回路



インピーダンス
アナライザーへ

Test conditions

Equipment : HP-4192A

Vosc=0.35V

Test circuit

To impedance analyzer

COMMON MODE CHOKE COIL (FOR AC, DC LINES)

Item		Specified Value				Test Methods and Remarks																		
		CM-RA/BU-RA	CM-RB	TLF9U,TLF12U	TLF25RA																			
1.Operating Temperature Range		-25 to +115°C		-25 to +115°C	-25 to +105°C	*Including self-generated heat																		
2.Storage Temperature Range		-40 to +85°C		-40 to +85°C	-40 to +85°C																			
3.Rated Voltage		Within the specified tolerance		TLF9UA, TLF12UA, TLF12UB : 250VAC TLF9UB : 50VDC	250 VAC																			
4.Insulation Resistance	Between wires	100 MΩ min		100 MΩ min	100 MΩ min	Applied voltage: Rated voltage(CM-RA/BU RA, CM-RB) 500 VDC (TLF9UA, 12UA, 12UB ,25RA) 250 VDC (TLF9UB) Duration: 60 sec.																		
	Between wire and core			100 MΩ min.		Applied voltage: 500 VDC (TLF9UA, 12UA, 12UB) 250 VDC (TLF9UB) Duration: 60 sec.																		
5.DC Resistance		Within the specified tolerance		Within the specified tolerance	Within the specified tolerance	Measuring equipment: DC ohmmeter																		
6.Inductance		Within the specified tolerance		Within the specified tolerance	Within the specified tolerance	CM-RA/BU RA, CM-RB Measuring equipment: 4262A(HP) or its equivalent Measuring frequency: 1 kHz TLF9UA, 12U, 25RA Measuring equipment: Impedance analyzer(HP) or its equivalent. Measuring frequency: 1 kHz Measureing Voltage: 0.35Vosc																		
7.Rated Current		Within the specified tolerance		Within the specified tolerance	Within the specified tolerance	CM-RA/BU RA, CM-RB The maximum DC value as detailed in individual specifications. TLF9UA, 12UA, 12UB, 25RA The maximum AC value having temperature increase within 45°C by the application of AC current. TLF 9UB The maximum DC value having temperature increase within 45°C by the application of DC current.																		
8.Withstanding Voltage	Between wires	No abnormality		No abnormality	No abnormality	Applied voltage: Specified Voltage 250V DC (CM-RA/BU RA, CM-RB) 2000 VAC (TLF9UA, 12UA, 12UB ,25RA) 500 VDC (TLF9UB) Duration: 60 sec.																		
	Between wire and core			No abnormality		Applied voltage: 2000 VAC (TLF9UA, 12UA, 12UB) 500 VDC (TLF9UB) Duration: 60 sec.																		
9.Terminal Strength	Tensile Force	No abnormality		No abnormality	No abnormality	CM-RA/BU RA,CM-RB Fix the component in the direction to draw terminal and gradually apply tensile force as detailed in individual specifications. TLF9UA,9UB Apply the stated tensile force gradually in the direction to draw terminal. <table border="1"> <thead> <tr> <th>Nominal wire diameterφd</th> <th>Tensile force</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>(mm)</td> <td>(N)</td> <td>(s)</td> </tr> <tr> <td>φ0.6</td> <td>5</td> <td>30±5</td> </tr> </tbody> </table> TLF12UA, 12UB <table border="1"> <thead> <tr> <th>Nominal wire diameterφd</th> <th>Tensile force</th> <th>Duration</th> </tr> </thead> <tbody> <tr> <td>(mm)</td> <td>(N)</td> <td>(s)</td> </tr> <tr> <td>φ0.8</td> <td>20</td> <td>30±5</td> </tr> </tbody> </table> TLF25RA Apply the tensile force of 10N in the direction to draw terminal for 5 seconds.	Nominal wire diameterφd	Tensile force	Duration	(mm)	(N)	(s)	φ0.6	5	30±5	Nominal wire diameterφd	Tensile force	Duration	(mm)	(N)	(s)	φ0.8	20	30±5
Nominal wire diameterφd	Tensile force	Duration																						
(mm)	(N)	(s)																						
φ0.6	5	30±5																						
Nominal wire diameterφd	Tensile force	Duration																						
(mm)	(N)	(s)																						
φ0.8	20	30±5																						
10.Resistance to Vibration			Appearance: No abnormality Inductance change: Within ±15%	Inductance change: Within ±5%		According to JIS C 0040. Vibration Type: A Vibration Direction: 2 hrs each in X,Y, and Z directions Total : 6 hrs Frequency range: 10 to 55 to 10Hz(1 min.) Amplitude : 1.5mm(shall not exceed acceleration of 196m/s) Mounting method: Soldering onto printed board Recovery: 4~24 hrs of recovery under the standard condition after the removal from test chamber.(CM-RA,CM-RB) 1 or more hrs of recovery under the standard condition after the removal from test chamber, measure within 2 hrs.(TRF9U, TLF12U)																		

COMMON MODE CHOKE COIL (FOR AC, DC LINES)

Item	Specified Value				Test Methods and Remarks															
	CM-RA/BU-RA	CM-RB	TLF9U,TLF12U	TLF25RA																
11.Solderability	At least 75% of terminal electrode is covered by new solder.		Solder shall be uniformly adhered onto immersed surfaces.	Solder shall be uniformly adhered onto immersed surfaces.	CM-RA/BU-RA,CM-RB Solder temperature: 235±5°C Duration: 2±0.5 sec. Immersion depth: According to detailed specification. TLF9U,TLF12U,TLF25RA Solder temperature: 230±5°C Duration: 2±0.5 sec. Immersion depth: Up to 1.0 to 1.5 mm from PCB mounted level.															
12.Resistance to Soldering Heat	Appearance: No abnormality Inductance change: Within ±15%		Inductance change: Within ±5%	Inductance change: Within ±5%	CM-RA/BU RA,CM-RB Solder temperature: 260±5°C Duration: 5±0.5 sec. Immersion depth: Up to 2~2.5mm from terminal root. Recovery: 4~24 hrs of recovery under the standard condition after the test. TLF9U,TLF12U,TLF25RA Solder temperature: 260±5°C Duration: 5±1 sec. Immersion depth: Up to 1.0 to 1.5 mm from PCB mounted level Recovery: At least 1 hr of recovery under the standard condition after the test, followed by the measurement within 2 hrs.															
13.Thermal Shock	Appearance: No abnormality Inductance change: Within ±15%		Inductance change: Within ±15%	Inductance change: Within ±15%	According to JIS C 0025 Conditions for 1 cycle <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature(°C)</th> <th>Duration (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-25±3</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room temperature</td> <td>Within 3</td> </tr> <tr> <td>3</td> <td>+85±2</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temperature</td> <td>Within 3</td> </tr> </tbody> </table> Number of cycles: 10 Recovery: 4~24 hrs of recovery under the standard condition after the removal from test chamber (CM-RA) 1~2 hrs of recovery under the standard condition after the removal from test chamber (CM-RB)	Step	Temperature(°C)	Duration (min.)	1	-25±3	30±3	2	Room temperature	Within 3	3	+85±2	30±3	4	Room temperature	Within 3
Step	Temperature(°C)	Duration (min.)																		
1	-25±3	30±3																		
2	Room temperature	Within 3																		
3	+85±2	30±3																		
4	Room temperature	Within 3																		
14.Damp Heat (steady state)			Inductance change: Within ±15%	Inductance change: Within ±15%	TLF9U,TLF12U,TLF25RA Temperature: 60±2°C Humidity: 90 to 95% Duration: 500 hrs Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.															
15.Loading under Damp Heat	Appearance: No abnormality Inductance change: Within ±15%		Withstanding voltage: No abnormality Insulation resistance: No abnormality	Withstanding voltage: No abnormality Insulation resistance: No abnormality	CM-RA/BU-RA,CM-RB Temperature: 40±2°C Humidity: 90~95%RH Duration: 500 ⁺¹² ₀ hrs Applied current: Rated current Recovery: 4~24 hrs of recovery under the standard condition after the removed from test chamber (CM-RA) 1~2 hrs of recovery under the standard condition after the removed from test chamber (CM-RB) TLF9U,TLF12U,TLF25RA Temperature: 60±2°C Humidity: 90 to 95% Duration: 100 hrs Applied voltage: Apply the following specified voltage between windings. <table border="1"> <tbody> <tr> <td>TLF9UA, 12UA, 12UB, 25RA</td> <td>250 VAC</td> </tr> <tr> <td>TLF9UB</td> <td>50 VDC</td> </tr> </tbody> </table> Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.	TLF9UA, 12UA, 12UB, 25RA	250 VAC	TLF9UB	50 VDC											
TLF9UA, 12UA, 12UB, 25RA	250 VAC																			
TLF9UB	50 VDC																			

COMMON MODE CHOKE COIL (FOR AC, DC LINES)

Item	Specified Value				Test Methods and Remarks				
	CM-RA/BU RA	CM-RB	TLF9U,TLF12U	TLF25RA					
16.High Temperature Life Test	Appearance: No abnormality Inductance change: Within $\pm 15\%$		Inductance change: Within $\pm 15\%$	Inductance change: Within $\pm 15\%$	CM-RA/BU-RA,CM-RB Temperature: $85\pm 2^{\circ}\text{C}$ Duration: 500_{-0}^{+12} hrs Recovery: 4~24 hrs of recovery under the standard condition after the removal from test chamber (CM-RA) 1~2 hrs of recovery under the standard condition after the removal from test chamber (CM-RB) TLF9U,TLF12U,TLF25RA Temperature: $85\pm 2^{\circ}\text{C}$ Duration: 500 hrs Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.				
17.High Temperature Loading Test	---		Withstanding voltage: No abnormality Insulation resistance: No abnormality	Withstanding voltage: No abnormality Insulation resistance: No abnormality	TLF9U,TLF12U,TLF25RA Temperature: $85\pm 2^{\circ}\text{C}$ Duration: 100 hrs Applied voltage: Apply the following specified voltage between windings. <table border="1"> <tr> <td>TLF9UA,12UA,12UB, 25RA</td> <td>250 VAC</td> </tr> <tr> <td>TLF9UB</td> <td>50 VDC</td> </tr> </table> Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.	TLF9UA,12UA,12UB, 25RA	250 VAC	TLF9UB	50 VDC
TLF9UA,12UA,12UB, 25RA	250 VAC								
TLF9UB	50 VDC								
18.Low Temperature Life Test	Appearance: No Abnormality Inductance change: Within $\pm 15\%$		Inductance change: Within $\pm 15\%$	Inductance change: Within $\pm 15\%$	CM-RA/BU-RA,CM-RB Temperature: $-40\pm 3^{\circ}\text{C}$ Duration: 500_{-0}^{+12} hrs Recovery: 4~24 hrs of recovery under the standard condition after the removal from test chamber (CM-RA) 1~2 hrs of recovery under the standard condition after the removal from test chamber (CM-RB) TLF9U,TLF12U,TLF25RA Temperature: $-25\pm 2^{\circ}\text{C}$ Duration: 500 hrs Recovery: At least 1 hr of recovery under the standard condition after the removal from test chamber, followed by the measurement within 2 hrs.				
19.Temperature Rise	---		45°C max.	45°C max.	TLF9U,TLF12U,TLF25RA Resistance substitution method Applied current: Rated current Duration: 1 hr				

Note on standard condition: "standard condition" referred to herein is defined as follows: 5 to 35°C of temperature, 45 to 85% relative humidity and 86 to 106kPa of air pressure.

When there are questions concerning measurement results: In order to provide correlation data, the test shall be conducted under condition of $20\pm 2^{\circ}\text{C}$ of temperature, 65 to 70% relative humidity and 86 to 106kPa of air pressure.

Unless otherwise specified, all the tests are conducted under the "standard condition."

標準数量 Standard quantity

CM / BU Type

Type	標準数量(pcs.) Standard quantity	
	Box	Bulk
CM05RA06	—	500
CM05RB□□	1000	—
CM08RA□□	—	250
CM08RB□□	500	—
CM12RA02	—	100
BU08RA□□	—	200

TLF Type

Type	標準数量(pcs.) Standard quantity
	Box
TLF9UA□	500
TLF9UB□	500
TLF12U□	500
TLF25RA	200



TAIYO YUDEN

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<http://www.t-yuden.com>

MODIFICATION NOTICE

DATE: November 27, 2000
RE: Part numbering system modification
REF NO.: UTY-MN00-003 (FINAL Version)

Taiyo Yuden (U.S.A.), Inc. hereby gives notice that effective December 18, 2000 Taiyo Yuden part numbers will be modified to include class codes and consistent spacing. This change is being made as part of a global effort to standardize part numbers at Taiyo Yuden companies around the world and will enable Taiyo Yuden to increase efficiency and offer better service to its customers. Technical specifications of these products will not change. A list with individual part number changes is at:

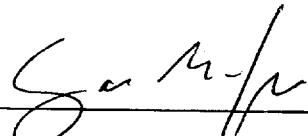
<http://www.t-yuden.com/newpartnumbers/>

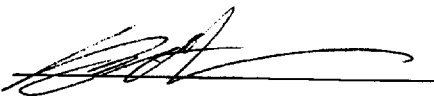
Current part number:	New part number:	Part description:	Technical specification:
AG	KK AG	Spark gaps	No change
BCN	RE BCN	Tubular ceramic capacitors	No change
BK	LF BK	Chip ferrite beads	No change
BP	FF BP	Ferrite cores	No change
BU	LR BU	Balun transformers	No change
CB	DB CB	Piezo products	No change
CD	DB CD	Piezo products	No change
CM	LR CM	Balun transformers	No change
CP	FF CP	Ferrite cores	No change
CS	DB CS	Piezo products	No change
CT	FF CT	Ferrite cores	No change
ECN	RE ECN	Tubular ceramic capacitors	No change
EMK	CE EMK	Hi-value chip capacitors	No change
EMK	RM EMK	Chip capacitors	No change
EP050	CH EP050	Axial leaded capacitors	No change
EP	RH EP	Axial leaded capacitors	No change
EVK105	RV EVK105	High freq. chip capacitors	No change
EX	RL EX	Melf capacitors	No change
FBA	FB FBA	Ferrite Chip Beads	No Change
FBM	Spacing change only	Ferrite Chip Beads	No change
FBR	FB FBR	Ferrite Chip Beads	No change
FK	PF FK	Multilayer EMI suppression filter	No change
FL	LR FL	Balun transformers	No change
FP15	LH FP15	Radial leaded inductors	No change
GMK	CE GMK	Hi-value chip capacitors	No change
HK	LG HK	Hi-frequency chip inductors	No change
HR	MA HR	Ferrite magnets	No change
JC	QR JC	Fixed resistors	No change
JMK	CE JMK	Hi-value chip capacitors	No change

Current part number:	New part number:	Part description:	Technical specification:
JMK□□□□□□□□□□□□□□□□	RM JMK□□□□□□□□□□□□□□□□	Chip capacitors	No change
LA□□□□□□□□□□□□□□□□	Spacing change only	Axial leaded inductors	No change
LB□□□□□□□□□□□□□□□□	LQ LB□□□□□□□□□□□□□□□□	Wound chip inductors	No change
LC□□□□□□□□□□□□□□□□	LT LC□□□□□□□□□□□□□□□□	EMI suppression filters	No change
LEM□□□□□□□□□□□□□□□□	Spacing change only	Wound inductor	No change
LER□□□□□□□□□□□□□□□□	Spacing change only	Cylindrical wound inductor	No change
LH1□□□□□□□□□□□□□□□□	LS LH1□□□□□□□□□□□□□□□□	Linearity coils	No change
LH13□□□□□□□□□□□□□□□□	LS LH13□□□□□□□□□□□□□□□□	Linearity coils	No change
LH15□□□□□□□□□□□□□□□□	LS LH15□□□□□□□□□□□□□□□□	Linearity coils	No change
LH16□□□□□□□□□□□□□□□□	LS LH16□□□□□□□□□□□□□□□□	Linearity coils	No change
LH18□□□□□□□□□□□□□□□□	LS LH18□□□□□□□□□□□□□□□□	Linearity coils	No change
LH20□□□□□□□□□□□□□□□□	LS LH20□□□□□□□□□□□□□□□□	Linearity coils	No change
LHL□□□□□□□□□□□□□□□□	Spacing change only	Radial leaded inductors	No change
LH□□□□□□□□□□□□□□□□	Spacing change only	Radial leaded inductors	No change
LK□□□□□□□□□□□□□□□□	LF LK□□□□□□□□□□□□□□□□	Chip inductors	No change
LMK□□□□□□□□□□□□□□□□	CE LMK□□□□□□□□□□□□□□□□	Hi-value chip capacitors	No change
LMK□□□□□□□□□□□□□□□□	RM LMK□□□□□□□□□□□□□□□□	Chip capacitors	No change
MFC□□□□□□□□□□□□□□□□	NF MFC□□□□□□□□□□□□□□□□	Capacitive varistors	No change
MT□□□□□□□□□□□□□□□□	LT MT□□□□□□□□□□□□□□□□	EMI suppression filters	No change
N06D□□□□□□□□□□□□□□□□	LM N 06□□□□□□□□□□□□□□□□	SMD coil inductors	No change
N08D□□□□□□□□□□□□□□□□	LM N 08□□□□□□□□□□□□□□□□	SMD coil inductors	No change
NP05□□□□□□□□□□□□□□□□	LM NP05□□□□□□□□□□□□□□□□	SMD coil inductors	No change
NP06□□□□□□□□□□□□□□□□	LM NP06□□□□□□□□□□□□□□□□	SMD coil inductors	No change
OR□□□□□□□□□□□□□□□□	MA OR□□□□□□□□□□□□□□□□	Ferrite magnets	No change
RB□□□□□□□□□□□□□□□□	Spacing change only	Ceramic disc capacitors	No change
RC□□□□□□□□□□□□□□□□	Spacing change only	Ceramic disc capacitors	No change
RD□□□□□□□□□□□□□□□□	QR RD□□□□□□□□□□□□□□□□	Fixed resistors	No change
RN4B□□□□□□□□□□□□□□□□	QR RN4B□□□□□□□□□□□□□□□□	Fixed resistors	No change
RN6B□□□□□□□□□□□□□□□□	QS RN6B□□□□□□□□□□□□□□□□	Fixed resistors	No change
RP□□□□□□□□□□□□□□□□	Spacing change only	Ceramic disc capacitors	No change
RQ□□□□□□□□□□□□□□□□	Spacing change only	Ceramic disc capacitors	No change
SR□□□□□□□□□□□□□□□□	NV SR□□□□□□□□□□□□□□□□	Ring type varistors	No change
SS□□□□□□□□□□□□□□□□	NV SS□□□□□□□□□□□□□□□□	Ring type varistors	No change
ST□□□□□□□□□□□□□□□□	LT ST□□□□□□□□□□□□□□□□	EMI suppression filters	No change
TBP□□□□□□□□□□□□□□□□	NE TBP□□□□□□□□□□□□□□□□	Thermistors	No change
TCN□□□□□□□□□□□□□□□□ □□	RE TCN□□□□□□□□□□□□□□□□	Tubular ceramic capacitors	No change
TLF□□□□□□□□□□□□□□□□	LM TLF □□□□□□□□□□□□□□□□	Choke coils	No change
TMK□□□□□□□□□□□□□□□□	CE TMK□□□□□□□□□□□□□□□□	Hi-value chip capacitors	No change
TMK□□□□□□□□□□□□□□□□	RM TMK□□□□□□□□□□□□□□□□	Chip capacitors	No change
TMR□□□□□□□□□□□□□□□□	RY TMR□□□□□□□□□□□□□□□□	Radial leaded ceramic capacitors	No change
TP050□□□□□□□□□□□□□□□□Z	CH TP050□□□□□□□□□□□□□□□□Z	Axial leaded capacitors	No change
TP□□□□□□□□□□□□□□□□	RH TP□□□□□□□□□□□□□□□□	Axial leaded capacitors	No change
TX□□□□□□□□□□□□□□□□	RL TX□□□□□□□□□□□□□□□□	Melf capacitors	No change
UA□□□□□□□□□□□□□□□□	Spacing change only	Ceramic disc capacitors	No change
UCN□□□□□□□□□□□□□□□□	RE UCN□□□□□□□□□□□□□□□□	Tubular ceramic capacitors	No change
UD□□□□□□□□□□□□□□□□	UE UD□□□□□□□□□□□□□□□□	Feed through leaded capacitors	No change
UG□□□□□□□□□□□□□□□□	UE UG□□□□□□□□□□□□□□□□	Feed through leaded capacitors	No change
UMK□□□□□□□□□□□□□□□□	CE UMK□□□□□□□□□□□□□□□□	Hi-value chip capacitors	No change
UMK□□□□□□□□□□□□□□□□	RM UMK□□□□□□□□□□□□□□□□	Chip capacitors	No change
UMR□□□□□□□□□□□□□□□□	RY UMR□□□□□□□□□□□□□□□□	Radial leaded ceramic capacitors	No change
UP050□□□□□□□□□□□□□□□□Z	CH UP050□□□□□□□□□□□□□□□□Z	Axial leaded capacitors	No change

Current part number:	New part number:	Part description:	Technical specification:
UPC□□□□□□□□□□□□□□	ZS UPC□□□□□□□□□□□□□□	Feed through leadless capacitors	No change
UP□□□□□□□□□□□□□□	RH UP□□□□□□□□□□□□□□	Axial leaded capacitors	No change
UX□□□□□□□□□□□□□□	RL UX□□□□□□□□□□□□□□	Melf capacitors	No change
UZE□□□□□□□□□□□□□□	Spacing change only	Ceramic disc capacitors	No change
VT□□□□□□□□□□□□□□	LT VT□□□□□□□□□□□□□□	EMI suppression filters	No change

NOTE: 1. CE class parts are listed on pages 38-43 and RMs are listed on pages 46-58 in the Taiyo Yuden General Catalog 2000.


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