

# HITANO

# Preface

Hitano Enterprise Corp. was foinded in 1980. We specialize in the expert production of Electrolytic Capacitors, Ceramic Capacitors, Metal oxide varistors and marketing of all kind of components. All our production is were manufactured under internationally approved standard and strict quality control. And we keep sufficient stock inven ory with complete specifications for speedy delivery to customers

**Company operation and management are now ful**ly comput **rized**. And **in these years, we** are employing the late t automated manufacturing equipments and facili ies to up-grade our products.

Having supplied the needs o Electroni s companie h re a d abroad for 30 years we have a good reputation in the field

Our products and management system passed th IS -9 02 internat onal certification in June, 1997. An a hie ement that had provided o r domestic and fore gn clients fur her service assurance.

**Excellent professional products, as** well a dedicated **s**e vice were the policy **that the** compa **y** has continued to maintain. Hencefort, u der t e same spirit, we shall further enhance the service we offer.

# 公司簡介

**奇彥企業有限公司成立於1980年**,是一家專**業**製造及經銷各式被動元件的績優進出**口商**,產品 括各式 鋁質電解電容器,基層電容器,晶片電容器,陶瓷電容器,坦質電容,晶片電感,可覆式保險絲,發光三極 體等產品。各式產品規格齊全,庫存充足,供應國內外電子廠商及批發商,信譽良好。

本公司以自創的品牌 HITANO 行銷海內外,30 場擴及全球五大 年來已建立了良好的口碑,業務蒸蒸日上洲,數十個國家。公司經營管理已全面電腦化,按國際標準規格 生產採用最新的自動化生產設備,成品 造,品質嚴謹,產品優良。並且於 1997 年 6 月通過 ISO- 9002 的國際品質認證,對國內外客戶提供更具保障的服務。

提供國內外廠商專業優良及多樣化的產品,以充足的庫存,迅速的交貨給予客戶最熱忱的服務,和具有市場 競爭優勢的價格是本公司秉持的一貫信念,日後將朝著擴充產品線,增加產品內容,邁向電子商務的目 繼 續努力,來滿足客戶全方位的需求

## Quality policy

Establish the "quality first" mentality, maintain stable product quality, upgrade customer service quality, achieve the goal of customer satisfaction

### **QRS** Spirit

#### Quality(品質)

Over 30 years, the priority consideration of Hitano is "Quality first." To achieve the goal of customer satisfaction, Hitano implements los of projects to "increase the product quality," "maintain the stable supply chain" and "upgrade the custome se vice quality." All of these are also the ma or targets for a l Hitano people to make every effort to ether.

**30 多年來**,任何可以提供產品品質的方案,確 供貨品質的穩定,達成客戶的需求,永遠是奇彥公司最優先的考量,也是我 全體同仁共同努力的目標

#### Reputation (信譽)

With good reputation, Hitano has been a professional electronic components supplier in the fie d for over 30 years. We have many excellent agents and outstanding distribu ors worldwide offer best quality products at most competitive pric s and services with passion and profess on. We continually main ain this good reputation under customer cooperation and trust we expect to explore more related products and to make Hitano stronger and better! 奇彦公司在業界已經有超過 30 年的經驗, 建立了良好的信譽, 所以全世界各地都有我們優秀的代理商, 提供客戶最專業, 最好的產品服務, 我們持續維護良好的信譽, 並期許在和客戶的合作和信賴下, 努力拓展各項相關產品, 使公司持續成長, 茁壯

#### Service(服務)

Best se vice to all customers is the main core value of Hitano. We provide our cu tome with speedy reply to the inquiries, orde s and shipments as well as technical support, best se vice is always the first policy and major puipo e that Hitano continue to pursue. Therefore, under QRS spirit we promise our service will be better to win customer recognition, satis actio an will ne er have the end to offer!

提供客戶最好的服務是奇彥公司最核心的價值,我們對於所有客人的詢價,訂單,

出貨和技術性支援都要求即時性的回覆,提供更好,更迅速的服務永遠都是奇彥的政策和目標,因此,在QRS 精神下,我們允諾不斷

提升我 的服務,以贏得客戶群的支持和滿意!

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# Aluminum Electrolytic Capacitor

#### **EVS Series**.



Conductive Polymer SMD type

#### ERS Series.



Conductive Polymer Radial type

#### **ELV Series**.



General Purpose SMD type

#### **EHV Series**.



Wide Temperature range SMD type

#### **ENV Series**.



Non-polarized SMD type

Capacitance Range	6.8uF to 1500uF
Rated Working Voltage	2.5Vdc to 35Vdc
Load Life	2000Hrs @105℃
Packaging	Tape / Reel
Operating Temp. Range	-55℃ to+105℃
Capacitance Tolerance	±20%

Capacitance Range	6.8uF to 1500uF
Rated Working Voltage	2.5Vdc to 50Vdc
Load Life	2000Hrs @105℃
Packaging	Bulk, Tape/Box, Tape/Reel
Operating Temp. Range	-55℃ to+105℃
Capacitance Tolerance	+20%

Capacitance Range	.0uF to 6800uF
Rated Working Voltage	6.3Vdc to 450Vdc
Load Life	2000Hrs @85℃
Packaging	Tape / Reel
Operating Temp. Range	-40℃ to+85℃
Capacitance Tolerance	±20%

Capacitance Range	.0uF to 6800uF
Rated Working Voltage	6.3Vdc to 450Vdc
Load Life	2000Hrs @105℃
Packaging	Tape / Reel
Operating Temp. Range	$V = 100V55^{\circ}$ C to +105°C , $V = 160V40^{\circ}$ C to +105°C
Capacitance Tolerance	±20%

Capacitance Range	0.1uF to 470uF
Rated Working Voltage	6.3Vdc to 50Vdc
Load Life	2000Hrs @85℃
Packaging	Tape / Reel
Operating Temp. Range	-40°C to+85°C
Capacitance Tolerance	±20%

#### **EKV Series**.



Low Leakage current SMD type

#### **EZV Series**



Low Impedance V-Chip SMD type

#### **EMV Series**.



Long Life 5000 hrs V-chip SMD type

#### ECR Series.



General Purpose Radial type

### EHR Series.



Wide Temperature Radial type

Capacitance Range	0.1uF to 330uF
Rated Working Voltage	6.3Vdc to 50Vdc
Load Life	2000 Hrs @85℃
Packaging	Tape / Reel
Operating Temp. Range	-40℃ to+85℃
Capacitance Tolerance	±20%

Capacitance Range	uF to 6800uF
Rated Working Voltage	6.3Vdc to 100Vdc
Load Life	2000 to 5000 Hrs @105℃
Packaging	Tape / Reel
Operating Temp. Range	-55℃ to+105℃
Capacitance Tolerance	±20%

Capacitance Range	uF to 1000uF
Rated Working Voltage	6.3Vdc to 100Vdc
Load Life	5000 Hrs @105℃
Packaging	Tape/Reel
Operating Temp. Range	-55℃ to +105℃
Capacitance Tolerance	±20%

Capacitance Range	0.47uF to 10000uF
Rated Working Voltage	6.3Vdc to 450Vdc
Load Life	2000Hrs @85℃
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	-40℃ to +85℃
Capacitance Tolerance	±20%

Capacitance Range	0.47uF to 10000uF
Rated Working Voltage	6.3Vdc to 450Vdc
Load Life	2000Hrs @105°C
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range <sup>V</sup>	≦ 100V40°C to +85°C , <u>V</u> ≧ 160V25°C to +85°C
Capacitance Tolerance	±20%

# Aluminum Electrolytic Capacitor

# **ENR Series**. Non-polarized Radial type E5R Series. Ultra Miniature Radial type **EMR Series**. Miniature Radial type **EMRL Series**. Miniature Low Leakage current Radial type **ELR Series**. Low Leakage current Radial type

Capacitance Range	0.47uF to 3300uF
Rated Working Voltage	0Vdc to 100Vdc
Load Life	1000Hrs @105℃
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	-40℃ to+105℃
Capacitance Tolerance	±20%
Capacitance Range	0.1uF to 220uF
Rated Working Voltage	4Vdc to 50Vdc
Load Life	1000Hrs @105℃
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	-40℃ to +105℃
Capacitance Tolerance	±20%
Capacitance Range	0.47uF to 330uF
Rated Working Voltage	4Vdc to 63Vdc
Load Life	1000Hrs @105°C
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	-40℃ to +105℃
Capacitance Tolerance	±20%
Capacitance Range	0.47uF to 100uF
Rated Working Voltage	6.3Vdc to 63Vdc
Load Life	1000Hrs @105°C
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	-40℃ to +105℃
Capacitance Tolerance	±20%
Capacitance Range	0.47uF to 1000uF
Rated Working Voltage	6.3Vdc to 63Vdc
Load Life	1000Hrs @105℃
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	-40℃ to +105℃
Capacitance Tolerance	±20%

#### **EXR Series**.



Low Impedance Radial type

#### **ESX Series**.



Low Profile Radial type

#### **ESG Series**.



Long Life 5000 hrs Radial type

#### **EKH Series**.



Long Life 5000-10000 hrs Radial type

#### **EFK Series**.



Long Life 6000-8000 hrs Radial type

Capacitance Range	.0uF to 15000uF
Rated Working Voltage	6.3Vdc to 450Vdc
Load Life	2000 to 5000Hrs @105℃
Packaging	Bulk,Tape/Box,Tape/Reel
Operating Temp. Range	$V \leq 100V_{-40}^{\circ}C$ to $+105^{\circ}C$ , $V \geq 160V_{-25}^{\circ}C$ to $+105^{\circ}C$
Capacitance Tolerance	±20%

.0uF to 10000uF

6.3Vdc to 100Vdc

2000 to 5000Hrs @105℃

 $V = 100V_{-40}^{\circ}C \text{ to } +105^{\circ}C$ 

4.7uF to 330uF

5000Hrs @105℃

25℃ to+105℃

 $\pm 20\%$ 

60Vdc to 500Vdc

Bulk,Tape/Box,Tape/Reel

 $\pm 20\%$ 

 $\frac{\text{Bulk,Tape/Box,Tape/Reel}}{\text{V} \leq 63\text{V}_{-55}^{\circ}\text{C} \text{ to} + 105^{\circ}\text{C}},$ 

Capacitance Range Rated Working Voltage Load Life Packaging Operating Temp. Range Capacitance Tolerance

Capacitance Range Rated Working Voltage Load Life Packaging Operating Temp. Range Capacitance Tolerance

Capacitance Range	6.8uF to 3300uF	
Rated Working Voltage	0Vdc to 450Vdc	
Load Life	5000 to 10000Hrs @105°C	
Packaging	Bulk,Tape/Box,Tape/Reel	
Operating Temp. Range	$V ≤ 50V40^{\circ}C \text{ to } +105^{\circ}C$ , $V ≥ 160V25^{\circ}C \text{ to } +105^{\circ}C$	
Capacitance Tolerance	±20%	

Capacitance Range	.0uF to 330uF	
Rated Working Voltage	60Vdc to 450Vdc	
Load Life	6000 to 8000Hrs @105℃	
Packaging	Bulk,Tape/Box,Tape/Reel	
Operating Temp. Range	-25℃ to+105℃	
Capacitance Tolerance	±20%	

## **Aluminum Electrolytic** Capacitor

#### **EFL Series**.



Long Life 8000-10000 hrs Radial type

#### **EFH Series**.



Long Life 4000-10000 hrs Radial type

#### **ELY Series**.



Slim Type 105°C 5000 hrs Radial type

#### **ESL Series**



Slim Type 105°C 10000 hrs Radial type

#### **ELP Series**.



**General Purpose** Snap-In type

Capacitance Range	.0uF to 330uF
Rated Working Voltage 60Vdc t	
Load Life	8000 to 10000
Packaging	Bulk,Tape/Box
Operating Temp. Range	-25℃ to+105°
Capacitance Tolerance	±20%

Capacitance Range
Rated Working Voltage
Load Life
Packaging
Operating Temp. Range
Capacitance Tolerance

Capacitance Range
Rated Working Voltage
Load Life
Packaging
Operating Temp. Range

Capacitance Range	2uF to
Rated Working Voltage	250Vda
Load Life	10000H
Packaging	Bulk,Ta
Operating Temp. Range	-25℃ t
Capacitance Tolerance	±20%

Capacitance Range Rated Working Voltage Load Life Packaging Operating Temp. Range Capacitance Tolerance

.0uF to 330uF
60Vdc to 450Vdc
8000 to 10000Hrs @105℃
Bulk,Tape/Box,Tape/Reel
-25℃ to+105℃
±20%

22uF to	o 4700uF
6.3Vd	c to 100Vdc
4000 to	o 10000Hrs @105℃
Bulk,To	ape/Box,Tape/Reel
<b>-40</b> ℃	to +105°C
±20%	

2uF to 150uF
250Vdc to 450Vdc
5000Hrs @105°C
Bulk,Tape/Box,Tape/Reel
-25℃ to +105℃
±20%

ance Range	2uF to 120uF
orking Voltage	250Vdc to 450Vdc
	10000Hrs @105°C
g	Bulk,Tape/Box,Tape/Reel
g Temp. Range	-25℃ to +105℃
<b>T</b> 1	

47uF	to 68000uF	

0Vdc to 450Vdc

2000Hrs @85°C

Bulk  $\overline{V} \leq 100V_{-40}$ °C to +85°C ,

 $V \ge 160V_{-25^{\circ}C} \text{ to } +85^{\circ}C$  $\pm 20\%$ 

#### **EHP Series**.



Wide Temperature Snap-In type

#### **EHU Series**.



Wide Temperature 3000 hrs Snap-In type

#### **ELU Series**



General Purpose 3000 hrs Snap-In type

#### **EHL Series**.



Low Impedance 5000 hrs Snap-In type

#### **EHS Series**.



Miniature Size 2000 hrs Snap-In type

Capacitance Range Rated Working Voltage Load Life Packaging Operating Temp. Range Capacitance Tolerance

Capacitance Range Rated Working Voltage Load Life Packaging Operating Temp. Range Capacitance Tolerance +20%

Capacitance Range Rated Working Voltage Load Life Packaging Operating lemp. Range Capacitance Tolerance  $\pm 20\%$ 

47uF to 47000uF Capacitance Range Rated Working Voltage Load Life Packaging Bulk Operating Temp. Range Capacitance Tolerance

Capacitance Range 33uF to 2200uF Rated Working Voltage 60Vdc to 450Vdc Load Life 2000Hrs @105℃ Packaging Bulk -25℃ to +105℃ Operating Temp. Range Capacitance Tolerance  $\pm 20\%$ 

47uF to 68000uF

0Vdc to 450Vdc

2000Hrs @105℃

Bulk  $V \leq 100V_{-40}$ °C to +105°C ,  $V \geq 160V_{-25}$ °C to +105°C

 $\pm 20\%$ 

47uF to 68000uF

6Vdc to 450Vdc

3000Hrs @105℃

Bulk  $V \leq 100V$ -40°C to +105°C ,  $V \ge 160V_{-25^{\circ}C}$  to  $+105^{\circ}C$ 

47uF to 82000uF

6Vdc to 450Vdc

3000Hrs @85℃

Bulk  $\overline{V} \leq 100V_{-40}$ °C to +85°C ,  $V \ge 160V_{-25}$ °C to +85°C

0Vdc to 500Vdc

5000Hrs @105℃

 $V \leq 100V$ -40°C to +105°C ,  $V \ge 160V_{-25}^{\circ}C$  to  $+105^{\circ}C$ 

 $\pm 20\%$ 

## Disc Ceramic Capacitor

#### X1/Y1 Series.



Safety Standard Recognized AH application

#### X1/Y1 Series.



Safety Standard Recognized AS application

#### X1/Y2 Series.



Safety Standard Recognized AC application

# Capacitance Range100pF to 4700pFRated Working Voltage400VacTemperature CoefficientY5P, Y5UOperating Temp. Range $-25^{\circ}$ C to $+85^{\circ}$ CCapacitance Tolerance $\pm 10\%, \pm 20\%$ Dissipation Factor (D.F.) $\pm 2.5\%$ PackagingBulk,Tape/Box,Tape/Reel

Capacitance Range	100pF to 4700pF
Rated Working Voltage	X1=760Vac / Y1=500Vac
Temperature Coefficient	Y5P, Y5U
Operating Temp. Range	-25℃ to+85℃
Capacitance Tolerance	±10%, ±20%
Dissipation Factor (D.F.)	±2.5%
Packaging	Bulk,Tape/Box,Tape/Reel

Capacitance Range	100pF to 10nF
Rated Working Voltage	250Vac/400Vac
Temperature Coefficient	Y5P, Y5U, Y5V
Operating Temp. Range	-25℃ to+85℃
Capacitance Tolerance	±10%, ±20%, +80-20%
Dissipation Factor (D.F.)	±2.5%, ±5%
Packaging	Bulk,Tape/Box,Tape/Reel

#### LOW DF Type Y Series.



Low Dissipation Epoxy Resin coated

Capacitance Range	100pF to 4.7nF
Rated Working Voltage	KVdc to 3KVdc
Temperature Coefficient	Y5P, Y5R
Operating Temp. Range	-25℃ to+105℃
Capacitance Tolerance	±10%
Dissipation Factor (D.F.)	±0.2%, ±0.5%
Packaging	Bulk, Tape/Box, Tape/Reel

#### Class | Type T Series.



Temperature Compensation Low loss & High Stability

**Class II Type H Series.** 



Hi K Value Large Capacitance in Small Size

#### **Class III Type S Series.**



Semiconductive Ultra Large Capacitance in Small Size

#### High Voltage Type K Series.



Hi K Value Epoxy Resin coated

Capacitance Range	1.0pF to 680pF
Rated Working Voltage	50Vdc to 1000Vdc
Temperature Coefficient	NPO, SL
Operating Temp. Range	-25℃ to +85℃
Capacitance Tolerance	<sup>±</sup> 0.25pF, <sup>±</sup> 0.5pF, ±5%,±10%
Q Value	$C \le 30 \text{pF}, Q \ge 400+20^{\circ}\text{C},$ C > 30 pF, Q > 1000
Packaging	Bulk,Tape/Box,Tape/Reel

Capacitance Range	100pF to 10nF
Rated Working Voltage	50Vdc to 1000Vdc
Temperature Coefficient	Y5P, Z5U, Z5V
Operating Temp. Range	-25℃ to+85℃
Capacitance Tolerance	±10%, ±20%, +80-20%
Dissipation Factor (D.F.)	±2.5%, ±5%
Packaging	Bulk,Tape/Box,Tape/Reel

Capacitance Range	4.7nF to 470nF
Rated Working Voltage	6Vdc to 63Vdc
Temperature Coefficient	Y5P, Y5T, Y5U, Y5V
Operating Temp. Range	-25°C to+85°C
Capacitance Tolerance	±10%, ±20%, +80-20%
Dissipation Factor (D.F.)	±2.5%, ±5%
Packaging	Bulk,Tape/Box,Tape/Reel

Capacitance Range	0.5pF to 2
Rated Working Voltage	2KVdc to
Temperature Coefficient	NPO, SL, E
Operating Temp. Range	-25℃ to+
Capacitance Tolerance	±0.25pF, ± ±20%, +80-3
Q Value	$C \leq 30 \text{pF,G}$ $\frac{C > 30 \text{pF,G}}{C > 30 \text{pF,G}}$
Dissipation Factor (D.F.)	±2.5%, ±
Packaging	Bulk,Tape

22nF 15KVdc

B, E, F

+85℃

 $\pm 0.5 \text{pF}, \pm 5\%, \pm 10\%,$ -20%  $Q \ge 400+20^{*}C$ , Q > 1000

5%

e/Box,Tape/Reel

# **Film Capacitor**

#### **PEI Series**



Inductive Mylar Type Polyester

#### **MER Series**



Dipped Type Metallized Polyester

#### **MPR Series**



Dipped Type Metallized Polypropylene

#### **MPPS Series**



Small Size Series Wound Type for Ballast Metallized Polypropylene

#### **PPN** Series



Dipped Type Non-Inductive Polypropylene

Capacitance Range	.0nF to 0.47uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-40℃ to+85℃
Packaging	Bulk, Tape / Box
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

Capacitance Range	nF to 10uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk, Tape/Box
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

Capacitance Range	OnF to 3.3uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

Capacitance Range	nF to 68nF
Rated Working Voltage	000Vdc to 2000Vdc
Operating Temp. Range	-40℃ to +105℃
Packaging	Bulk, Tape/Box
Capacitance Tolerance $\pm 5\%$ , $\pm 10\%$	

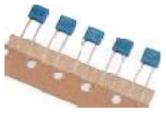
Capacitance Range	nF to 680nF
Rated Working Voltage	00Vdc to 1600Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk, Tape / Box
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

#### **PPS Series**



Series Wound Type Polypropylene

#### **MEB Series**



Mini Box Type Metallized Polyester

#### **MKT Series**



Box Type Metallized Polyester

#### **MKP Series**.



Box Type Metallized Polypropylene

#### **MKPS Series.**



Box Type Metallized Polypropylene High Voltage

Capacitance Range	.0nF to 0.033uF
Rated Working Voltage	000Vdc to 2000Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

Capacitance Range	.0nF to 2.2uF
Rated Working Voltage	63Vdc to 100Vdc
Operating Temp. Range	-40℃ to +105℃
Packaging	Tape/Box
Capacitance Tolerance	±5%, ±10%

Capacitance Range	OnF to 1.0uF
Rated Working Voltage	250Vdc to 630Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

Capacitance Range	OnF to 2.2uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk
Capacitance Tolerance	±5%, ±10%

Capacitance Range	.0nF to 22nF
Rated Working Voltage	000Vdc to 2000Vdc
Operating Temp. Range	-40℃ to+105℃
Packaging	Bulk
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

# **Film Capacitor**

#### **MET Series**



Axial Tubular Type Metallized Polyester

Capacitance Range	OnF to 100uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-55℃ to+125℃
Packaging	Bulk,Tape/Box
Capacitance Tolerance	±5%, ±10%

OnF to 68uF

-55℃ to+125℃

Bulk,Tape/Box

 $\pm 5\%, \pm 10\%$ 

00Vdc to 630Vdc

Capacitance Range

Packaging

Rated Working Voltage

Operating Temp. Range

Capacitance Tolerance

#### **MEF Series**



Axial Flat Oval Type Metallized Polyester

#### **MPT Series**.



Axial Tubular Type Metallized Polypropylene

Capacitance Range	OnF to 82uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-55℃ to+125℃
Packaging	Bulk,Tape/Box
Capacitance Tolerance	±5%, ±10%

#### **MPF Series**.



Axial Flat Oval Type Metallized Polypropylene

Capacitance Range	00nF to 68uF
Rated Working Voltage	00Vdc to 630Vdc
Operating Temp. Range	-55℃ to+125℃
Packaging	Bulk,Tape/Box
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

#### CKX Series X1 type



Class X1 Box Type Metallized Polypropylene

#### CKX Series X2 type



Class X2 Box Type Metallized Polypropylene

#### CKX Series Y2 type



Box Type Metallized Polypropylene

Capacitance Range	4.7nF to 10uF
Rated Working Voltage	310Vac to 480Vac
Operating Temp. Range	-40℃ to +110℃
Packaging	Bulk
Capacitance Tolerance	±5%, ±10%

Capacitance Range	.0nF to 1.0uF
Rated Working Voltage	250Vac to 310Vac
Operating Temp. Range	-40℃ to +100℃
Packaging	Bulk
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

Capacitance Range	.0nF to 0.1uF
Rated Working Voltage	250Vac to 275Vac
Operating Temp. Range	-40℃ to +100℃
Packaging	Bulk
Capacitance Tolerance	$\pm 5\%, \pm 10\%$

# Multilayer Ceramic Capacitors

#### NPO Chip Ceramic Cap.



**General Purpose** Medium & High Voltage

#### X5R Chip Ceramic Cap.



General Purpose High Capacitance

#### X7R Chip Ceramic Cap.



**General Purpose** Medium & High Voltage

#### X6S Chip Ceramic Cap.



General Purpose High Capacitance

#### X7S Chip Ceramic Cap.



General Purpose High Capacitance

Size	0201 to 2225
Rated Working Voltage	6Vdc to 4000Vdc
Capacitance Range	0.47pF to 220nF
Operating Temp. Range	-55℃ to+125℃
Capacitance Tolerance	$C < 10pF_{\pm}0.1pF_{\pm}0.25pF_{\pm}0.5pF_{C} \ge 10pF_{\pm}1\%, \pm 2\%, \pm 5\%$
Packaging	Tape / Reel
Size	0201 to 2220
Rated Working Voltage	6.3Vdc to 50Vdc
Capacitance Range	00nF to 470uF
Operating Temp. Range	-55℃ to +85℃
Capacitance Tolerance	±10%, ±20%
Packaging	Tape / Reel
Size	0201 to 2225
Rated Working Voltage	0Vdc to 4000Vdc
Capacitance Range	100pF to 22uF
Operating Temp. Range	-55℃ to +125℃
Capacitance Tolerance	±10%, ±20%
Packaging	Tape / Reel
Size	0201 to 1210
Rated Working Voltage	6.3Vdc to 50Vdc
Capacitance Range	00nF to 100uF
Operating Temp. Range	-55℃ to+105℃
Capacitance Tolerance	±10%
Packaging	Tape / Reel
Size	0402 to 1210
Rated Working Voltage	6.3Vdc to 100Vdc
Capacitance Range	uF to 100uF
Operating Temp. Range	-55℃ to +125℃
Capacitance Tolerance	±10%
Packaging	Tape / Reel

# **ST Series** Size Ra C Ter C Pa Size Ra C Ter Soft Termination **OP Series** Open Mode Medium Voltage **RF Series** Ultra Hi-Q and LOW ESR XL Series. Ultra Large Size **CA Series** Capacitor Array -----Pa

ze	0603 to 2225
ated Working Voltage	50Vdc to 4000Vdc
apacitance Range	1.5pF to 10uF
emperature Coefficient	NPO, X7R
apacitance Tolerance	NPO: C < 10pF_ $\pm$ 0.1pF, $\pm$ 0.25pF, $\pm$ 0.5pF;C $\ge$ 10pF_ $\pm$ 1%, $\pm$ 2%, $\pm$ 5% X7R: $\pm$ 10%, $\pm$ 20%
ackaging	Tape / Reel
ze	0805 to 1812
ated Working Voltage	00Vdc to 500Vdc
apacitance Range	100pF to 1.0uF
emperature Coefficient	X7R
apacitance Tolerance	±10%, ±20%
ackaging	Tape / Reel
ze	0201 to 0805
ated Working Voltage	25Vdc to 250Vdc
apacitance Range	0.1pF to 100pF
emperature Coefficient	NPO
apacitance Tolerance	$C \leq 5pF_{\pm}0.05pF, \pm 0.1pF, \pm 0.25pF;5p$ F <c<10pf_<math>\pm 0.1pF, \pm 0.25pF, \pm 0.5pF C <math>\geq 10pF_{\pm}1\%, \pm 2\%, \pm 5\%</math></c<10pf_<math>
ackaging	Tape / Reel
ze	2020 to 13060
ated Working Voltage	50Vdc to 10KVdc
apacitance Range	100pF to 47uF
emperature Coefficient	NPO, X7R
apacitance Tolerance	±5%, ±10%, ±20%
ackaging	Tape / Reel
ze	0508 & 0612
ated Working Voltage	6Vdc to 50Vdc
apacitance Range	10pF to 100nF
emperature Coefficient	NPO, X7R, Y5V
apacitance Tolerance	NPO: <sup>±</sup> 5% X7R:±10%,±20%; Y5V:±20% +80-20%
ackaging	Tape / Reel

# Multilayer Ceramic Capacitors

#### **FK Series**



X1/Y2

#### **FH Series**



Х2

#### Type R Series.



Radial Lead type Epoxy Resin coated

Size	808 to 2220
Rated Working Voltage	250VAC
Capacitance Range	COG:3PF~720PF(5KV)/4PF~100PF(6KV) X7R:100PF~4700PF(5KV)
Packaging	Tape / Reel

Size	206 to 2220
Rated Working Voltage	250VAC, 2.5KVdc
Capacitance Range	COG:3PF~1000PFKV) X7R:150PF~22NF / 100PF~4700PF(1206)
Packaging	Tape / Reel

R15, R20, R25
6Vdc to 3KVdc
NPO, X7R, Z5U, Y5V, X5R
NPO, X7R: -55°C to+155°C, Z5U: +10°C to+85°C,Y5V: -30°C to+85°C
±0.25pF, ±0.5pF, ±5%, ±10%, ±20%, +80-20%
0.15 % to 10%
Bulk,Tape/Box,Tape/Reel

# **SMD** Resistor

**HWF Series** 



Automotive Grace Thick Film

#### **RC Series**



General Purpose Thick Film

#### **RT Series**



High Precision Series Thin Film

#### **RE Series**



High Precision Thick Film

Size	0402 to 2512
Max. Working Voltage	50Vdc to 250Vdc
Resistance Range	OR, 1 Ω to 10M Ω
Max. Overload Voltage	00Vdc to 500Vdc
Rated Power @ 70℃	1/16W to 1W
Resistance Tolerance	$\pm 1\%, \pm 5\%$
Temp. Coefficient	±100ppm/°C ,±200ppm/°C

Size	0201 to 2512
Max. Working Voltage	25Vdc to 250Vdc
Resistance Range	OR, 1 Ω to 20M Ω
Max. Overload Voltage	50Vdc to 500Vdc
Rated Power @ 70°C	1/20W to 1W
Resistance Tolerance	$\pm$ 1%, ±5%
Temp. Coefficient	±100ppm/°C ,±200ppm/°C

Size	0201 to 2512
Max. Working Voltage	25Vdc to 200Vdc
Resistance Range	0Ω to1MΩ
Max. Overload Voltage	50Vdc to 400Vdc
Rated Power @ 70°C	1/32W to 1W
Resistance Tolerance	$\pm 0.05\%, \pm 0.1\%, \pm 0.25\%, \pm 0.5\%, \pm 1\%$
Temp. Coefficient	±10ppm/°C , ±15ppm/°C, ±25ppm/°C , ±50ppm/°C

Size	0402 to 1206
Max. Working Voltage	50Vdc to 200Vdc
Resistance Range	$0\Omega$ to $1M\Omega$
Max. Overload Voltage	00Vdc to 400Vdc
Rated Power @ 70°C	1/16W to 1/4W
Resistance Tolerance	±0.1%,±0.25%,±0.5%,±1%
Temp. Coefficient	±50ppm/℃

# **SMD** Resistor

#### **RL Series**



Low Ohmic Series Thick Film

#### **HPF Series**



 $\begin{array}{l} \text{High Power} \geq \ 1 \ \text{ohm} \\ \text{Thick Film} \end{array}$ 

#### **HPL Series**



High Power < 1 ohm Thick Film

#### **HSR Series**



Surge Series Thick Film

Size	0603 to 2512
Max. Working Voltage	331mV to 954mV
Resistance Range	$0m\Omega$ to 910m $\Omega$
Max. Overload Voltage	754mV to 2133mV
Rated Power @ 70°C	1/10W to 1W
Resistance Tolerance	±1%, ±5%
Temp. Coefficient	$\pm$ 100ppm/°C to $\pm$ 400ppm/°C

Size	0402 to 2512
Max. Working Voltage	50Vdc to 300Vdc
Resistance Range	OR, 1 Ω to 10M Ω
Max. Overload Voltage	00Vdc to 600Vdc
Rated Power @ 70°C	1/8W to 2W
Resistance Tolerance	$\pm 1\%, \pm 5\%$
Temp. Coefficient	±100ppm/°C , ±200ppm/°C

Size	0603 to 2512
Max. Working Voltage	477mV to 1349mV
Resistance Range	0m to 910m
Max. Overload Voltage	067mV to 3017mV
Rated Power @ 70°C	1/4W to 2W
Resistance Tolerance	±1%, ±5%
Temp. Coefficient	$\pm$ 100ppm/°C to $\pm$ 400ppm/°C

Size	0603 to 2512
Max. Working Voltage	50Vdc to 200Vdc
Resistance Range	Ω to 1MΩ
Max. Overload Voltage	00Vdc to 400Vdc
Rated Power @ 70°C	1/10W to 1W
Resistance Tolerance	$\pm 1\%, \pm 5\%$
Temp. Coefficient	±100ppm/℃

#### **HVR Series**



High Voltage Series Thick Film

#### **HHR Series**



High Ohmic Series Thick Film

#### **HMR Series**



Mega High Ohmic Series Thick Film

#### **HLR Series**



Low Resistance High Power Metal Strip

0603 to 2512
200Vdc to 3000Vdc
00 $\Omega$ to 100 M $\Omega$
400Vdc to 4000Vdc
1/10W to 1W
$\pm 1\%, \pm 5\%$
$\pm$ 100ppm/°C , $\pm$ 200ppm/°C

Size	0603 to 2512
Max. Working Voltage	75Vdc to 250Vdc
Resistance Range	20M1Ω to 100MΩ
Max. Overload Voltage	50Vdc to 500Vdc
Rated Power @ 70°C	1/10W to 1W
Resistance Tolerance	±5%
Temp. Coefficient	±400ppm/℃

Size	0805 to 1206
Max. Working Voltage	50Vdc to 200Vdc
Resistance Range	$10M\Omega$ to $1G\Omega$
Max. Overload Voltage	300Vdc to 400Vdc
Rated Power @ 70°C	1/8W to 1/4W
Resistance Tolerance	±5%
Temp. Coefficient	$\pm$ 500ppm/°C , $\pm$ 1000ppm/°C

Size	2512
Max. Working Voltage	
Resistance Range	$7m\Omega$ to $100m\Omega$
Max. Overload Voltage	300Vdc to 400Vdc
Rated Power @ 70°C	W to 3W
Resistance Tolerance	$\pm 0.5\%, \pm 1\%, \pm 5\%$
Temp. Coefficient	$\pm 50$ ppm/°C to $\pm 75$ ppm/°C

# **SMD** Resistor

#### **HCS Series**



Current Sensing Series Metal Strip

#### **FVS Series**



Safety Certificated AEC-Q200 Certified

#### **HYC/HTC Series**



Array Series Thick Film

#### **CM/CML** Series



Melf &Mini Melf Carbon Film

Size	206 to 593
Max. Working Voltage	22mV to 224mV
Resistance Range	m $\Omega$ to 50m $\Omega$
Max. Overload Voltage	274mV to 500mV
Rated Power @ 70℃	1/2W to 5W
Resistance Tolerance	±1%, ±5%
Temp. Coefficient	$\pm$ 70ppm/°C to $\pm$ 100ppm/°C

Size	0603 to 2512
Max. Working Voltage	200V to 3000V
Resistance Range	00K Ω to 100M Ω
Max. Overload Voltage	400V to 4000V
Rated Power @ 70°C	1/10W to 1W
Resistance Tolerance	$\pm$ 1%, ±5%
Temp. Coefficient	$\pm$ 100ppm/°C to $\pm$ 200ppm/°C

Circuit	solated, Dual Common
Max. Working Voltage	25Vdc to 50Vdc
Resistance Range	OR, $10\Omega$ to $1M\Omega$
Max. Overload Voltage	50Vdc to 100Vdc
Rated Power @ 70°C	1/16W
Resistance Tolerance	$\pm$ 1%, ±5%
Temp. Coefficient	±200ppm/°C , ±300ppm/°C

Size	0204 to 0309
Max. Working Voltage	250V to 350V
Resistance Range	OR, 1 $\Omega$ to 10M $\Omega$
Max. Overload Voltage	500V to 700V
Rated Power @ 70°C	1/4W to 2W
Resistance Tolerance	±2%, ±5%
Temp. Coefficient	-1500ppm/ $^{\circ}$ C to $\pm$ 300ppm/ $^{\circ}$ C

#### **MM/MML Series**



Melf &Mini Melf Metal Film

Size	0102 to 0207
Max. Working Voltage	50V to 350V
Resistance Range	OR, 1 $\Omega$ to 10M $\Omega$
Max. Overload Voltage	300V to 700V
Rated Power @ 70℃	1/8W to 1W
Resistance Tolerance	$\pm$ 0.1% to $\pm$ 5%
Temp. Coefficient	$\pm$ 15ppm/°C to $\pm$ 100ppm/°C

# **Dipped Resistor**

#### **CR** Series



CARBON FILM Normal & Miniature Style

#### **FCR Series**



CARBON FILM FLAME-PROOF Normal & Miniature Style

#### **MG Series**



Metal Glaze Normal Style

#### **KNP Series**



WIREWOUND RESISTORS Normal & Miniature Style

Resistance Range	0.1 Ω to 22M Ω & 0 Ω
Max. Working Voltage	200Vdc to 500Vdc
Rated Power @ 70°C	1/8W to 3W
Max. Overload Voltage	400Vdc to 1KVdc
Temp. Coefficient	±300ppm/°C to±1000ppm/°
Packaging Resistance	Bulk, Tape/Box,Tape/Reel
Tolerance	±2%,±5%

Resistance Range	0.1 Ω to 22M Ω &0 Ω	
Max. Working Voltage	200Vdc to 500Vdc	
Rated Power @ 70°C 1/8W t	ro 3W	
Max. Overload Voltage 400Vdc to 1KVdc		
Temp. Coefficient	$\pm$ 300ppm/°C to $\pm$ 800ppm/°C	
Packaging Resistance	Bulk,Tape/Box,Tape/Reel	
Tolerance	±2%,±5%	

Resistance Range	00k $\Omega$ to 33M $\Omega$
Max. Working Voltage	000Vdc
Rated Power @ 70°C	1/4W to 2W
Max. Overload Voltage	500Vdc
Temp. Coefficient	±200ppm /°C
Packaging Resistance	Bulk,Tape/Box,Tape/Reel
Tolerance	±1%,±5%

Resistance Range	0.1 Ω to 4.7K Ω
Max. Working Voltage	√ PxR
Rated Power @ 70°C	1/4W to 15W
Max. Overload Voltage	√ PxRx10
Temp. Coefficient	$\pm 200$ to 300ppm/°C
Flameproof Coating Meet	UL94V-0
Resistance Tolerance	±1%,±5%
Packaging	Bulk,Tape/Box,Tape/Reel

#### **MFR Series**



METAL FILM Normal & Miniature Style

#### **MFR-SS Series**



PROFESSIONAL METAL FILM Super Miniature Style

#### **FMF Series**



METAL FILM FLAME-PROOF Normal & Miniature Style

#### **MOR Series**



METAL OXIDE FILM Normal & Miniature Style

Resistance Range	Ω to 10M $Ω$ & 0 $Ω$
Max. Working Voltage	200Vdc to 500Vdc
Rated Power @ 70℃	1/8W to 3W
Max. Overload Voltage	400Vdc to 1KVdc
Temp. Coefficient	±15,±25,±50,±100ppm/°C
Packaging Resistance	Bulk, Tape/Box,Tape/Reel
Tolerance	±0.05%,±0.1%,±1%,±5%

Resistance Range Max. Working Voltage Rated Power @ 70°C Max. Overload Voltage Temp. Coefficient Packaging Resistance Tolerance

200Vdc to 500Vdc 1/2W to 3W 400Vdc to 1KVdc ±100~300ppm/℃ Bulk, Tape/Box,Tape/Reel ±1%,±5%

 $\Omega$  to 10M  $\Omega$  & 0  $\Omega$ 

Resistance Range		
Max. Working Voltage		
Rated Power @ 70℃		
Max. Overload Voltage		
Temp. Coefficient		
Flameproof Silicone Coating Meet		
Resistance Tolerance		
Packaging		

Resistance Range Max. Working Voltage Rated Power @ 70°C Max. Overload Voltage Temp. Coefficient Flameproof Silicone Coating Meet Resistance Tolerance Packaging 200Vdc to 500Vdc 1/8W to 3W 400Vdc to 1KVdc ±50,±100ppm/℃ UL94V-0 ±1%

Ω to 10M Ω & 0 Ω

Bulk, Tape/Box,Tape/Reel

е	ΩtolMΩ
ltage	250Vdc to 700Vdc
<b>′0℃</b>	1/4W to 5W
′oltage	500Vdc to 1KVdc
nt	±300ppm/℃
ne	UL94V-0
nce	$\pm$ 1%, $\pm$ 5%
	Bulk, Tape/Box,Tape/Reel

# **Dipped Resistor**

#### **NKNP Series**



NON-INDUCTIVE WIRE WOUND RESISTORS Normal & Miniature Style

#### **SQP Series**



CEMENT RESISTORS Axial Lead Style

#### **SQM Series**



CEMENT RESISTORS Vertical Lead Style

#### **SQZ** Series



CEMENT RESISTORS Radial Lead Style

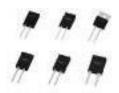
Resistance Range	0.033 Ω to 150 Ω
Max. Working Voltage	√ PxR
Rated Power @ 70°C	1/4W to 5W
Max. Overload Voltage	√ PxRx10
Temp. Coefficient	±300ppm/°C
Flameproof Coating Meet	UL94V-0
Resistance Tolerance	±1%,±5%
Packaging	Bulk, Tape/Box,Tape/Reel

Resistance Range	0.1 Ω to 1 M Ω
Max. Working Voltage	350Vdc to 1KVdc
Rated Power @ 70°C	2W to 25W
Max. Overload Voltage	700Vdc to 1.5KVdc
Temp. Coefficient	±300ppm/℃
Packaging Resistance	Bulk
Tolerance	$\pm 1\%, \pm 5\%$

Resistance Range	0.1Ωto1MΩ
Max. Working Voltage	500Vdc to 1KVdc
Rated Power @ 70°C	2W to 11W
Max. Overload Voltage	KVdc to 1.5KVdc
Temp. Coefficient	±300ppm/°C
Packaging Resistance	Bulk
Tolerance	$\pm 1\%, \pm 5\%$

Resistance Range	0.1 \Omega to 1 M \Omega
Max. Working Voltage	E= √ PxR
Rated Power @ 70°C	5W to 20W
Max. Overload Voltage	√ PxRx25
Temp. Coefficient	±300ppm/°C
Packaging Resistance	Bulk
Tolerance	$\pm 1\%, \pm 5\%$

#### **TR Series**



POWER RESISTOR TO-220 & TO-247 package

#### **SIP Series**



RESISTOR NETWORK Single in Line Package

#### **AH Series**



ALUMINUM HOUSED Power Type

Resistance Range	Ωto10KΩ
Max. Working Voltage	350Vdc to 700Vdc
Rated Power @ 70°C	20W to 100W
Dielectric Strength	800Vac at 5 sec
Temp. Coefficient	±50to±300ppm /℃
Packaging Resistance	Bulk
Tolerance	±1%,±5%

Resistance Range	0Ωto1MΩ
Max. Working Voltage	00Vdc
Rated Power	0.125W to 0.2W
Dielectric Strength	500V
Temp. Coefficient	±100to±250ppm /℃
Packaging Resistance	Bulk
Tolerance	±2%,±5%

Resistance Range	0. 1 Ω to 100K Ω
Max. Working Voltage	400Vdc to 1KVdc
Rated Power	0W to 250W
Temp. Coefficient	±50,±100,±200ppm/℃
Packaging Resistance	Bulk
Tolerance	$\pm$ 1%, $\pm$ 5%

# **Chip Inductors**

#### **SAL Series**



Thin Film High Fregueray

#### **SMI Series**



MULTILAYER FERRITE General Application

#### **SFI Series**



MULTILAYER CERAMIC General Application

#### **SWI Series**



WIRE WOUND OPEN TYPE

#### **SCI Series**



WIRE WOUND MOLDED TYPE

Size	0201, 0402
Tolerance	±0.1nH, ±0.2nH, ±0.3nH,
	<u>±1%, ±2%, ±3%, ±5%,</u> 0.1nH to 33nH
Inductance Range	
Rated Current	75mA to 1000mA
Test Frequency	500MHz
Packaging	Tape & Reel
<u>Cia a</u>	0/02 0005 100/
Size	
Tolerance	$\pm 10\%, \pm 20\%$
Inductance Range	OnH to 100uH
Rated Current	2mA to 300mA
Test Frequency	0.4 to 50MHz
Packaging	Tape & Reel
Size	0402, 0603
Tolerance	$\pm$ 0.3nH to $\pm$ 5%
Inductance Range	nH to 270nH
Rated Current	00mA to 1000mA
Test Frequency	50 to 100MHz
Packaging	Tape & Reel
Size	0402,0603,0805,1008,1210
Tolerance	±5% ±10%, ±20%
Inductance Range	nH to 330uH
Rated Current	00mA to 1360mA
Test Frequency	00KHz to 250MHz
Packaging	Tape & Reel
Size	008, 1210, 1812
Tolerance	±5% ±10%, ±20%
Inductance Range	0.01uH to 1000uH
Rated Current	30mA to 800mA
Test Frequency	252KHz to 100MHz
Packaging	Tape & Reel

#### **SCI-HT Series**



WIRE WOUND MOLDED TYPE High Current

#### **FBM Series**



MULTILAYER FERRITE General Application

Size	210
Tolerance	±10%, ±20%
Inductance Range	uH to 100uH
Rated Current	70mA to 1000mA
Test Frequency	796KHz to 7.96MHz
Packaging	Tape & Reel
Size	0402, 0603, 0805, 1206, _1210,1806, 1812
Size DC Resistance	
-	1210,1806, 1812
DC Resistance	<u>1210,1806, 1812</u> 0.05Ω to 1Ω
DC Resistance Impedance Range	1210,1806, 1812       0.05 Ω       6 Ω       6 Ω
DC Resistance Impedance Range Rated Current	1210,1806, 1812         0.05 Ω       to 1 Ω         6 Ω       to 2200 Ω         50mA to 600mA

#### **SQA Series**



High Frequency Air Coil SMD Type

#### **SQB** Series



High Frequency Air Coil SMD Type

#### **RSA Series**



High Frequency Air Coil SMD Type

#### **MSA Series**



High Frequency Air Coil SMD Type

#### **DSA Series**



High Frequency Air Coil SMD Type

Size	0806, 0807, 0908
Inductance Range	5.5nH to 27nH
Packaging	Tape/Reel
Rated Current	2.7A to 4.4A
Test Frequency	400MHz
Tolerance	$\pm 2\%, \pm 5\%, \pm 10\%$
Size	515,2222,2929
Inductance Range	47nH to 500nH
Packaging	Tape/Reel
Rated Current	3.7A to 5.7A
Test Frequency	50MHz400MHz
Tolerance	±2%, ±5%
Size	0906,1606
Inductance Range	.65nH to 12.55nH
Packaging	Tape/Reel
Rated Current	.6A
Test Frequency	800MHz
Tolerance	$\pm 2\%, \pm 5\%, \pm 10\%$
Size	512,2712
Inductance Range	2.5nH to 43nH
Packaging	Tape/Reel
Rated Current	4.0A
Test Frequency	50MHz
Tolerance	$\pm 2\%, \pm 5\%, \pm 10\%$
Size	915
Inductance Range	22nH to 120nH
Packaging	Tape/Reel
Rated Current	.5A to 3.5A
Test Frequency	50MHz
Tolerance	$\pm 2\%, \pm 5\%, \pm 10\%$

#### **XSA Series**



High Frequency Air Coil SMD Type

#### PC Series



Power Choke

Size	4225
Inductance Range	90nH to538nH
Packaging	Tape/Reel
Rated Current	2.0A to 3.5A
Test Frequency	50MHz
Tolerance	$\pm 2\%, \pm 5\%, \pm 10\%$
Size	0808, 0908, 1210
Inductance Range	.0nH to 15mH
Packaging	Bul
Rated Current	0.08 A to 10A
Test Frequency	0.079~7.9MHz
Tolerance	±2%, ±5%

#### **CSS Series**



POWER TYPE Closed Magnetic Closed Magnetic Circuit Core

#### **CSM Series**



POWER TYPE Magnetic resin shield

#### **CSN Series**



POWER TYPE Unshield

#### **CSP Series**



POWER TYPE Unshield

#### **CSG Series**



POWER TYPE Unshield

Size	6025, 6028, 7032, 7045, 10145,
Inductance Range	_2555, 12565, 12575 .2uH to 1500uH
Packaging	Tape/Reel
Rated Current	0.13A to 8.2A
Test Frequency	K HZ
Tolerance	±20%
Size	2012,2410,2412,3010,30123015, 4010,4012, 4018,5010,5012,5014, 5020,5040,6010,6012, 6020,6028,6045,8040
Inductance Range	.2uH to 1500uH
Packaging	Tape/Reel
Rated Current	0.17A to 7.8A
Test Frequency	00KHz & 1MHz
Tolerance	±20%, ±30%
Size	0302,0403,0604,0705,1040,1054, 303,1305
Inductance Range	.0uH to 1000uH
Packaging	Tape/Reel
Rated Current	0.05A to 6.8A
Test Frequency	K~100KHz
Tolerance	±10%, ±15%, ±20%
Size	0603~1209
Inductance Range	0.54uH to 1000uH
Packaging	Tape/Reel
Rated Current	80mA to 9000mA
Test Frequency	KHz to 100KHz
Tolerance	<u>+20%, ±30%</u>
	±20%, ±30%
Size	2D11 to 10D25
Inductance Range	uH to 100uH
Packaging	Tape/Reel
Rated Current	30mA to 5800mA
Test Frequency	OOKHz
Tolerance	±20%, ±30%

#### **SMF Series**



SMD Type 200W

#### **P4SMA Series**



SMD Type 400W

#### **P6SMB Series**



SMD Type 600W

#### **1.5SMCJ Series**



SMD Type 1500W

Package	SOD123S
Working Peak Reverse Voltage VRWM	5.0V ~ 220V
Max. Reverse Leakage R@ VRWM	uA ~ 400uA
Max. Clamping Voltage Vc@lpp	9.2V ~ 356V
Max. Reverse Surge Current Ipp	0.56A ~ 21.74A

Package	DO-214AC (SMA)
Working Peak Reverse Voltage VRWM	5.0V ~ 440V
Max. Reverse Leakage R@ VRWM	5uA ~ 800uA
Max. Clamping Voltage Vc@lpp	9.6V ~ 713V
Max. Reverse Surge Current Ipp	0.56A ~ 41.67A

Package	DO-214AA(SMB)
Working Peak Reverse Voltage VRWM	5.0V ~ 440V
Max. Reverse Leakage R@ VRWM	5uA ~ 800uA
Max. Clamping Voltage Vc@lpp	9.6V ~ 713V
Max. Reverse Surge Current Ipp	0.8A ~ 62.5A

Package	DO-214AB(SMC)
Working Peak Reverse Voltage VRWM	5.0V ~ 440V
Max. Reverse Leakage R@ VRWM	
Max. Clamping Voltage Vc@lpp	9.6V ~ 713V
Max. Reverse Surge Current Ipp	2.1A ~ 156.3A

#### **3.0SMCJ Series**



SMD Type 3000W

#### **5.0SMCJ Series**



SMD Type 5000W

#### **P4KE Series**



Axial Type 400W

#### **P6KE Series**



Axial Type 600W

Package	DO-214AB(SMC)
Working Peak Reverse Voltage VRWM	5.0V ~ 440V
Max. Reverse Leakage R@ VRWM	2uA ~ 5000uA
Max. Clamping Voltage Vc@lpp	9.6V ~ 713V
Max. Reverse Surge Current Ipp	4.21A ~ 312.5A

Package	DO-214AB(SMC)
Working Peak Reverse Voltage VRWM	1V ~ 440V
Max. Reverse Leakage R@ VRWM	5uA ~ 800uA
Max. Clamping Voltage Vc@lpp	8.2V ~ 713V
Max. Reverse Surge Current Ipp	7.0A ~ 274.7A

Package	DO-41
Working Peak Reverse Voltage VRWM	5.5V ~ 459V
Max. Reverse Leakage R@ VRWM	5uA ~ 1000/2000uA
Max. Clamping Voltage Vc@lpp	0.8V ~ 740V
Max. Reverse Surge Current Ipp	0.54A ~ 40A

Package	DO-15
Working Peak Reverse Voltage VRWM	5.5V ~ 459V
Max. Reverse Leakage R@ VRWM	5uA ~ 1000/2000uA
Max. Clamping Voltage Vc@lpp	0.8V ~ 740V
Max. Reverse Surge Current Ipp	0.81A ~ 57A

#### **1.5KE Series**



Axial Type 1500W

#### **3KP Series**



Axial Type 3000W

#### **5KP Series**



Axial Type 5000W

#### KA/KB/KC Series



Axial Type 5000W

Package	DO-201AE
Working Peak Reverse Voltage VRWM	5.5V ~ 459V
Max. Reverse Leakage R@ VRWM	5uA ~ 1000uA
Max. Clamping Voltage Vc@lpp	0.8V ~ 740V
Max. Reverse Surge Current Ipp	2.03A ~ 143A

Package	P6
Working Peak Reverse Voltage VRWM	5V ~ 180V
Max. Reverse Leakage R@ VRWM	2uA ~ 5000uA
Max. Clamping Voltage Vc@lpp	9.6V ~ 322.2V
Max. Reverse Surge Current Ipp	9.31A ~ 326.09A

Package	P6
Working Peak Reverse Voltage VRWM	5V ~ 180V
Max. Reverse Leakage R@ VRWM	2uA ~ 5000uA
Max. Clamping Voltage Vc@lpp	9.6V ~ 322.2V
Max. Reverse Surge Current Ipp	5.52A ~ 543.48A

Package	Axial Lead
Working Peak Reverse Voltage VRWM	
Max. Reverse Leakage R@ VRWM	0uA
Max. Clamping Voltage Vc@lpp	10V ~ 625V
Max. Reverse Surge Current Ipp	64V~440V

# Metal Oxide Varistors

#### **General Purpose**



Dipped Type Radial Leaded

#### **High Surge Absorption**



Dipped Type Radial Leaded

#### **C** Series



Wide Range Application SMD Type

#### **A** Series



High Surge Absorption SMD Type

#### K Series A type



High Surge Absorption SMD Type

#### Size

Varistors Voltage	
Max. Energy (10/1000uS)	
Working Temp. Range	
Max. Peak Current(8/20uS)	
Varistors Tolerance	

#### Size

Varistors Voltage	
Max. Energy (10/1000uS)	
Working Temp. Range	
Max. Peak Current(8/20uS)	
Varistors Tolerance	

#### Size

Varistors Voltage Max. Energy (10/1000us Working Temp. Range Max. Peak Current(8/20 Varistors Tolerance

## Size Varistor Max. Er Working Max. Pe Varistor

Size	3220 (08CH)
Varistors Voltage	68Vdc to 150Vdc
Max. Energy (10/1000uS)	5.5Joule to 14Joule
Working Temp. Range	-40°C to +85°C
Max. Peak Current(8/20uS)	1000Amps
Varistors Tolerance	±10%

_	05D to 53D
_	8Vdc to 1600Vdc
_	0.4Joule to 2500Joule
_	-40℃ to +85℃
)	100Amps to 70,000Amps
-	$\pm 10\%, \pm 15\%$

05D to 53D 8Vdc to 1600Vdc 0.6 Joule to 2500 Joule -40℃ to +85℃ 250Amps to 70,000Amps  $\pm 10\%, \pm 15\%$ 

	0402 to 2220	
	8Vdc to 100Vdc	
S)	0.05Joule to 8.8Joule	
	-40℃ to +85℃	
DUS)	20Amps to 1,000Amps	
	±10%	

	206 to 2220
rs Voltage	8Vdc to 56Vdc
nergy (10/1000uS)	0.5Joule to 12Joule
g Temp. Range	-40℃ to +85℃
eak Current(8/20uS)	200Amps to 1,200Amps
rs Tolerance	±10%

#### K Series C type



Wide Range Application SMD Type

Size	3220 (08CH)
Varistors Voltage	56Vdc to 470Vdc
Max. Energy (10/1000uS)	2.5Joule to 21.6Joule
Working Temp. Range	-40℃ to+85℃
Max. Peak Current(8/20uS) 400Amps to 1000Amps	
Varistors Tolerance	±10%

# Resettable Fuse (PPTC)

#### **RDL 60V Series**



Radial Type

#### **RDL 30V Series**



Radial Type

#### **RDL 16V Series**



Radial Type

#### 0603~2920 Series



SMD Type

Voltage	6Vdc to 15Vdc
Hold Current	0.1Amp to 3.75Amp
Trip Current	0.2Amp to 7.50Amp
nitial resistance	0.03 Ω to 2.50 Ω
Max. Power Dissipation	0.38Watt to 3.20 Watt

Voltage	30Vdc	
Hold Current	0.09 Amp to 9.0Amp	
Trip Current	1.8Amp to 18.0Amp	
nitial resistance	0.005Ω to 0.07Ω	
Max. Power Dissipation	0.60Watt to 4.20 Watt	

Voltage	6Vdc	
Hold Current	0.7Amp to 15.0Amp	
Trip Current	1.4Amp to 25.5Amp	
nitial resistance	0.002Ω to 0.13Ω	
Max. Power Dissipation	0.60Watt to 4.80 Watt	

Voltage	6Vdc to 60Vdc	
Hold Current	0.3Amp to 3.0Amp	
Trip Current	0.6Amp to 6.0Amp	
nitial resistance	0.012Ω to 0.60Ω	
Max. Power Dissipation	.50Watt	

Note	

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