

2012



Product Selector guide

Transient Voltage Suppressor(TVS)

ESD & EMI Solution
Protection

Wayon's Protection products are designed to meet the industry's most rigid immunity standards, including:

- IEC61000-4-2(ESD)
- IEC61000-4-4(EFT)
- IEC61000-4-5(lightning)
- Telcordia GR-1089
- ITU K.20,K21

Typical Applications:

- Portables
- Ethernet
- Set Top Box
- LCDTV/Monitor interfaces:HDMI/DVI/DisplayPort
- Telecom/Datacom interface
- Servers/Desktop/Notebooks

上海长园维安微电子有限公司

Shanghai Changyuan Wayon Circuit Protection Co.,Ltd.

公司介绍 COMPANY PROFILE

长园维安 (WAYON) 作为领先的线路防护元器件及保护模块提供商, 是全球少数几家掌握先进防护元件核心技术及为客户提供最优电路保护解决方案的公司之一。

长园维安提供应对过电流、过电压、过温及抗电磁干扰的广泛的电路保护产品。包括自恢复保险丝 (PPTC)、瞬态电压抑制器 (TVS、SESD Arrays)、多功能集成保护IC (ESD/EMI)、高分子静电抑制器 (PESD)、晶闸管浪涌保护器 (Thyristor)、片式独石熔断器 (Chip Fuse)、温度保险丝 (Thermal Fuse)、陶瓷热敏电阻 (CPTC)、PCM保护模块等, 应用领域涵盖移动通信、计算机系统、汽车电子、数字消费类电子、电池、安防监控、仪器仪表、家电、工控设备等。

长园维安坚持以客户为中心、以市场为导向的理念, 强调高品质与领先技术竞争力, 我们经验丰富极具开创能力的研发团队, 不断对市场需求做出快速响应, 推陈出新、追求以最短研发周期使创新产品从实验室走向客户端。公司连续15年被评为上海市高新技术企业, 拥有独立知识产权体系及100多项专利, 被评为“上海市知识产权示范企业”。

公司严格遵守ISO9001、ISO/TS16949、ISO14001等国际质量环境管理体系, 致力于提供符合IEC/MIL/UL/YUV/CSA/SGS等各类规范的高质量绿色环保产品。在电路安全领域, 我们竭尽所能, 为全球电子设计工程师提供可靠的专业技术意见, 为世界顶尖品牌的采购经理们提供高性价比一站式解决方案。

长园维安 —— 维护安全, 专业之选!

Changyuan Wayon, established in 1996, specializes in manufacturing, R&D and distribution of circuit protective components in the world. Possessing the core techniques in circuit protection components and its own exclusive intellectual property, Wayon offers excellent products and professional total circuit protection solutions to its customers. As the largest circuit protection component providers in China, Wayon provides widely products about over-current, over-temperature, over-voltage and EMI protection, including Polymer-base PTC resettable fuses (PPTC), Transient Voltage Suppressors (TVS/SESD arrays), Multi-function integrated Protection IC (ESD/EMI), Polymer ESD Suppressors (PESD), Thyristor Surge Protector (TSP), Ceramic PTC (CPTC), Chip Fuse, Thermal Fuse, Protection Circuit Modules (PCM). Major products passed the UL, TUV, CSA and SGS approvals. Products widely applied in many fields such as Cell Phone, Desktop/Notebook, IT equipment, telecommunications, automobile electronics, digital consumer products, battery, industrial electronics etc. Wayon achieved ISO9002 in 1998, closely followed by QS9000 and ISO9001 in 2001, also ISO14000 certified in 2003. And in 2006, Wayon passed the TS16949 Quality system recognition. Yes, Wayon, on the way, let's make electronics safer!

Standard Capacitance TVS Diode



Part number	Description	Device Schematic	V _{RWM} MAX(V)	V _{BR} MIN(V)	C MAX(pF)	Peak Power(W) (8/20μs)	I _{PP} (A) @8/20μs	I _R MAX (μA) @V _{RWM}	Package
WE03DB1 WE05DB1	Unidirectional TVS Diode, 0402 Size, 1 Line ESD protection		3.3 5	4 6	25 23	100	6.5 6.5	1	FBP2C
WE05DB1-B	Bidirectional TVS Diode, 0402 Size, 1 Line ESD protection		5	6	10	100	6.5	1	FBP2C
WE03D5 WE05D5 WE12D5 WE24D5	Unidirectional TVS Diode, 0603 Size, 1 Line ESD protection		3.3 5 12 24	4 6 13.3 26.7	120 90 40 20	200	20 18 8 4	1	SOD523
WE05D5BC-B	Bidirectional TVS Diode, 0603 Size, 1 Line ESD protection		5	6	10	100	6.5	1	SOD523
WE03D3BC-B WE05D3BC-B WE12D3BC-B	Bidirectional TVS Diode, 0805 Size, 1 Line ESD protection		3.3 5 12	4 6 13.3	12 10 5	100	8.0 6.5 5.0	1	SOD323
WS03D WS05D WS12D WS15D WS24D	Unidirectional TVS Diode, 0805 Size, 1 Line ESD&Surge protection		3.3 5 12 15 24	4 6 13.3 16.7 26.7	200 150 50 40 30	350	24 20 12 9 6	10 5 1 1 1	SOD323
WS03D-B WS05D-B WS12D-B WS15D-B WS24D-B	Bidirectional TVS Diode, 0805 Size, 1 Line ESD&Surge protection		3.3 5 12 15 24	4 6 13.3 16.7 26.7	100 75 25 20 15	350	24 20 12 9 6	10 5 1 1 1	SOD323
WS03DLV WS05DLV WS12DLV WS15DLV WS24DLV	Unidirectional TVS Diode, 0805 Size, 1 Line ESD&Surge protection		3.3 5 12 15 24	4 6 13.3 16.7 26.7	280 240 80 60 40	500	32 28 16 12 8	10 5 1 1 1	SOD323
WS03DLV-B WS05DLV-B WS12DLV-B WS15DLV-B WS24DLV-B	Bidirectional TVS Diode, 0805 Size, 1 Line ESD&Surge protection		3.3 5 12 15 24	4 6 13.3 16.7 26.7	140 120 40 30 20	500	32 28 16 12 8	10 5 1 1 1	SOD323
WS05M2T WS12M2T WS15M2T WS24M2T	Unidirectional TVS Array, 2 Lines ESD&Surge Protection		5 12 15 24	6 13.3 16.7 26.7	150 50 40 30	350	20 12 9 6	5 1 1 1	SOT23
WS05M2T-B WS12M2T-B WS15M2T-B WS24M2T-B	Bidirectional TVS Array, 2 Lines ESD&Surge Protection		5 12 15 24	6 13.3 16.7 26.7	75 25 20 15	350	20 12 9 6	5 1 1 1	SOT23

Standard Capacitance TVS Diode



Part number	Description	Device Schematic	V _{RWM} MAX(V)	V _{BR} MIN(V)	C MAX(pF)	Peak Power(W) (8/20μs)	I _{PP} (A) @8/20μs	I _R MAX (μA) @V _{RWM}	Package
WE05M3BC	Unidirectional TVS Array, 2 Lines ESD Protection		5	6	23	100	6.5	1	SOT323
WE05M3BC-B	Bidirectional TVS Array, 2 Lines ESD Protection		5	6	10	100	6.5	1	SOT323
WE05M5BC	Unidirectional TVS Array, 2 Lines ESD Protection		5	6	23	100	6.5	1	SOT523
WE05M5BC-B	Bidirectional TVS Array, 2 Lines ESD Protection		5	6	10	100	6.5	1	SOT523
WS05MS WS12MS WS15MS WS24MS	Unidirectional TVS Array, 4 Lines ESD&Surge Protection		5 12 15 24	6 13.3 16.7 26.7	150 50 40 30	350	20 12 9 6	5 1 1 1	SOT23-6L
WS05MSC WS12MSC WS15MSC WS24MSC	Unidirectional TVS Array, 5 Lines ESD&Surge Protection		5 12 15 24	6 13.3 16.7 26.7	150 50 40 30	350	20 12 9 6	5 1 1 1	SOT23-6L
WS05MF WS12MF WS15MF WS24MF	Unidirectional TVS Array, 4 Lines ESD Protection		5 12 15 24	6 13.3 16.7 26.7	22 9 7 5	100	6.5 5.0 4.0 1.8	1	SOT353
WS05MFC WS12MFC WS15MFC WS24MFC	Unidirectional TVS Array, 5 Lines ESD Protection		5 12 15 24	6 13.3 16.7 26.7	22 9 7 5	100	6.5 5.0 4.0 1.8	1	SOT363
WE03MF WE05MF WE12MF	Unidirectional TVS Array, 4 Lines ESD Protection		3.3 5 12	4 6 13.3	8 6 3	30	4.5 4.0 2.5	1	SOT553
WE03MFC WE05MFC WE12MFC	Unidirectional TVS Array, 5 Lines ESD Protection		3.3 5 12	4 6 13.3	8 6 3	30	4.5 4.0 2.5	1	SOT563
WE05-6MP	Unidirectional TVS Array, 6 Lines ESD Protection		5	6	6	30	4	1	FBP-06D
WS05-7MDA WS12-7MDA WS15-7MDA WS24-7MDA	Bidirectional TVS Array, 7 Lines ESD&surge protection		5 12 15 24	6 13.3 16.7 26.7	150 50 40 30	350	20 12 9 6	5 1 1 1	SOP8

Low Capacitance TVS Diode



Part number	Description	Device Schematic	V _{RWM} MAX(V)	V _{BR} MIN(V)	C _j (L-L) MAX(pF)	Peak Power(W) (8/20μs)	I _{PP} (A) @8/20μs	I _R MAX (μA) @V _{RWM}	Package
WS03DLC WS05DLC WS08DLC WS12DLC WS15DLC WS24DLC	Ultra-low Capacitance TVS , Uni-direction, 0805 Size , 1 line ESD & Surge protection		3.3 5 8 12 15 24	4 6 8.5 13.3 16.7 26.7	1	350	20 17 17 10 8 3	1	SOD323
WS03DLC-B WS05DLC-B WS08DLC-B WS12DLC-B WS15DLC-B WS24DLC-B	Ultra-low Capacitance TVS , Bi-direction, 0805 Size , 1 line ESD & Surge protection		3.3 5 8 12 15 24	4 6 8.5 13.3 16.7 26.7	1	350	20 17 17 10 8 3	1	SOD323
WS03L WS05L WS12L WS15L WS24L	Ultra-low Capacitance TVS , 1 line ESD & Surge protection		3.3 5 12 15 24	4 6 13.3 16.7 26.7	1	350	20 17 10 8 3	1	SOT23
WS2.8-4LVU	Low work voltage, low Capacitance TVS Array, 4 lines ESD & Surge protection		2.8	4	5	600	24	1	SOP8
WS2.8-8LVU	Low work voltage, low Capacitance TVS Array, 8 lines ESD & Surge protection		2.8	4	10	600	30	1	SOP8
WS05LCDA WS12LCDA WS15LCDA WS24LCDA	low Capacitance TVS Array, 4 lines ESD & Surge protection		5 12 15 24	6 13.3 16.7 26.7	5	500	17 10 9 5.5	5 1 1 1	SOP8
WS2.8R WS3.3R WS05R WS12R	Low work voltage, low Capacitance TVS Array, 2 lines ESD & Surge protection		2.8 3.3 5 12	3 4 6 13.3	5	350	25 25 25 12	5	SOT143
WS05-4R WS05-4RUL WS05-4RULC	Ultra-low Cap.TVS Array, 4 lines ESD & Surge protection		5	6	1.5	350 400 500	12 20 24	5	SOT23-6L
WS2.8-4RV	Low work voltage, Ultra-low Cap.TVS Array, 4 line ESD & Surge protection		2.8	4	1.5	400	24	5	SOT23-6L
WS3.3-4RDA WS05-4RDA	Low work voltage, low Cap.TVS Array, 4 lines ESD & Surge protection		3.3 5	4 6	5	500	25	5	SOP8
WS2.5-4R1N WS3.3-4R1N	Low work voltage, Ultra-low Cap.TVS Array, 4 lines ESD & Surge protection		3.3 5	4 6	1.5	500	25	5	DFN10L

Low Capacitance TVS Diode



Part number	Description	Device Schematic	V _{RWM} MAX(V)	V _{BR} MIN(V)	C _j (L-L) MAX(pF)	Peak Power(W) (8/20μs)	I _{PP} (A) @8/20μs	I _R MAX (μA) @V _{RWM}	Package
WE05DLCB1 WE12DLCB1	low Cap. TVS diode , 1 line ESD protection		5 12	6 13.3	1.5	100	6	1	FBP2C
WE05DLCB1-B	low Cap. diode , 1 line ESD protection		5	6	1.5	100	6	1	FBP2C
WE05D5MC WE12D5MC	low Cap. diode , 1 line ESD protection		5 12	6 13.3	1.6	100	6	1	SOD523
WE05UCB1 WE05D5UC	Ultra-low Cap. diode , 1 line ESD protection		5	6	0.5	100	4	1	FBP2C SOD523
WE05UCB1-B WE05D5UC-B	Ultra-low Cap. diode , 1 line ESD protection		5	6	0.5	100	4	1	FBP2C SOD523
WE05MLC WE05M3LC WE05M5LC	Ultra-low Cap. TVS Array , 2 lines ESD protection		5	6	0.7	100	4	1	SOT23 SOT323 SOT523
WE05-2RT3 WE05-2RT5 WE05-2RP	Ultra-low Cap. TVS Array , 2 lines ESD protection		5	6	0.5	100	4	1	SOT363 SOT563 FBP-06D
WE05-4RT3 WE05-4RT5 WE05-4RP	Ultra-low Cap. TVS Array , 4 lines ESD protection		5	6	0.5	100	4	1	SOT363 SOT563 FBP-06D
WE05-4RVLC	Ultra-low Cap. TVS Array , 4 lines ESD protection		5	6	0.7	120	6	1	SOT23-6L
WE05-5RV	Ultra-low Cap. TVS Array , 5 lines ESD protection		5	6	0.7	120	6	1	SOT23-6L
WE05-6R1N	Ultra-low Cap. TVS Array , 6 lines ESD protection		5	6	0.3	70	4	1	DFN10L
WS05-4R2P	Ultra-low Cap. TVS Array , 4 lines ESD protection		5	6	0.3	150	5	1	DFN10L
WS05-4R4M	Ultra-low Cap. TVS Array , 4 lines ESD protection		5	6	0.3	150	5	1	MSOP10







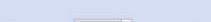



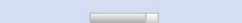
ESD and EMI Protection Devices



Part number	Description	Device Schematic	V_{RWM} MAX(V)	V_{BR} MIN(V)	C(pF) Channel@ VR=0V	R(ohm)	L(nH)	I_R MAX (μ A) @ V_{RWM}	Package
WEF02-1015T2	2 Lines ESD/EMI protection for Audio interface		5	6	160	10	—	1	SOT563
WEF04-1005F2	4 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	0	—	1	DFN8L
WEF06-1005F2	6 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	100	—	1	DFN12L
WEF08-1005F2	8 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	100	—	1	DFN16L2
WEF08-1005F1	8 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	100	—	1	DFN-16L1
WEF04-L202F2	4 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	—	20	1	DFN8L
WEF06-L202F2	6 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	—	20	1	DFN12L
WEF08-L202F2	8 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	—	20	1	DFN16L2
WEF08-L202F1	8 Lines ESD/EMI protection for Color LCD interfaces		5	6	20	—	20	1	DFN16L1

Power TVS Series



Part number	Description	Device Package	V_{RWM} MAX(V)	V_{BR} MIN(V)	Peak Power(W) (10/1000 μ s)	I_{PP} (A) @8/20 μ s	I_R MAX (μ A) @ V_{RWM}
WSxxxP4SMA WSxxxP4SMA-B	400W Surface Mount Power TVS	 DO-214AC(SMAJ)	5.0–188	6.4–231.0	400	43.5–1.2	1000–1
WSxxxP6SMB WSxxxP6SMB-B	600W Surface Mount Power TVS	 DO-214AA(SMBJ)	5.0–188	6.4–231.0	600	65.2–1.8	1000–1
WSxxxP15SMC WSxxxP15SMC-B	1.5KW Surface Mount Power TVS	 DO-214AB(SMCJ)	5.0–440	6.4–492	1,500	163.0–2.1	1000–1
WSxxxP30SMC WSxxxP30SMC-B	3KW Surface Mount Power TVS	 DO-214AB(SMCJ)	5.0–170	6.4–189	3,000	326.1–43.2	5000–2
P4KExxxA P4KExxxCA	400W Axial Leaded Power TVS	 DO-204AL(DO-41)	5.8–495	6.4–522.5	400	39.0–0.52	1000–1
SAxxxA SAxxxCA	Low leakage current, 500W Axial Leaded Power TVS	 DO-204AC(DO-15)	5.0–170	6.4–189	500	54.3–1.8	600–1
P6KExxxA P6KExxxCA	600W Axial Leaded Power TVS	 DO-204AC(DO-15)	5.8–512	6.4–570.0	600	58.1–0.75	1000–1
1.5KExxxA 1.5KExxxCA	1.5KW Axial Leaded Power TVS	 DO-201	5.8–495	6.4–522.5	1,500	144.8–2.0	1000–1
3KPxxxA 3KPxxxCA	3KW Axial Leaded Power TVS	 P600	5.0–220	6.4–244.0	3,000	326.1–8.1	5000–2
5KPxxxA 5KPxxxCA	5KW Axial Leaded Power TVS	 P600	5.0–250	6.4–277.0	5,000	554.3–12.0	5000–2
15KPxxxA 15KPxxxCA	15KW Axial Leaded Power TVS	 P600	17–280	18.9–311.0	15,000	512.0–33.0	5000–10



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