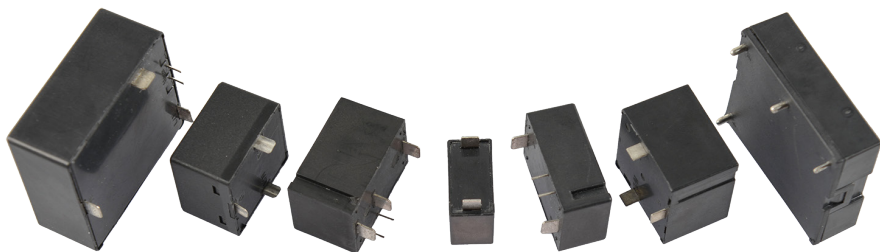


SPD-M

电涌保护模组

Surge Protective Devices Module



制造电路控制及安全保护元器件 提供电路安全解决方案
Providing a Total Solution for High Standard Safety Circuit Protection

SETsafe | *SET fuse*

赛尔特

WHAT

CAN DO FOR YOU

赛尔特设计、制造、销售业界领先的**电路控制及安全保护元器件**、提供**电路安全解决方案**。

2000年成立于中国厦门。产品销往40多个国家和地区，与世界500强的部分企业有深远的合作，首创、独创多个产品；取得CCC、UL、cUL、VDE、TUV、PSE、KC等认证，符合RoHS、REACH，获得IATF16949、ISO9001、ISO14001、ISO45001、GB/T29490管理体系认证，参与多项电路保护元器件的国家、国际标准制定、修订。

赛尔特(SETsafe | SETfuse)产品的主要应用市场：通信、防雷器、电源、新能源、照明、家电、移动设备、医疗。

MISSION

PROVIDING A TOTAL SOLUTION FOR HIGH STANDARD SAFETY CIRCUIT PROTECTION.

SETsafe | SETfuse was established in 2000 in Xiamen, China. We have a presence in more than 40 countries and regions recognising our products. Some of the world's 500 fortune companies are our valuable customers. We have pioneered, innovated & developed several products exclusively. Products are compliance with CCC, UL, cUL, VDE, TUV, PSE, KC, IATF16949, ISO9001, ISO14001, ISO45001, GB/T29490 certificates. We are in one of the core participating teams for revising and setting several national & international standards in the field of Circuit Protection.

SETsafe | SETfuse Key Markets: Telecom, Surge Protector, Power, New Energy, Lighting, Home Appliances, Mobile Devices, Medical.

过温保护 Over Temperature Protection

ATCO
温度保险丝 Thermal-Link 1



DC-ATCO
直流温度保险丝 Thermal-Link 2



OTCO
温度保险丝 Thermal-Link 3

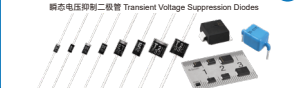


TMS
热保护器 Thermal Protector 4




过电压保护 Over Voltage Protection


TVS Diodes
瞬态电压抑制二极管 Transient Voltage Suppression Diodes 1




GDT
气体放电管 Gas Discharge Tube 2




MOV
压敏电阻 Metal Oxide Varistor 3



TFMOV
热保护型压敏电阻 Thermal Fuse & MOV 4




TFMOV
热保护型压敏电阻 Thermally Protected Varistors 5




过电压保护 Over Voltage Protection


SPD-M
电涌保护模块 Surge Protective Device Module 6




SPD
低压电源系统 Low-voltage Power Systems 7




SPD
光伏供电系统 PV System 8



SPD
室外照明系统 Outdoor Lighting 9



SPD
信号通信系统 Signaling Networks 10



过电流保护 Over Current Protection

Mini Fuses
小型熔断器 Miniature Fuses 1



TRXF
热保护型熔断电阻器 Thermal-Link & Fusing Resistor 2



TPR
热保护型熔断电阻器 Thermally Protected Resistor 3



NTC
抑制浪涌电流NTC热敏电阻器 Inrush Current Limiting NTC Thermistor 4



LV Fuses
低压熔断器 Low Voltage Fuses 5



主动保护 Active Protection

iTCO
受控熔断器 Idea Thermal-Link 1



电涌保护原理 Surge Protection Principle



产品概述 Description

电涌保护器模组根据UL 1449 第四版和 IEC/EN 61643-11的相关要求进行设计，具有热脱扣保护、遥信触点等功能。电涌保护器模组系列包含多种保护模式，通过对内部器件（MOV，GDT）失效采取热脱扣保护设计，专门用于PCB 板上的浪涌保护，满足重要场所下的高可靠性要求。

Surge Protection Device Module is designed to meet requirements for UL 1449 and IEC/EN 61643-11. It is featuring a thermal tripping protection and remote signal contact. Surge Protection Device Module contains multiple protection modes, with fail-safe internal devices (MOV, GDT), it is specially designed for the surge protection on PCB board to meet the high reliability requirements in important field.

应用 Applications



机房配电柜
Computer Room Cabinet



室外配电柜
Outdoor Power Distribution Cabinet



防雷箱
Lightning Protection Box



不间断电源
Uninterruptible Power Supply (UPS)



开关电源
Switching Power Supply



有源天线单元
Active Antenna Unit (AAU)

产品特性 Features



热脱扣保护
Thermal Tripping Protection
模组内置热脱扣保护
Internal thermal tripping protection



符合UL 1449/IEC 61643-11
Compliant with UL 1449 and IEC 61643-11
根据电涌保护器标准设计
Design with SPD standard



多种保护模式，板上安装
Multiple Protection Modes, PCB Install
适用交直流电路
Apply to AC/DC circuit



远程信号触点
Remote Signal Contact
遥信告警，提示更换失效模块
Prompt to Replace the failure module

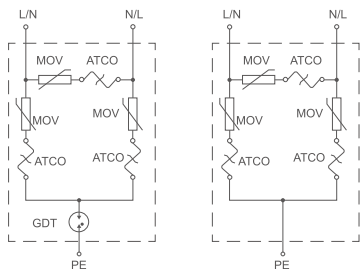
*“SET”品牌商标在2020年以前的设计的SPD产品上使用；“SEtsafe”品牌商标在2020年设计的SPD新产品上启用。
SET is the trademark used on SPD designed before Year 2020, SEtsafe is the trademark on SPD newly designed from Year 2020.

产品系列 Product Series

交流单相/直流电涌保护器模组 AC Single-phase / DC SPD Module



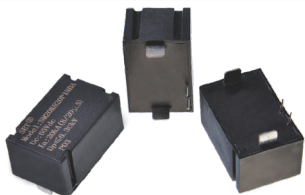
L25.0 x W24.0 x H17.6 (mm)



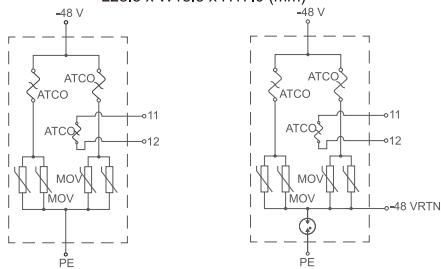
特性 Features

- 高可靠性 High Reliability
- 小体积 Small Size
- 通过UL 1449 Type 4CA 认证
Comply with UL 1449 Type 4CA
- 全模式保护

型号 Model	SM15SxxxP3 系列 Series
交流最大连续工作电压 (U_c) VAC AC Max. Continuous Operating Voltage	(50 ~ 385) VAC
直流最大连续工作电压 (U_c) VDC DC Max. Continuous Operating Voltage	(65 ~ 505) VDC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	2.5 kA, 5 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	5 kA, 10 kA
电压保护水平 (U_p) Voltage Protection Rating	(400 ~ 1500) V
保护模式 Protection Mode	L/N - PE, L-N
SPD 类型 Type	Type 4CA (UL 1449)



L28.5 x W18.5 x H12.0 (mm)
L28.5 x W18.5 x H17.0 (mm)



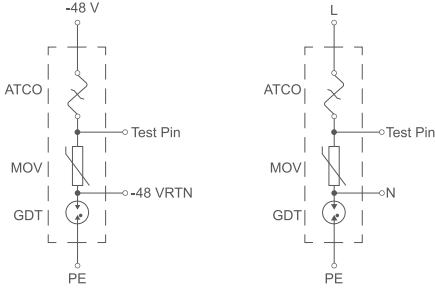
特性 Features

- 高可靠性 High Reliability
- 小体积 Small Size
- 遥信控制 With Remote Signal Contact

型号 Model	SM20K 系列 Series
交流最大连续工作电压 (U_c) VAC AC Max. Continuous Operating Voltage	(40 to 75) VAC
直流最大连续工作电压 (U_c) VDC DC Max. Continuous Operating Voltage	(56 to 100) VDC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	40 kA
电压保护水平 (U_p) Voltage Protection Rating	(350 to 450) V
保护模式 Protection Mode	(+ - -) / (+ - -, - - PE)
SPD 类型 Type	Class II (EN 61643-11)



L41.0 x W36.4 x H(12.6 ~ 16.0) (mm)



特性 Features

- 高可靠性 High Reliability
- 小体积 Small Size
- 集成ATCO、MOV及GDT功能

Combination Technology of ATCO, MOV and GDT

型号 Model	SM34SxxxP1 系列 Series
交流最大连续工作电压 (U_c) VAC AC Max, Continuous Operating Voltage	30 ~ 460 VAC
直流最大连续工作电压 (U_d) VDC DC Max, Continuous Operating Voltage	38 ~ 615 VDC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	10 kA, 15 kA, 20 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	20 kA, 30 kA, 40 kA
电压保护水平 (U_p) Voltage Protection Rating	220 ~ 1800 V
保护模式 Protection Mode	1 + 1 (L - N, N - PE) (+ - -, - - PE)
SPD 类型 Type	Class II(EN 61643-11)

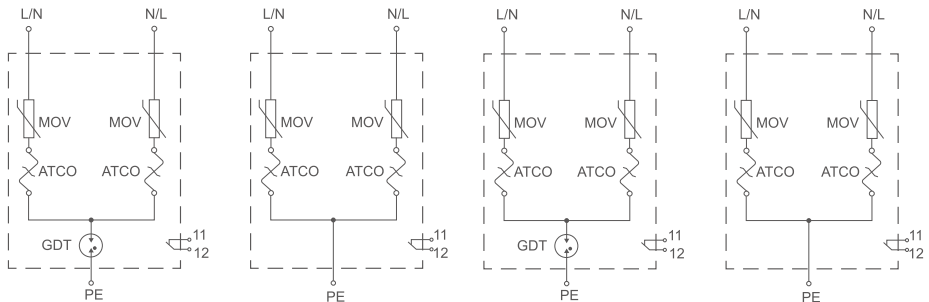


L41.0 x W38.5 x H17.0 (mm)

型号 Model	SM34SxxxP2 系列 Series
交流最大连续工作电压 (U_c) VAC AC Max, Continuous Operating Voltage	40 - 350 VAC
直流最大连续工作电压 (U_d) VDC DC Max, Continuous Operating Voltage	56 - 460 VDC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	10 kA, 15 kA, 20 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	20 kA, 30 kA, 40 kA
电压保护水平 (U_p) Voltage Protection Rating	400 - 1500 V
保护模式 Protection Mode	(L/N - PE) / (+ / - - PE)
SPD 类型 Type	Class II(EN 61643-11), Type 4CA(UL 1449)

特性 Features

- 高可靠性 High Reliability
- 小体积 Small Size
- 集成ATCO、MOV及GDT功能 Combination Technology of ATCO, MOV and GDT
- 遥信控制 (可选) With Remote Signal Contact (Optional)
- 通过UL 1449 Type 4CA认证 Comply with UL 1449 Type 4CA

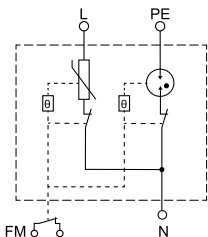


特性 Features

- 高可靠性 High Reliability
- 带遥信控制和失效指示
With Failure Indication and Remote Signal Contact
- 通过UL 1449 Type 4CA认证 Comply with UL 1449 Type 4CA



L39.0 x W24.5(21.0) x H37.0 (mm)



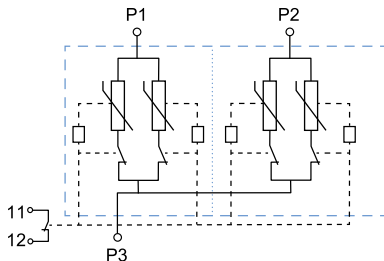
型号 Model	SM15M230A203	SM20M230A203
标称系统电压 (U_n) Nominal System Voltage	230 VAC	230 VAC
最大连续工作电压 (U_c) Max. Continuous Operating Voltage	L - N: 320 VAC N - PE: 255 VAC	L - N: 385 VAC N - PE: 255 VAC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	15 kA	20 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	40 kA	40 kA
电压保护水平 (U_p) Voltage Protection Rating	L - N: 1800 V N - PE: 1000 V	L - N: 1800 V N - PE: 1000 V
I 类试验脉冲电流 (I_{imp}) Class I Test Impulse Current	4 kA	-
保护模式 Protection Mode	1+1(L - N; N - PE)	1+1(L - N; N - PE)
SPD 类型 Type	EN 61643-11 T1+T2, Type 4CA(UL 1449)	EN 61643-11 T2, Type 4CA(UL 1449)

特性 Features

- 高可靠性 High Reliability
- 带遥信控制 With Remote Signal Contact
- 小体积, 高度仅有25.5mm
Small size, the height is only 25.5 mm



L45.0 x W42.0 x H25.5 (mm)



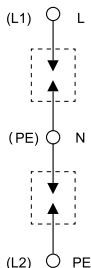
型号 Model	SM20M230L205	SM30M230L205
标称系统电压 (U_n) Nominal System Voltage	230 VAC	230 VAC
最大连续工作电压 (U_c) VAC Max. Continuous Operating Voltage	385 VAC	385 VAC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA	30 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	40 kA	60 kA
电压保护水平 (U_p) Voltage Protection Rating	1800 V	2000 V
保护模式 Protection Mode	(L / N - PE) / (L - N)	
SPD 类型 Type	EN 61643-11 T2	



L45.0 x W35.0 x H18.0 (mm)

特性 Features

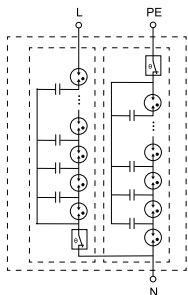
- 碳膜间隙 Carbon Film Clearance



型号 Model	SM08B230N203
标称系统电压 (U_n) Nominal System Voltage	230 VAC
最大连续工作电压 (U_c) Max. Continuous Operating Voltage	320 VAC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA
冲击放电电流 (I_{imp}) Impulse Discharge Current (10/350 μ s)	8 kA
电压保护水平 (U_p) Voltage Protection Rating	≤ 2.0 kV
保护模式 Protection Mode	L - N, N - PE
SPD 类型 Type	EN61643-11 T1+T2



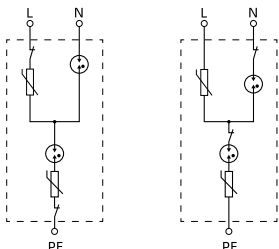
L38.0 × W28.0 × H20.0 (mm)



型号 Model	SM20G230C203
标称系统电压 (U_n) Nominal System Voltage	230 VAC
最大连续工作电压 (U_c) Max. Continuous Operating Voltage	320 VAC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA
冲击放电电流 (I_{imp}) Impulse Discharge Current (10/350 μ s)	4 kA, ± 5 次 times
电压保护水平 (U_p) Voltage Protection Rating	≤ 2.0 kV
续流遮断能力 Follow Current Interrupt Rating	1.5 kA @ 320 VAC
保护模式 Protection Mode	L-N, N-G
告警 Alarm	绿色/红色 Green / Red



L38.0 × W28.0 × H20.0 (mm)



SM20H230B303

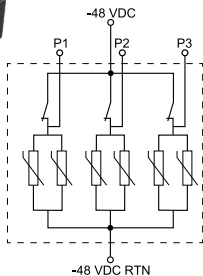
SM20H230C303

型号 Model	SM20H230B303 / SM20H230C303
标称系统电压 (U_n) Nominal System Voltage	230 VAC
最大连续工作电压 (U_c) Max. Continuous Operating Voltage	320 VAC / 420 VDC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA (@ 95°C)
续流遮断能力 Follow Current Interrupt Rating	50 A (@420 VDC)
电压保护水平 (U_p) Voltage Protection Rating	L-N: 2000 V; L-N/PE: 2500 V
保护模式 Protection Mode	L-N, L-PE, N-PE
SPD 类型 Type	EN 61643-11 T2

直流电涌保护器模组 DC SPD Module



L23.5 × W18.5 × H16.0 (mm)



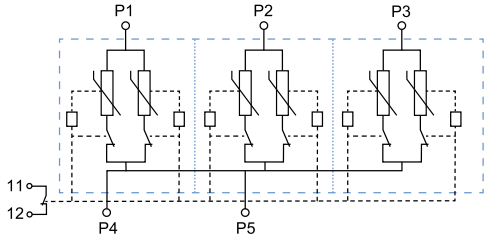
特性 Features

- 应用多片陶瓷叠层材料 Use Multi-layer Ceramic Material
- 工作残压低 Lower Residual Voltage

型号 Model	SM20K48T100
标称系统电压 (U_n) Nominal System Voltage	48 VDC
最大连续工作电压 ($U_{c(PV)}$) Max. Continuous Operating Voltage for PV systems	65 VDC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA (@ ± 10 次 times)
电压保护水平 (U_p) Voltage Protection Rating	≤ 0.24 kV
漏电流 Leakage Current	≤ 40 μ A
工作温度 Operational Temperature Range	(-40 - 105) °C



L65.0 x W42.0 x H25.5 (mm)



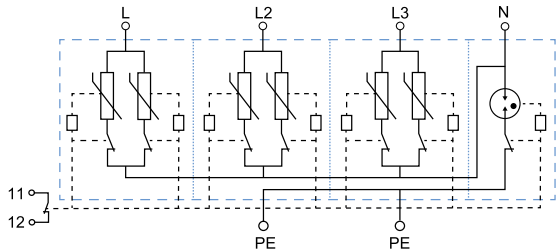
特性 Features

- 拥有遥信控制
- 符合IEC/EN 61643-11标准 T2等级
- 小尺寸，仅有25.5mm高
- 高可靠性
- With Remote Signal Contact
- Comply With IEC/EN 61643-11 T2
- Small Size, the Height is only 25.5 mm
- High Reliability

型号 Model	SM20M230L306	SM30M230L306
标称系统电压 (U_n) Nominal System Voltage	230 / 400 VAC	230 / 400 VAC
最大连续工作电压 (U_c) Max. Continuous Operating Voltage	385 VAC	385 VAC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA	30 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	40 kA	60 kA
电压保护水平 (U_p) Voltage Protection Rating	1800 V	2000 V
保护模式 Protection Mode	(L - PE) / (L - N)	
告警 Alarm	遥信 Remote signal	



L82.0 x W42.0 x H25.5 (mm)



特性 Features

- 拥有遥信控制
- 符合IEC/EN 61643-11标准 T2等级
- 小尺寸，仅有25.5mm高
- 高可靠性
- With Remote Signal Contact
- Comply With IEC/EN 61643-11 T2
- Small Size, the Height is only 25.5 mm
- High Reliability

型号 Model	SM20M230A404	SM30M230A404
标称系统电压 (U_n) Nominal System Voltage	230 / 400 VAC	230 / 400 VAC
最大连续工作电压 (U_c) Max. Continuous Operating Voltage	L - N: 385 VAC N - PE: 255 VAC	L - N: 385 VAC N - PE: 255 VAC
标称放电电流 (I_n) Nominal Discharge Current (8/20 μ s)	20 kA	30 kA
最大放电电流 (I_{max}) Maximum Discharge Current (8/20 μ s)	40 kA	60 kA
电压保护水平 (U_p) Voltage Protection Rating	L - N: 1800 V N - PE: 1500 V	L - N: 2000 V N - PE: 1500 V
保护模式 Protection Mode	3+1(L - N; N - PE)	
告警 Alarm	遥信 Remote signal	

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20+

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