

SPD Module

Surge Protective Device Module

SM08B Series



Description

SM08B series SPD module is designed with multi-layer graphite gap structure, They are featuring stable product performance, no leakage current, high follow current interrupt rating , high repeatable lightning strike performance and small size .The products meet the requirements of IEC / EN 61643-11 Class I and Class II testing standards and mainly used for the surge protection of important power supply. They are suitable for different power grid types (TN,TT) to protect the equipment from the damage of lightning surge.

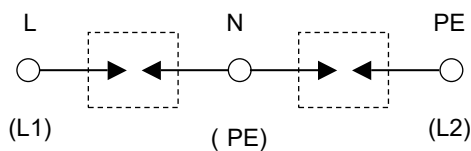
Features

- High Energy Capacity: I_{imp} : 8 kA, I_n : 20 kA
- No Leakage Current
- Graphite Gap Structure Design, High Performance in Repeated Lightning Strike
- Comply with IEC/EN 61643-11 T1+T2


Applications

- Telecom Equipment
- AC / DC Power Supply
- Uninterruptable Power Supply (UPS)
- Surge Protective Device (SPD)

Schematics



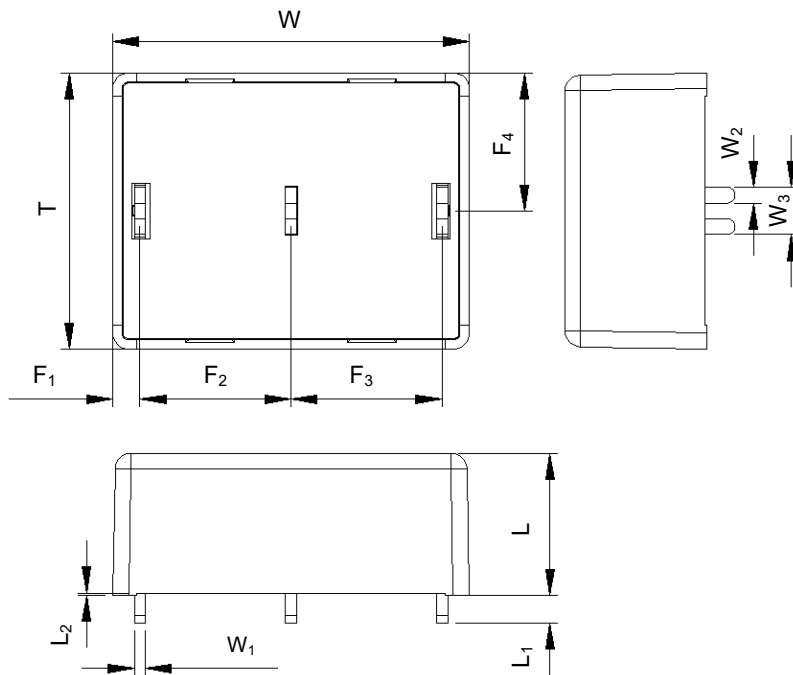
Approvals Information

Agency	Standards	No.
 TÜV Rheinland	IEC / EN 61643-11	On-going
Environment	RoHS & REACH	Compliant

Glossary

Item	Description
U_p	Voltage Protection Level Maximum voltage to be expected at the SPD terminals due to an impulse stress with defined voltage steepness and an impulse stress with a discharge current with given amplitude and wave shape. — (IEC 61643-11)
8/20 μ s	8/20 μs Current Impulse Current impulse with a nominal virtual front time of 8 μ s and a nominal time to half-value of 20 μ s. — (IEC 61643-11)
1.2/50 μ s	1.2/50 Voltage Impulse Voltage impulse with a nominal virtual front time of 1.2 μ s and a nominal time to half-value of 50 μ s. — (IEC 61643-11)
U_c	Maximum Continuous Operating Voltage Maximum r.m.s. voltage, which may be continuously applied to the SPD's mode of protection. — (IEC 61643-11)
I_n	Nominal Discharge Current Crest value of the current through the SPD having a current waveshape of 8/20 μ s. — (IEC 61643-11)
I_{imp}	Impulse Discharge Current for Class I Test Crest value of a discharge current through the SPD with specified charge transfer Q and specified energy W/R in the specified time. — (IEC 61643-11)
I_{max}	Max. Discharge Current Crest value of a current through the SPD having an 8/20 μ s waveshape and magnitude according to the manufacturers specification. I_{max} is equal to or greater than I_n . — (IEC 61643-11)
Modes of protection	Modes of protection An intended current path, between terminals that contains protective components, e.g. line-to-line, line-to-earth, line-to-neutral, neutral-to-earth. — (IEC 61643-11)
IP	Degrees of Protection Provided by Enclosure (IP Code) Classification preceded by the symbol IP indicating the extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and possibly harmful ingress of water.

Dimensions (mm)

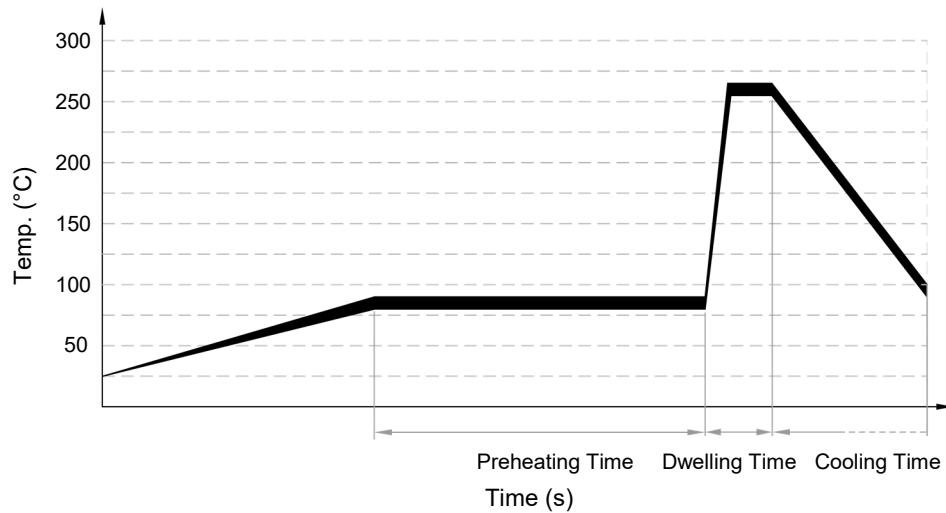


L	L ₁	L ₂	W
18.0±1.0	3.5±0.5	0.3	45.0±1.0
W ₁	W ₂	W ₃	T
1.4±0.2	2.0±0.3	6.0±0.3	35.0±1.0
F ₁	F ₂	F ₃	F ₄
3.4±0.3	19.1±0.5	19.1±0.5	17.5±0.5

Specifications

Features	Specifications
Model	SM08B230N203
Nominal System Voltage (U_n)	230 VAC
Maximum Continuous Operating Voltage (U_c)	320 VAC
Nominal Discharge Current (8/20 μ s) (I_n)	20 kA
Impulse Discharge Current (10/350 μ s) (I_{imp})	8 kA
Voltage Protection Rating (U_p)	≤ 2.0 kV
Follow Current Interrupt Rating	3.0 kA @ 275 VAC
Max. Mains-side Overcurrent Protection	C 100 A
Short-circuit Current Rating	5 kA
Protection Mode	L-N, N-PE
According to Standard	IEC/EN 61643-11 Class I and Class II
Installation	PCB
Operational Temperature Range	(-40 ~ 105) °C

Wave Soldering Parameters (Reference)



Item	Temp. (°C)	Time (s)
Preheating	80 to 90	60 to 150
Dwelling	250 to 260	2 to 4

Note:

The wave soldering parameters are for reference only. Before SPD module is for practice usage, relative validation is recommended.

Recommended Hand-Soldering Parameters

Item	Condition
Iron Temperature	350 °C (Max.)
Soldering Time	4 seconds (Max.)
Distance between Soldering Point and the Bottom of Product	2 mm (Min.)



ATTENTION

SPD

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Usage

1. Frequency range is from 47 Hz to 63 Hz.
2. The voltage applied continuously to the SPD module must not exceed its maximum continuous operating voltage U_c .
3. When atmosphere press is from 80 kPa to 106 kPa, the related altitude shall be from 2000 meters to - 500 meters.
4. Do not touch the product body or pins directly when power is on, to avoid electric shock.

Replace

As SPD module is a non-repairable product, for safety sake, please use the same type of SPD module for replacement.

Storage

Do not store SPD module at high temperature, high humidity or corrosive gas environment, to avoid oxidation of the lead wires. Use them up within 1 year after receiving the goods.

Installation Position

Do not install SPD module to the place that may suffer severe vibration.