



PRODUCT BROCHURE

5SJ Series

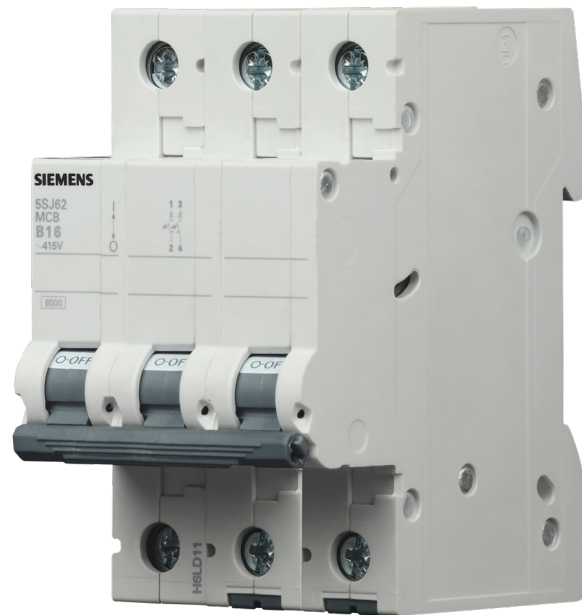
Miniature Circuit Breakers

APRIL 2021

SIEMENS

5SJ SERIES

Miniature Circuit Breakers



NEW!

SAFETY REASSURED

Miniature circuit breakers (MCBs) protect cables and lines against the effects of overload currents and short circuits. They provide reliable protection for buildings systems, and in particular people.

KEY PRODUCT FEATURES

- | | |
|---|---|
| 1 OPTIMUM LINE PROTECTION
Breaking capacity 4.5kA - 6kA.
Available in B and C curves. | 2 HIGH ENDURANCE CYCLE
Ensuring efficient and long life of your MCB. |
| 3 TRIP FREE MECHANISM
Safe disconnection | 4 PATENTED SLIDE LATCH RELEASE (SLR)
Tool less removal. |
| 5 LOW POWER LOSS
Low energy consumption helps save money | 6 ENERGY LIMITING CLASS 3
Less thermal and mechanical stress on MCB |

MCB CHARACTERISTIC CURVES

Characteristic curves describe the operational and tripping behavior of MCBs in the event of an overload or short circuit. They represent an important element for the configuration and dimensioning of devices.

Tripping Characteristic

The expected tripping behavior, and in particular the expected break time of the desired MCB can be determined from its I-t tripping characteristic.

In line with the two existing tripping systems (overload release with bimetal, short circuit release with magnet coil), the path of the I-t tripping characteristic consists of two characteristic curve sections:

- Overload section (thermal)
- Short circuit release section (magnetic)

The overload section of the curve describes the tripping behavior of the bimetal, while the short circuit release section of the characteristic curve describes the release behavior of the short circuit coil.

Depending on the equipment used and the operational behavior of the connected loads the short circuit release of the MCB must trip to ensure safe and efficient short circuit protection.

These are called the tripping characteristics. The following tripping characteristics for MCBs are standardized in accordance with IS/IEC 60898-1

- Tripping Characteristic B: $3-5 \times I_n$
- Tripping Characteristic C: $5-10 \times I_n$

B' Characteristics

'B' Characteristic MCBs react quickly to short circuit, and are set to trip when the current passing through them is between 3 to 5 times of the normal full load current. They are suitable for protecting incandescent lighting and socket outlet circuits in domestic and commercial environments, where there is little risk of surges that could cause the MCB to trip.

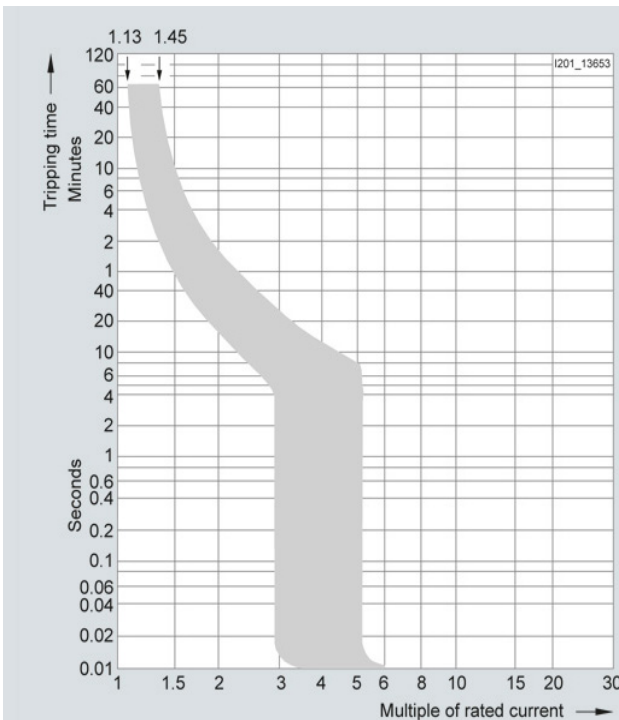
'C' Characteristic

'C' characteristics MCBs are used for protection of electrical circuits in general and are most widely used because of its suitability for practically all electrical circuits, cable and line protection. They are capable of protecting the majority of inductive and capacitive loads including most motor and fluorescent lighting loads.

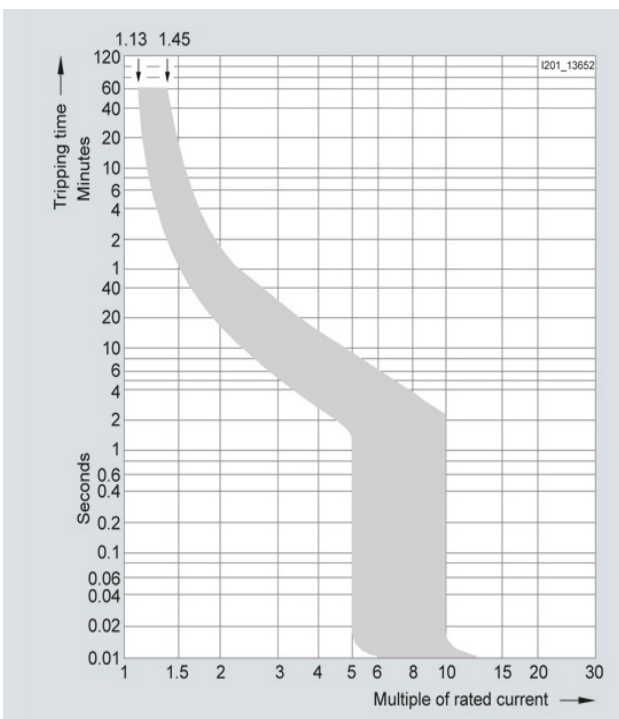
This characteristic allows applying loads having high peak currents without requiring the MCB to be oversized.

In fact, thanks to this characteristic, it is possible to apply loads with peak currents up to 5 times I_n , (rated current) and can hence be used to best advantage for handling higher inrush currents e.g. lamps, motors, etc.

OVERVIEW OF TRIPPING CHARACTERISTIC CURVES



Tripping characteristic B
For universal use in socket outlet and lighting circuits.



Tripping characteristic C
Ideally suitable for use in lamp and motor circuits with higher starting currents




TECHNICAL SPECIFICATIONS

5SJ3;5SJ6		
Standards		IS / IEC 60898-1 : 2015
Tripping characteristic		B / C
Rated voltage U_n	V AC	240 / 415
Current Rating	A	6 – 63
Operational voltage	V AC Min. Max.	24 264 / 456
Rated breaking capacity I_{cn}	kA	4.5;6
Insulation coordination <ul style="list-style-type: none"> Rated insulation voltage Degree of pollution for overvoltage category 	V AC	250 / 440 2 / III
Handle end position, sealable		Yes
Degree of protection		IP20
CFC and silicone-free		Yes
Conductor cross-sections	mm ² <ul style="list-style-type: none"> Solid and stranded Finely stranded, with end sleeve 	0.75 ... 25 0.75 ... 25
Terminals <ul style="list-style-type: none"> Terminal tightening torque 	N-m	2.5 ... 3
Line load reversibility		Any
Service life on average, with rated load		20 000 actuations
Ambient temperature	°C	-25 ... +55, max. 95 % humidity, storage temperature: -40 ... +75 07

Dimensional drawing of 5SJ3;5SJ6







SELECTION & ORDERING DATA

5SJ3 (4.5kA)	In (A)	(MW) ¹⁾	Characteristic B Reference No.	Characteristic C Reference No.
	6	1	5SJ3 106-6RC-Z	5SJ3 106-7RC-Z
	10		5SJ3 110-6RC-Z	5SJ3 110-7RC-Z
	16		5SJ3 116-6RC-Z	5SJ3 116-7RC-Z
	20		5SJ3 120-6RC-Z	5SJ3 120-7RC-Z
	25		5SJ3 125-6RC-Z	5SJ3 125-7RC-Z
	32		5SJ3 132-6RC-Z	5SJ3 132-7RC-Z
	40		5SJ3 140-6RC-Z	5SJ3 140-7RC-Z
	63		5SJ3 163-6RC-Z	5SJ3 163-7RC-Z
	6	2	5SJ3 206-6RC-Z	5SJ3 206-7RC-Z
	10		5SJ3 210-6RC-Z	5SJ3 210-7RC-Z
	16		5SJ3 216-6RC-Z	5SJ3 216-7RC-Z
	20		5SJ3 220-6RC-Z	5SJ3 220-7RC-Z
	25		5SJ3 225-6RC-Z	5SJ3 225-7RC-Z
	32		5SJ3 232-6RC-Z	5SJ3 232-7RC-Z
	40		5SJ3 240-6RC-Z	5SJ3 240-7RC-Z
	63		5SJ3 263-6RC-Z	5SJ3 263-7RC-Z
	6	3	5SJ3 306-6RC-Z	5SJ3 306-7RC-Z
	10		5SJ3 310-6RC-Z	5SJ3 310-7RC-Z
	16		5SJ3 316-6RC-Z	5SJ3 316-7RC-Z
	20		5SJ3 320-6RC-Z	5SJ3 320-7RC-Z
	25		5SJ3 325-6RC-Z	5SJ3 325-7RC-Z
	32		5SJ3 332-6RC-Z	5SJ3 332-7RC-Z
	40		5SJ3 340-6RC-Z	5SJ3 340-7RC-Z
	63		5SJ3 363-6RC-Z	5SJ3 363-7RC-Z
	6	4	5SJ3 406-6RC-Z	5SJ3 406-7RC-Z
	10		5SJ3 410-6RC-Z	5SJ3 410-7RC-Z
	16		5SJ3 416-6RC-Z	5SJ3 416-7RC-Z
	20		5SJ3 420-6RC-Z	5SJ3 420-7RC-Z
	25		5SJ3 425-6RC-Z	5SJ3 425-7RC-Z
	32		5SJ3 432-6RC-Z	5SJ3 432-7RC-Z
	40		5SJ3 440-6RC-Z	5SJ3 440-7RC-Z
	63		5SJ3 463-6RC-Z	5SJ3 463-7RC-Z

1) 1MW = 18 mm

SELECTION & ORDERING DATA

5SJ6 (6kA)	In (A)	(MW) ¹⁾	Characteristic B Reference No.	Characteristic C Reference No.
	6	1	5SJ6 106-6RC-Z	5SJ6 106-7RC-Z
	10		5SJ6 110-6RC-Z	5SJ6 110-7RC-Z
	16		5SJ6 116-6RC-Z	5SJ6 116-7RC-Z
	20		5SJ6 120-6RC-Z	5SJ6 120-7RC-Z
	25		5SJ6 125-6RC-Z	5SJ6 125-7RC-Z
	32		5SJ6 132-6RC-Z	5SJ6 132-7RC-Z
	40		5SJ6 140-6RC-Z	5SJ6 140-7RC-Z
	63		5SJ6 163-6RC-Z	5SJ6 163-7RC-Z
	6	2	5SJ6 206-6RC-Z	5SJ6 206-7RC-Z
	10		5SJ6 210-6RC-Z	5SJ6 210-7RC-Z
	16		5SJ6 216-6RC-Z	5SJ6 216-7RC-Z
	20		5SJ6 220-6RC-Z	5SJ6 220-7RC-Z
	25		5SJ6 225-6RC-Z	5SJ6 225-7RC-Z
	32		5SJ6 232-6RC-Z	5SJ6 232-7RC-Z
	40		5SJ6 240-6RC-Z	5SJ6 240-7RC-Z
	63		5SJ6 263-6RC-Z	5SJ6 263-7RC-Z
	6	3	5SJ6 306-6RC-Z	5SJ6 306-7RC-Z
	10		5SJ6 310-6RC-Z	5SJ6 310-7RC-Z
	16		5SJ6 316-6RC-Z	5SJ6 316-7RC-Z
	20		5SJ6 320-6RC-Z	5SJ6 320-7RC-Z
	25		5SJ6 325-6RC-Z	5SJ6 325-7RC-Z
	32		5SJ6 332-6RC-Z	5SJ6 332-7RC-Z
	40		5SJ6 340-6RC-Z	5SJ6 340-7RC-Z
	63		5SJ6 363-6RC-Z	5SJ6 363-7RC-Z
	6	4	5SJ6 406-6RC-Z	5SJ6 406-7RC-Z
	10		5SJ6 410-6RC-Z	5SJ6 410-7RC-Z
	16		5SJ6 416-6RC-Z	5SJ6 416-7RC-Z
	20		5SJ6 420-6RC-Z	5SJ6 420-7RC-Z
	25		5SJ6 425-6RC-Z	5SJ6 425-7RC-Z
	32		5SJ6 432-6RC-Z	5SJ6 432-7RC-Z
	40		5SJ6 440-6RC-Z	5SJ6 440-7RC-Z
	63		5SJ6 463-6RC-Z	5SJ6 463-7RC-Z

1) 1MW = 18 mm

SELECTION GUIDE

NOTES

Residential Appliance	Capacity (Watts)	MCB current ratings (Amps)
Iron	1200	6
Mixer/Juicer	200	2
Microwave Oven	750	6
Hot Plate	2000	10
Electrical Kettle	1500	10
T.V./VCR/Audio System	200	2
Refrigerator 165 liters	400	2
Refrigerator 350 liters	750	4
Water Heater	1000	10
	2000	16
	3000	20
Air Conditioners 1 ton 1.5 ton 2.5 ton	1500	10
	2500	16
	3500	20



NOTES

NOTES

5SJ Series Product Brochure 2021

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