
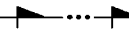

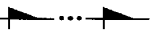



Breakover Diodes

- Diffused pnpn structure fired by over-voltages.
- Effective protection of thyristors against transients.
- Thyristor protection by emergency firing.

- Diffundierte pnpn-Struktur, wird durch Überspannungen gezündet.
- Effektiver Schutz von Thyristoren gegen Überspannungen.
- Schutz des Thyristors durch Notzündung.

- ・過電圧によってサイリスタを点弧する拡散pnpn構造
- ・サイリスタを過渡過電圧から保護
- ・過電圧でサイリスタをオンすることによりサイリスタの破壊を未然に防止

| Housing: | | Single element | | Module | | Module incl. diode | | Module with flex wire | | Module incl. diode and with flex wire | |
|----------------------|----------------|---|------|---|------|---|------|--|------|---|------|
| Int. structure | |  | |  | |  | |  | |  | |
| V _{BO} V | Tolerance V | Type and ordering number | Fig. | Type and ordering number | Fig. | Type and ordering number | Fig. | Type and ordering number | Fig. | Type and ordering number | Fig. |
| 400 | ±50 | 5SBA 20T0400 | 28 | | | | | | | | |
| 500 | ±50 | 5SBA 20T0500 | 28 | | | | | | | | |
| 600 | ±50 | 5SBA 20T0600 | 28 | | | | | | | | |
| 700 | ±50 | 5SBA 20T0700 | 28 | | | | | | | | |
| 800 | ±50 | 5SBA 20T0800 | 28 | | | | | | | | |
| 900 | ±50 | 5SBA 20T0900 | 28 | | | | | | | | |
| 1000 | ±50 | 5SBA 20T1000 | 28 | | | | | | | | |
| 1100 | ±50 | | | 5SBB 20T1100 | 29 | 5SBD 05T1100 | 29 | 5SBL 20T1100 | 30 | 5SBE 05T1100 | 30 |
| 1200 | ±50 | | | 5SBB 20T1200 | 29 | 5SBD 05T1200 | 29 | 5SBL 20T1200 | 30 | 5SBE 05T1200 | 30 |
| 1300 | ±50 | | | 5SBB 20T1300 | 29 | 5SBD 05T1300 | 29 | 5SBL 20T1300 | 30 | 5SBE 05T1300 | 30 |
| 1400 | ±50 | | | 5SBB 20T1400 | 29 | 5SBD 05T1400 | 29 | 5SBL 20T1400 | 30 | 5SBE 05T1400 | 30 |
| 1500 | ±50 | | | 5SBB 20T1500 | 29 | 5SBD 05T1500 | 29 | 5SBL 20T1500 | 30 | 5SBE 05T1500 | 30 |
| 1600 | ±50 | | | 5SBB 20T1600 | 29 | 5SBD 05T1600 | 29 | 5SBL 20T1600 | 30 | 5SBE 05T1600 | 30 |
| 1700 | ±50 | | | 5SBB 20T1700 | 29 | 5SBD 05T1700 | 29 | 5SBL 20T1700 | 30 | 5SBE 05T1700 | 30 |
| 1800 | ±50 | | | 5SBB 20T1800 | 29 | 5SBD 05T1800 | 29 | 5SBL 20T1800 | 30 | 5SBE 05T1800 | 30 |
| 1900 | ±50 | | | 5SBB 20T1900 | 29 | 5SBD 05T1900 | 29 | 5SBL 20T1900 | 30 | 5SBE 05T1900 | 30 |
| 2000 | ±50 | | | 5SBB 20T2000 | 29 | 5SBD 05T2000 | 29 | 5SBL 20T2000 | 30 | 5SBE 05T2000 | 30 |
| 2100 | ±50 | | | 5SBB 20T2100 | 29 | 5SBD 05T2100 | 29 | 5SBL 20T2100 | 30 | 5SBE 05T2100 | 30 |
| 2200 | ±50 | | | 5SBB 20T2200 | 29 | 5SBD 05T2200 | 29 | 5SBL 20T2200 | 30 | 5SBE 05T2200 | 30 |
| 2300 | ±50 | | | 5SBB 20T2300 | 29 | 5SBD 05T2300 | 29 | 5SBL 20T2300 | 30 | 5SBE 05T2300 | 30 |
| 2400 | ±50 | | | 5SBB 20T2400 | 29 | 5SBD 05T2400 | 29 | 5SBL 20T2400 | 30 | 5SBE 05T2400 | 30 |
| 2500 | ±50 | | | 5SBB 20T2500 | 29 | 5SBD 05T2500 | 29 | 5SBL 20T2500 | 30 | 5SBE 05T2500 | 30 |
| 2600 | ±100 | | | 5SBB 20T2600 | 29 | 5SBD 05T2600 | 29 | 5SBL 20T2600 | 30 | 5SBE 05T2600 | 30 |
| 2700 | ±100 | | | 5SBB 20T2700 | 29 | 5SBD 05T2700 | 29 | 5SBL 20T2700 | 30 | 5SBE 05T2700 | 30 |
| 2800 | ±100 | | | 5SBB 20T2800 | 29 | 5SBD 05T2800 | 29 | 5SBL 20T2800 | 30 | 5SBE 05T2800 | 30 |
| 2900 | ±100 | | | 5SBB 20T2900 | 29 | 5SBD 05T2900 | 29 | 5SBL 20T2900 | 30 | 5SBE 05T2900 | 30 |
| 3000 | ±100 | | | 5SBB 20T3000 | 29 | 5SBD 05T3000 | 29 | 5SBL 20T3000 | 30 | 5SBE 05T3000 | 30 |
| 3200 | ±100 | | | 5SBB 20T3200 | 29 | | | | | | |
| 3400 | ±100 | | | 5SBB 20T3400 | 29 | | | | | | |
| 3600 | ±100 | | | 5SBB 20T3600 | 29 | | | | | | |
| 3800 | ±100 | | | 5SBB 20T3800 | 29 | | | | | | |
| 4000 | ±100 | | | 5SBB 20T4000 | 29 | | | | | | |

Silicon Surge Voltage Suppressors

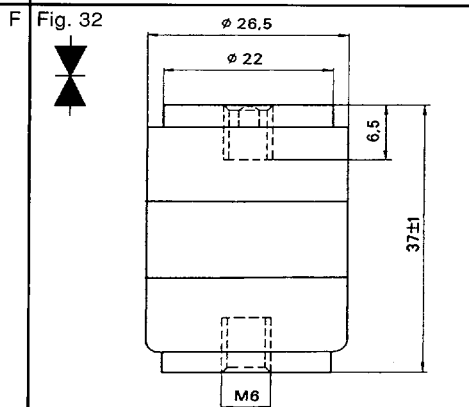
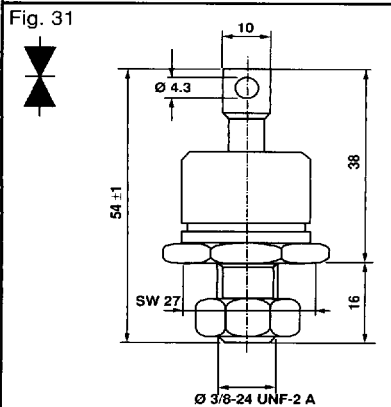
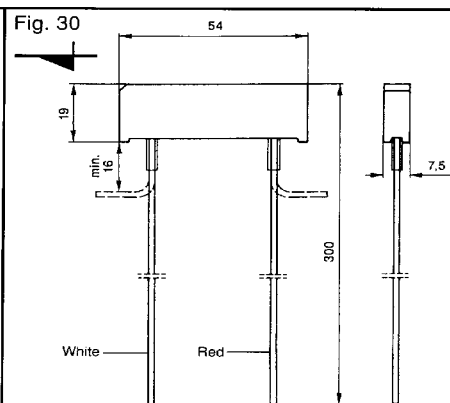
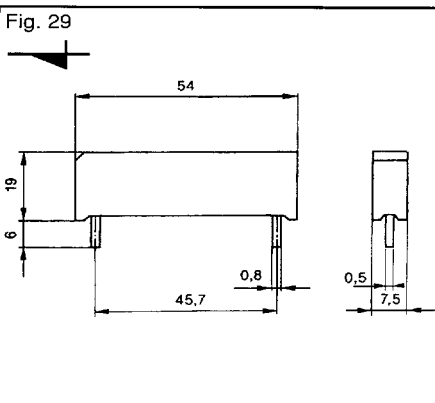
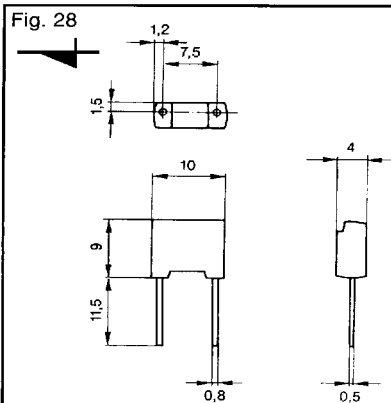
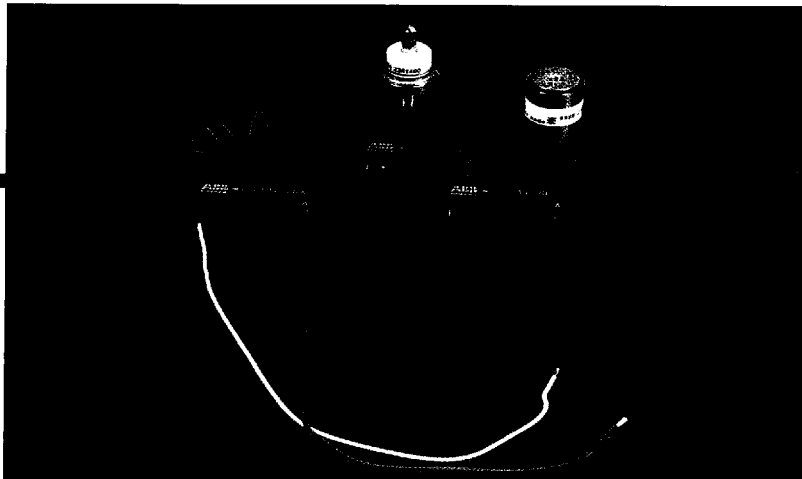
- Diffused pnp structure.
- Symmetric blocking characteristic with avalanche breakdown capability.
- Effective protection against repetitive and non-repetitive overvoltages.
- Suitable for thyristors, transistors and IGBTs.

- Diffundierte pnp-Struktur.
- Symmetrische Sperrkennlinie mit kontrollierter Avalanche-Charakteristik.
- Effektiver Schutz gegen repetitive und transiente Überspannungen.
- Geeignet für den Schutz von Thyristoren, Transistoren und IGBTs.

- ・拡散pnp構造
- ・アバランシェ降伏効果を用いた双方向阻止特性
- ・繰返/非繰返過電圧に対する効果的保護
- ・サイリスタ、トランジスタ、IGBTを過電圧から保護

| Type and ordering number | V_R | | IRM for base width | | | | T_{VJM} °C | R_{thJH} K/kW | Fig. (Page 16) |
|--------------------------|-----------------------|-----------------------|--------------------|-------------|------|-------|-----------------|--------------------|-------------------|
| | $T_{VJ}=60\text{ °C}$ | $T_{VJ}=60\text{ °C}$ | 10 μ s | 100 μ s | 1 ms | 10 ms | | | |
| | V | V | A | A | A | A | | | |
| 5SSA 50R0500 | 500 | ±60 | 500 | 135 | 33 | 7.5 | 125 | 600 | 31 |
| 5SSA 50R0600 | 600 | ±60 | 500 | 135 | 33 | 7.5 | 125 | 600 | 31 |
| 5SSA 38R0700 | 700 | ±60 | 380 | 100 | 25 | 4.5 | 125 | 600 | 31 |
| 5SSA 38R0800 | 800 | ±60 | 380 | 100 | 25 | 4.5 | 125 | 600 | 31 |
| 5SSA 30R0900 | 900 | ±60 | 300 | 80 | 21 | 4.0 | 125 | 600 | 31 |
| 5SSA 30R1000 | 1000 | ±60 | 300 | 80 | 21 | 4.0 | 125 | 600 | 31 |
| 5SSA 26R1100 | 1100 | ±60 | 260 | 67 | 18 | 3.6 | 125 | 600 | 31 |
| 5SSA 26R1200 | 1200 | ±60 | 260 | 67 | 18 | 3.6 | 125 | 600 | 31 |
| 5SSA 23R1300 | 1300 | ±60 | 230 | 58 | 15 | 3.4 | 125 | 600 | 31 |
| 5SSA 23R1400 | 1400 | ±60 | 230 | 58 | 15 | 3.4 | 125 | 600 | 31 |
| 5SSA 20R1500 | 1500 | ±60 | 200 | 50 | 13 | 3.0 | 125 | 600 | 31 |
| 5SSA 20R1600 | 1600 | ±60 | 200 | 50 | 13 | 3.0 | 125 | 600 | 31 |
| 5SSB 50X0400 | 450 | ±50 | 500 | 135 | 33 | 7.5 | 125 | 500 | 32 |
| 5SSB 50X0500 | 550 | ±50 | 500 | 135 | 33 | 7.5 | 125 | 500 | 32 |
| 5SSB 38X0600 | 650 | ±50 | 380 | 100 | 25 | 4.5 | 125 | 500 | 32 |
| 5SSB 38X0700 | 750 | ±50 | 380 | 100 | 25 | 4.5 | 125 | 500 | 32 |
| 5SSB 30X0800 | 850 | ±50 | 300 | 80 | 21 | 4.0 | 125 | 500 | 32 |
| 5SSB 30X0900 | 950 | ±50 | 300 | 80 | 21 | 4.0 | 125 | 500 | 32 |
| 5SSB 26X1000 | 1050 | ±50 | 260 | 67 | 18 | 3.6 | 125 | 500 | 32 |
| 5SSB 26X1100 | 1150 | ±50 | 260 | 67 | 18 | 3.6 | 125 | 500 | 32 |
| 5SSB 23X1200 | 1250 | ±50 | 230 | 58 | 15 | 3.4 | 125 | 500 | 32 |
| 5SSB 23X1300 | 1350 | ±50 | 230 | 58 | 15 | 3.4 | 125 | 500 | 32 |
| 5SSB 20X1400 | 1450 | ±50 | 200 | 50 | 13 | 3.0 | 125 | 500 | 32 |
| 5SSB 20X1500 | 1550 | ±50 | 200 | 50 | 13 | 3.0 | 125 | 500 | 32 |
| 5SSB 30X1600 | 1650 | ±50 | 300 | 80 | 21 | 4.0 | 125 | 250 | 32 |
| 5SSB 30X1700 | 1750 | ±50 | 300 | 80 | 21 | 4.0 | 125 | 250 | 32 |
| 5SSB 30X1800 | 1850 | ±50 | 300 | 80 | 21 | 4.0 | 125 | 250 | 32 |
| 5SSB 30X1900 | 1950 | ±50 | 300 | 80 | 21 | 4.0 | 125 | 250 | 32 |
| 5SSB 26X2000 | 2050 | ±50 | 260 | 67 | 18 | 3.6 | 125 | 250 | 32 |
| 5SSB 26X2100 | 2150 | ±50 | 260 | 67 | 18 | 3.6 | 125 | 250 | 32 |
| 5SSB 26X2200 | 2250 | ±50 | 260 | 67 | 18 | 3.6 | 125 | 250 | 32 |
| 5SSB 26X2300 | 2350 | ±50 | 260 | 67 | 18 | 3.6 | 125 | 250 | 32 |
| 5SSB 23X2400 | 2450 | ±50 | 230 | 58 | 15 | 3.4 | 125 | 250 | 32 |
| 5SSB 23X2500 | 2550 | ±50 | 230 | 58 | 15 | 3.4 | 125 | 250 | 32 |
| 5SSB 23X2600 | 2650 | ±50 | 230 | 58 | 15 | 3.4 | 125 | 250 | 32 |
| 5SSB 23X2700 | 2750 | ±50 | 230 | 58 | 15 | 3.4 | 125 | 250 | 32 |
| 5SSB 20X2800 | 2850 | ±50 | 200 | 50 | 13 | 3.0 | 125 | 250 | 32 |
| 5SSB 20X2900 | 2950 | ±50 | 200 | 50 | 13 | 3.0 | 125 | 250 | 32 |
| 5SSB 20X3000 | 3050 | ±50 | 200 | 50 | 13 | 3.0 | 125 | 250 | 32 |
| 5SSB 20X3100 | 3150 | ±50 | 200 | 50 | 13 | 3.0 | 125 | 250 | 32 |

* I_{RM} : Max. avalanche current for a single sine half wave pulse



Protection Devices – Part Numbering Structure and Ordering Code

5SBB 20 T 11 00

Product Group

- 5SBA = Breakover Diodes, Single elements
- 5SBB, 5SBD, 5SBL, 5SBE = Breakover diodes, Modules
- 5SSA, 5SSB = Silicon Surge Voltage Suppressors

Current capability

- Breakover Diodes: I_{SM} (100 μ s) /10 in A
- Silicon Surge Voltage Suppressors: I_{RM} (10 μ s) /10 in A

Package Code

Voltage capability

- Breakover Diodes: V_{BO} /100 in V
- Silicon Surge Voltage Suppressors V_R /100 in V

Standard option