CSR Reverse Conducting Thyristors

Reverse Conducting Thyristors

- Monolithic integration of fast thyristor and fast diode
- Small size and less weight
- High reliability
- Less on-state losses

CSR Rückwärtsleitende Thyristoren

Rückwärtsleitende Thyristoren

- Thyristor und Diode auf einer Siliziumtablette
- Platz- und Gewichtsersparnis
- Höhere Betriebssicherheit
- Geringe Verlustleistung

CSR thyristors à conduction inverse

Thyristors à conduction inverse

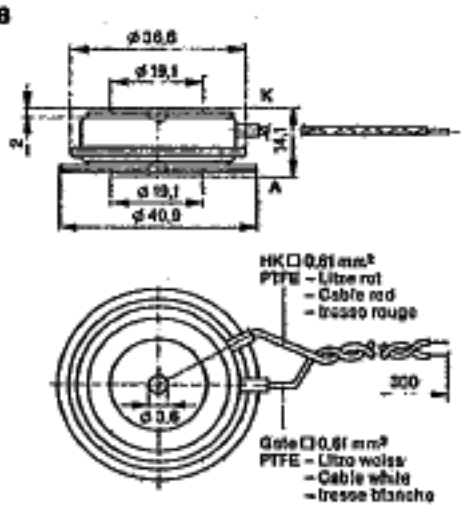
- Intégration monolithique d'un thyristor rapide et d'une diode rapide
- Economie de place et de poids
- Grande fiabilité
- Faible perte de puissance

Type Ordering number Bestellnummer Num. de commande	V_{DRM} Thyristor Diode	I_{TRMS} I_{RRMS}	I_{TAVM} I_{RAVM}	I_{TSM} I_{RSM}		V_{TO} V_{RO}	r_T r_R	t_q t_{dr}	T_{VJM}	R_{thJC}	F	Fig. No.	Datasheet Datenblatt Feuille technique
	V	T_C=50°C A	T_C=85°C A	8.3 ms kA	10 ms kA	V	mΩ	µs	°C	K/W	kN		
CSR 148-11...13 ib1	1100...1300	240 250	90 100	2.55 2.55	2.4 2.4	2.00 1.60	1.00 1.70	15 2.0	125	0.20 0.20	4.4	28	CH-E3.40574.1
CSR 148-11...13 id1	1100...1300	190 200	70 80	2.13 2.13	2.0 2.0	2.70 2.30	1.10 1.80	10 1.5	125	0.20 0.20	4.4	28	
CSR 149-14...16 iu1	1400...1600	260 270	100 105	2.55 2.55	2.4 2.4	1.70 1.40	1.50 2.00	20 4.0	125	0.20 0.20	4.4	28	CH-E3.40575.1
CSR 327-08...10 ib1	800...1000	815 820	310 315	8.2 8.2	7.6 7.6	1.31 1.25	0.40 0.43	15 2.7	125	0.08 0.08	11	29	CH-E3.40576.1
CSR 327-08...10 id1	800...1000	595 635	220 240	6.0 6.0	5.6 5.6	2.03 1.74	0.45 0.58	10 1.7	125	0.08 0.08	11	29	
CSR 328-11...13 ib1	1100...1300	630 640	235 240	6.3 6.3	5.8 5.8	1.83 1.74	0.51 0.58	15 2.7	125	0.08 0.08	11	29	CH-E3.40577.1
CSR 328-11...13 id1	1100...1300	495 530	180 200	5.0 5.0	4.6 4.6	2.54 2.13	0.54 0.75	10 1.7	125	0.08 0.08	11	29	
CSR 329-14...16 iu1	1400...1600	630 640	235 240	6.3 6.3	5.8 5.8	1.83 1.74	0.51 0.58	20 4.2	125	0.08 0.08	11	29	CH-E3.40586.1
CSR 329-14...16 ix1	1400...1600	815 820	310 315	8.2 8.2	7.6 7.6	1.31 1.25	0.40 0.43	40 5.0	125	0.08 0.08	11	29	
CSR 331-18...20 iv1	1800...2000	505 510	200 205	4.6 4.6	4.3 4.3	1.96 1.85	1.09 1.16	25 4.2	125	0.08 0.08	11	29	CH-E3.40578.1
CSR 331-18...20 ix1	1800...2000	600 610	240 245	5.5 5.5	5.2 5.2	1.49 1.39	1.00 1.08	40 5.0	125	0.08 0.08	11	29	
CSR 449-14...16 iu1	1400...1600	860 450	340 185	6.6 3.45	6.1 3.2	1.41 1.19	0.66 1.34	20 4.0	125	0.06 0.12	11	29	CH-E3.40621.2
CSR 729-14...16 iu1	1400...1600	1840 510	730 205	13.9 4.05	13.0 3.8	1.16 1.37	0.37 1.15	20 6.0	125	0.03 0.10	22	30	CH-E3.40588.1
CSR 731-18...20 iv1	1800...2000	1460 410	560 155	12.8 3.07	12.0 2.9	1.90 2.10	0.35 1.26	25 6.0	125	0.03 0.10	22	30	CH-E3.40589.1
CSR 731-18...20 ix1	1800...2000	1640 480	640 190	15.0 3.4	14.0 3.2	1.45 1.53	0.40 1.23	40 6.0	125	0.03 0.10	22	30	
CSR 772-22...27 ix1	2200...2700	1740 460	675 175	15.0 4.3	14.0 4.0	1.32 1.88	0.39 0.94	40 5.6	125	0.03 0.10	22	30	CH-E3.40590.1

Thyristor Dimensions

Dimensions in mm
A = Anode G = Gate
K = Cathode HK = Auxiliary cathode

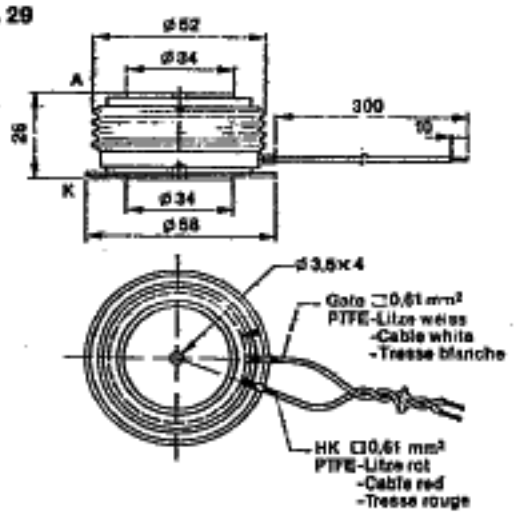
Fig. 28



Maßbilder Thyristoren

Abmessungen in mm
A = Anode G = Gate
K = Kathode HK = Hilfskathode

Fig. 29



Dimensions des thyristors

T-25-20

Dimensions en mm
A = Anode G = Gâchette
K = Cathode HK = Cathode auxiliaire

Fig. 30

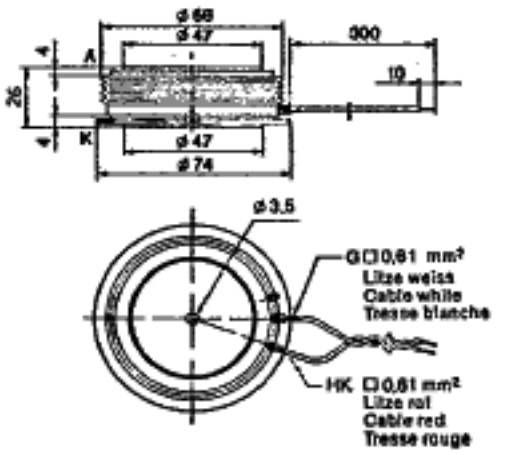


Fig. 31

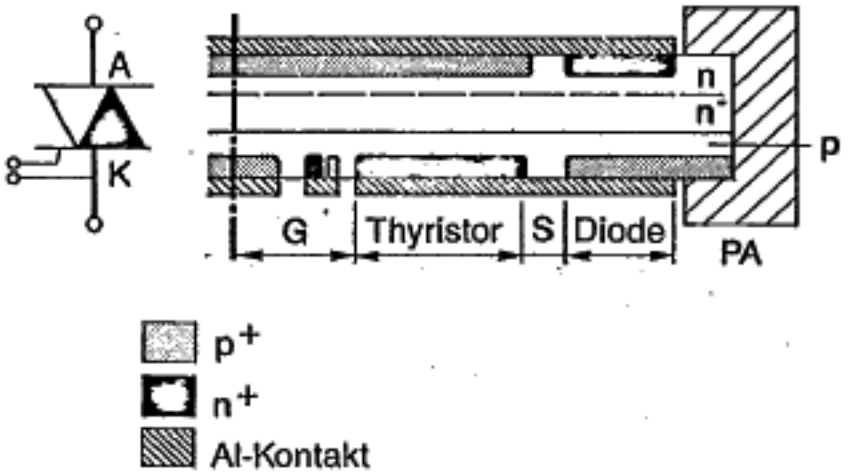


Fig. 32

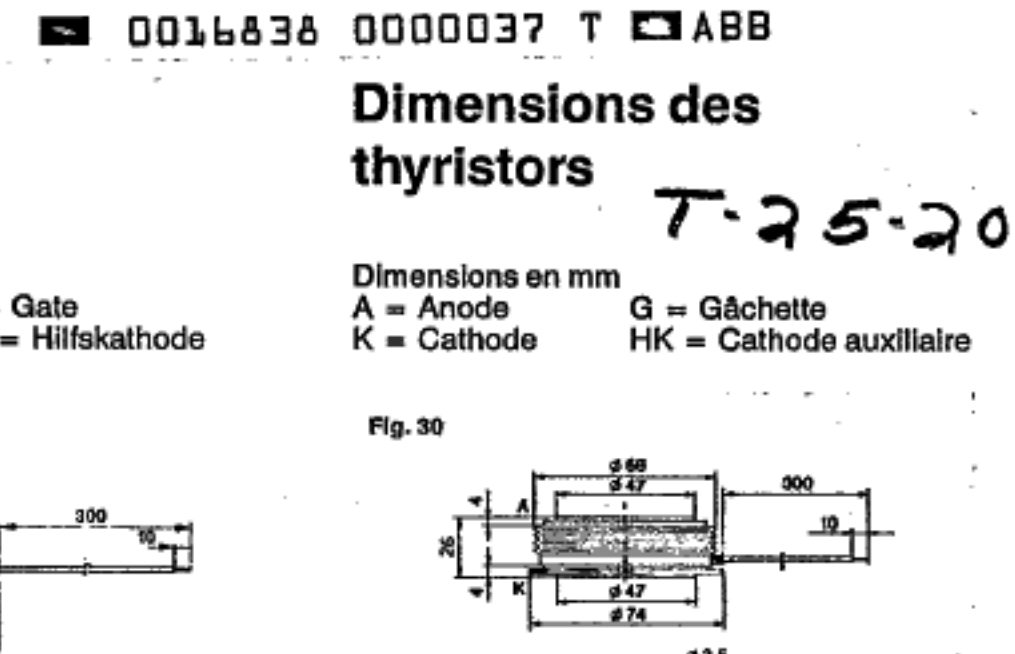


Fig. 31

Cross section silicon part of reverse conducting thyristor.

Querschnitt Silizium-Tablette eines rückwärtsleitenden Thyristors.

Coupe d'une tablette silicum de thyristor à conduction inverse.

Fig. 32

Gate structure of reverse conducting thyristor. The diode part is situated on the outer rim of the chip.

Gate-Struktur von rückwärtsleitenden Thyristoren. Die Diode ist am äusseren Rand des Chips integriert.

Gâchette interdigitée de thyristors à conduction inverse. La diode est intégrée au bord extérieur du chip.