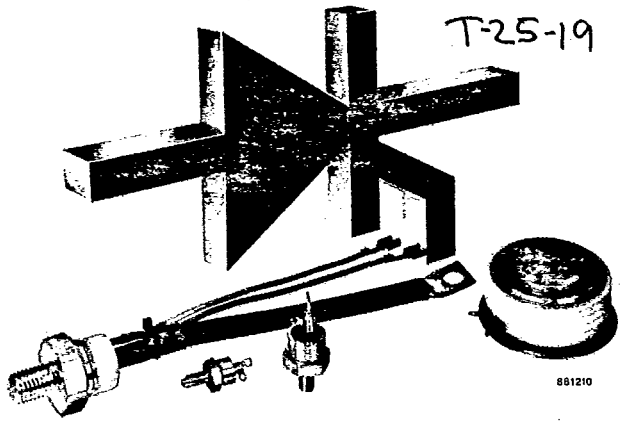
Thyristors

T-25-19

Typical applications

- AC and DC motor drives
- Inverters
- Uninterruptable power supply (UPS)
- Switch-mode power supplies



Line Commutated Thyristors

Type	Version	V_{DRM} / V_{RRM} (V)									I_{TAV} T_C=85°C	I_{TRMS}	I_{TSM} 45°C	v_{T0}	r_T	T_{VJM}	R_{thJC} ①	R_{thCK} ①	Fig.
		200	400	600	800	1000	1200	1400	1600	1800	A	A	A	V	mΩ	°C	K/W	K/W	Nr.
CS 5	2,3	●	●	●	●	●	●				11,5	25	180	1,0	33	125	1,8	1,0	1,2
CS 8	2,3	●	●	●	●	●	●				16	25	250	1,0	18	125	1,5	1,0	1,2
CS 16	2,3		●	●	●	●	●	●	●		19	30	350	1,0	12	125	1,0	0,6	3,4
CS 23	2,3		●	●	●	●	●	●	●		25	50	450	1,0	10	125	1,0	0,6	3,4
CS 35	4		●	●	●	●	●	●			60	120	1200	0,85	3,5	125	0,4	0,2	5
CS 52	1,8			●	●	●	●	●	●		50	120	1600	1,0	3,65	125	0,55	0,1	9,10
CS 72	1,8			●	●	●	●	●	●		75	160	2000	1,0	2,6	125	0,36	0,1	9,10
CS 112	1,8			●	●	●	●	●	●		124	220	2700	1,0	2,0	125	0,2	0,06	9,10
CS 142	1,8			●	●	●	●	●	●		140	260	3100	1,0	1,7	125	0,18	0,04	9,10
CS 220	2				●		●	●	●	●	220	450	7000	0,95	1,0	125	0,12	0,03	11
CS 300	3				●		●	●	●	●	330	600	8500	1,0	0,43	125	0,09	0,03	11
CS 400	2				●	●	●	●	●		465	1200	8500	1,0	0,46	125	0,052	0,008	7
CS 550	1				●	●	●	●	●		550	1500	10500	1,0	0,367	125	0,044	0,008	7
CS 1000	2				●	●	●	●	●	●	980	2000	20000	1,0	0,23	125	0,025	0,005	8
CS 1300	1				●	●	●	●	●	●	1200	3000	30000	0,9	0,187	125	0,0225	0,005	8

Line Commutated Thyristors, for higher voltage

Type	Version	V_{DRM} / V_{RRM} (V)									I_{TAV} T_C=85°C	I_{TRMS}	I_{TSM} 45°C	v_{T0}	r_T	T_{VJM}	R_{thJC} ①	R_{thCK} ①	Fig.
		1800	2000	2200	2300	2400	2500	2700	3000	3200	3500	A	A	A	V	mΩ	°C	K/W	K/W	Nr.
CS 351	1				●		●					310	1000	5500	1,0	1,37	125	0,065	0,008	6
CS 411	1	●	●		●		●					420	1200	9000	1,0	0,95	125	0,044	0,008	7
CS 601	1	●	●		●	●	●					600	2000	16000	1,1	0,48	120	0,030	0,005	8
CS 661	1							●	●	●	●	680②	3000	19000	1,0	0,67	120	0,025	0,005	8
CS 1001	1		●	●		●	●					930	2500	25000	1,05	0,35	125	0,0225	0,005	8

Fast Thyristors

Type	Version	V_{DRM} / V_{RRM} (V)							I_{TAV} T_C=85°C	t_q	I_{TRMS}	I_{TSM} 45°C	v_{T0}	r_T	T_{VJM}	R_{thJC} ①	R_{thCK} ①	Fig.
		600	800	1000	1100	1200	1300	1400	A	µs	A	A	V	mΩ	°C	K/W	K/W	Nr.
CSF 369	1	●	●	●	●	●	●		360	20-40	1000	5200	1,2	1,0	125	0,047	0,008	6
CSF 399	1				●	●	●	●	510	25-40	1500	10800	1,2	0,445	125	0,040	0,008	7
CSF 499	1				●	●	●	●	880	20-40	2000	20000	1,2	0,264	125	0,024	0,005	8

① for disc devices: double side cooling

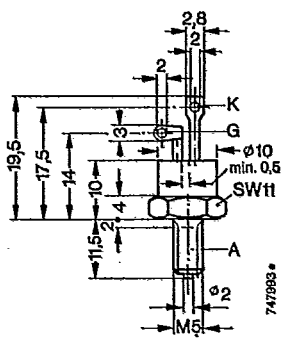
② at T_C = 80°C.

Thyristors

Outline drawings Dimensions in mm

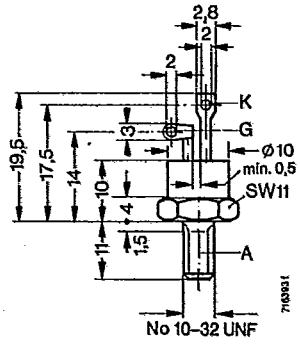
A = Anode
K = Cathode
G = Gate
HK = Auxiliary cathode

1 TO-64



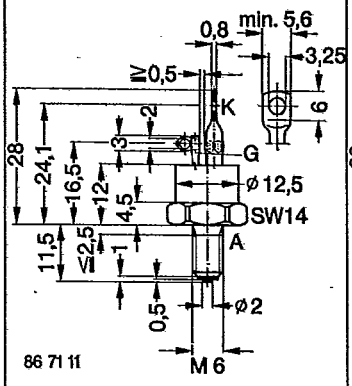
CS 5/8 Version 2 Mass: 6 g

2 TO-64



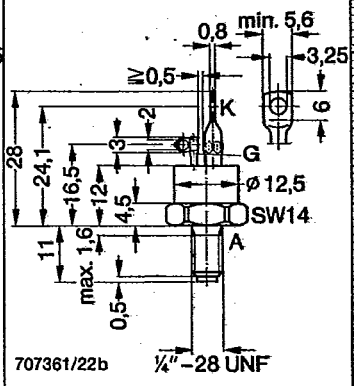
CS 5/8 Version 3 Mass: 6 g

3 TO-48



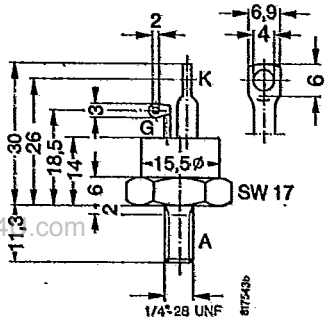
CS 16/23 Version 2 Mass: 12 g

4 TO-48



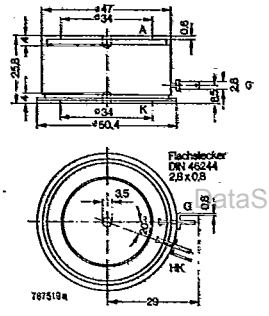
CS 16/23 Version 3 Mass: 12 g

5 TO-65



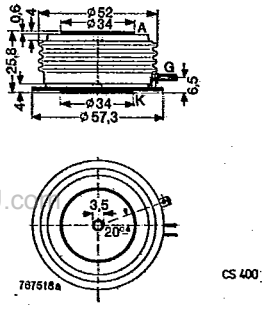
CS 35 Mass: 20 g

6



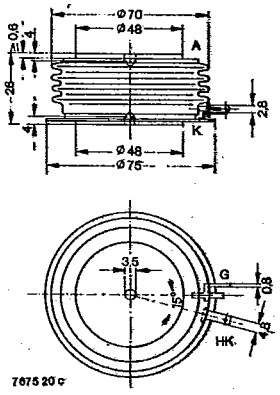
CS 351, CSF 369 Mass: 200 g

7 TO 200 AC



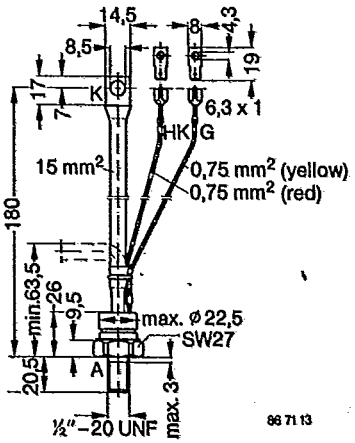
CS 400/411/550, CSF 399 Mass: 240 g

8



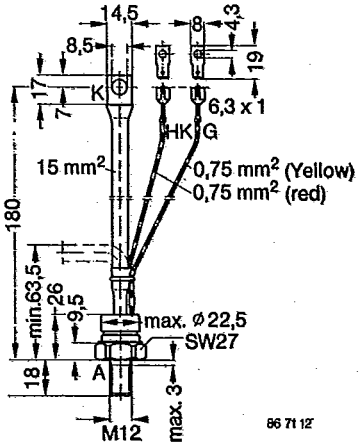
CS 601/661/1000 CS 1001/1300, CSF 499 Mass: 450 g

9 TO-94



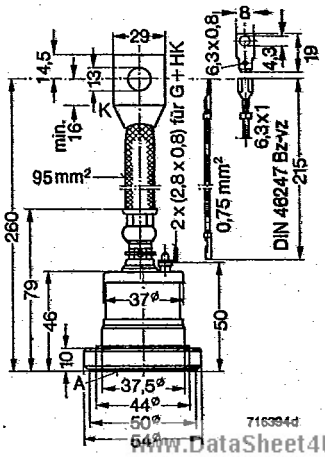
CS 52/72/112/142 Version 1 Mass: 110 g

10 TO-94



CS 52/72/112/142 Version 8 Mass: 110 g

11



CS 220/300 Mass: 500 g