Hind Rectifiers' High frequency 'S' series capsule thyristors have interdigitated gate structure. These devices have low switching losses and high di/dt performance.

Ordering information

Example : HF600CH13DHO

HF	600	CH	13	D	H	0
1	2	3	4	5	6	7

1) **HF** : Fast Turn off thyristors
   OR
   HS : Fast turn off thyristors with interdigitated gate structure
2) **600*** : Average forward current rating at Tcase = 85°C
   (* incase of capsules with double sided cooling)
3) **TB** : Tophat types
   CH : Capsule Types
4) **13** : Voltage grade code from Table 1
5) **D** : Reapplied dv/dt code from Table 2
6) **H** : Turn off code from Table 3
7) **O** : Extra for any special application.

Table No.: 1

Code	02	04	06	08	10	12	13	14	16	20
V_{DRM} V_{RRM} Volts	200	400	600	800	1000	1200	1300	1400	1600	2000

Table No.: 2

Code	D	H
reapplied dv/dt V/μSec.	50	400

Table No.: 3

Code	N	C	L	S	K	J	H	G	2K	F	2H
Tq μSec.	10	12	15	18	20	25	30	35	40	50	60

Turn off times and recovered charges given in the table are measured at 125°C and under the conditions given below.

1) ON STATE CURRENT $I_{TM} = I_{TAVM}$
2) Rate of decay of an state current when passing through zero dir/dt = 20A/micro sec.
3) Reverse Voltage = 100 Volts.
4) Rate of rise of OFF state voltage as per 5th code letter.
8) Forward off state voltage $V_{DM} = 0.67\ V_{DRM}$

FAST TURN – OFF : TOP HAT TYPES

Thyristor Type	V_{DRM}/ V_{RRM}	Tq	$I_{T(av)}$ at T_{case}		$I_{T(RMS)}$	I_{TSM}	I^2t	di/dt NONREP/REP	Q_{RR} at dir/dt=20 A/µSec.		V peak at I peak T_j max		$R_{th(j-c)}$ °C/W		$R_{th(c-h/s)}$	V_c
	Volts	µSec	Amps.	°C	Amps.	Amps.	A^2 sec x 10^3	Amps/µSec	µC at I_{TM}		Volts	Amps.	180° Sine	120° Rect	°C/W	Volt
HF36TB	200-1200	15 - 25	41 36	78 85	65	850	3.6	600/120	55	50	2.2	150	0.62	0.72	0.1	1.3
HF46TB	200-1200	15 - 25	51 46	78 85	80	1000	5.0	600/120	55	50	1.92	150	0.53	0.63	0.1	1.2
HF80TB	200-1400	20 - 25	127 80	52 85	200	2450	30	800/160	154	150	2.4	400	0.28	0.32	0.08	1.
HF120TB	200-1400	20 - 25	152 120	70 85	240	2900	42	800/160	154	150	2.2	500	0.2	0.23	0.08	1.
HF195TB	200-1300	20 - 25	287 195	59 85	450	6000	180	1000/200	198	300	2.05	800	0.12	0.142	0.02	1.
HF290TB	200-1300	20 - 25	350 290	73 85	550	6400	205	1000/200	198	300	2.1	1000	0.08	0.104	0.02	1.

FAST TURN – OFF : CAPSULE TYPES

Thyristor Type	V_{DRM} V_{RRM}	Tq	$I_{T(av)}$ at T_{case}		$I_{T(RMS)}$	I_{TM} at T_C=60°C Sine wave, V_{RM}=50V V_{DM}=0.67 V_{DRM}			I_{TSM}	I^2t	di/dt NONREP/REP	Q_{RR} at dir/dt=20A/µsec.		V_{peak} at I_{peak} T_j max		$R_{th(j-c)}$ °C/W double sided	
	Volts	µSec	Amps.	°C	Amps.	50Hz	400Hz	2KHz 10KHz	Amps.	A^2sec. x 10^3	Amps/µSec	µC at I_{TM}		Volts	Amps.	180° Sine	120° Rec
HF128CH	200-1400	20 - 25	191 128	54 85	300	575	575	575 -	2450	30	800/160	165	200	2.60	600	0.163	0.2
HF188CH	200-1400	20 - 25	254 188	64 85	400	800	800	800 -	2900	42	800/160	169	250	2.44	800	0.117	0.1
HF318CH	200-1300	20 - 25	446 318	62 85	700	1400	1400	1300 -	6000	180	1000/200	198	400	2.25	1200	0.068	0.08
HF408CH	200-1300	20 - 25	477 408	76 85	750	1500	1500	1500 -	6400	205	1000/200	209	500	2.20	1400	0.053	0.07
HF600CH	200-1300	20 - 30	960 600	47 85	1500	2600	2600	1680 -	10000	500	900/200	286	800	2.35	2500	0.038	0.04
HF670CH	200-2000	40 - 60	960 670	57 85	1500	2950	2900	1690 -	11500	661	900/200	440	1000	2.80	3000	0.029	0.03

FAST TURN – OFF : HIGH FREQUENCY CAPSULE TYPES

Thyristor Type	V_{DRM}/ V_{RRM}	Tq	$I_{T(av)}$ at T_{case}		$I_{T(RMS)}$	I_{TM} at T_C=60°C Sine wave, V_{RM}=50V V_{DM}=0.67 V_{DRM}			I_{TSM}	I^2t	di/dt NONREP/REP	Q_{RR} at dir/dt=20A/µsec		V_{peak} at I_{peak} T_j max		$R_{th(j-c)}$ °C/W double sided	
	Volts	µSec	Amps.	°C	Amps.	50Hz	400Hz	2KHz 10KHz*	Amps.	A^2sec. x 10^3	Amps/µSec	µCat I_{TM}		Volts	Amps	180° Sine	120° Rect.
HS388CH	200-1200	10 -20	575 388	51 85	900	1650	1650	1650 1000	5600	157	2000/600	88	400	3.05	1500	0.045	0.054
HS510CH	200-1200	10 -20	960 510	22 85	1500	2200	2200	2200 1300*	8400	353	1500/500	176	800	3.05	2500	0.038	0.045
HS930CH	1600-2000	30 -60	1274 930	62 85	2000	4000	4000	3400 -	18000	1620	1000/250	770	1300	2.55	3000	0.021	0.0235
HS1052CH	200-1200	15-25	1400 1052	66 85	2200	4400	4400	4000 2000*	20000	2000	1200/400	117	1400	2.35	3000	0.018	0.0203

r	I_{GT}/V_{GT}	V_{FGM}	I_{FGM}	$P_{GM\ 0.5}$ msec. pulse width	I_L	dv/dt	I_D/I_R	$T_{j\ max}$	Weight	Torque	Fig. No.
m. ohms	mA / V	Volts	Amps.	Watts	mA	V/μSec	mA	°C	Grams	KgM	
5.5	150/2.5	13	10	30**	600	D,H	10	125	50	0.4	1
3.4	150/2.5	13	10	30**	600	D,H	10	125	50	0.4	1
2.4	150/2.0	11	10	60	1000	D,H	30	125	150	2.0	2
1.6	150/2.0	11	10	60	1000	D,H	30	125	150	2.0	3 ***
0.85	250/2.2	11	10	60	1000	D,H	50	125	650	1.65-2.07	*5
0.75	250/2.2	11	10	60	1000	D,H	50	125	650	1.65-2.07	5

*** HF120TB also available in 1/2" 20UNF stud as HF121TB as per Fig. No.: 2.

* HF195TB is also available in stud base as HF196TB as per figure no.4.

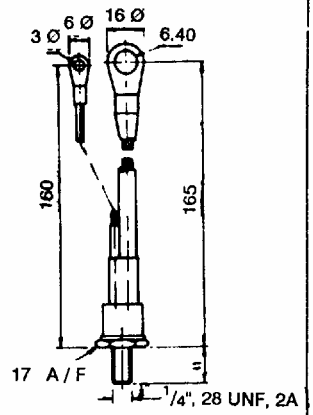
** Pulse width 100 μS

$R_{th\ (c\text{-}h/s)}$ double sided	V_o	r	I_{GT}/V_{GT}	V_{FGM}	I_{FGM}	$P_{GM\ 0.5}$ msec. pulse width	I_L	dv/dt	I_D/I_R	$T_{j\ max}$	Weight	Mounting Force	Fig. No.
°C/W	Volts.	m.ohms	mA/V	Volts	Amps.	Watts	mA	V/μ Sec	mA	°C	Grams	KN	
0.015	1.28	2.15	150/2.0	11.5	10	60	1000	D,H	30	125	70	3.4-5	6
0.015	1.20	1.35	150/2.0	11.5	10	60	1000	D,H	30	125	70	3-4.5	6
0.01	1.30	0.70	250/2.2	11.5	10	60	1000	D,H	50	125	110	5.5-8	7
0.01	1.20	0.63	250/2.2	11.5	10	60	1000	D,H	50	125	110	5.5-8	7
0.01	1.15	0.42	250/2.2	11.5	10	60	1000	D,H	100	125	260	12-15	8/9
0.004	1.15	0.55	250/2.2	11.5	10	60	1500	D,H	100	125	600	17-20	10/11

$R_{th\ (c\text{-}h/s)}$ double sided	V_o	r	I_{GT}/V_{GT}	V_{FGM}	I_{FGM}	$P_{GM\ 0.5}$ msec. pulse width	I_L	dv/dt	I_D/I_R	$T_{j\ max}$	Weight	Mounting Force	Fig. No.
°C/W	Volts.	m.ohms	mA/V	Volts	Amps.	Watts	mA	V/μSec.	mA	°C	Grams	KN	
0.015	1.30	1.10	250/2.2	11.5	10	60	1000	D,H	60	125	110	8-12	12
0.005	1.30	0.65	250/2.2	11.5	10	60	1500	D,H	100	125	270	12-15	9•
0.004	1.35	0.33	250/2.2	11.5	10	60	1500	D,H	200	125	600	25-30	11
0.004	1.30	0.32	300/2.2	9	10	60	1000	D,H	200	125	600	27-30	11

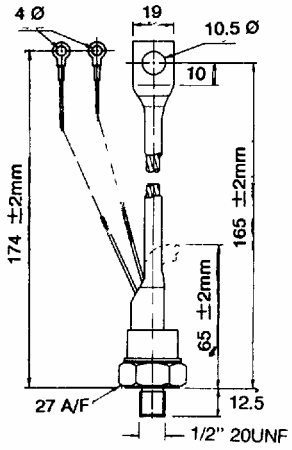
• Also available in Epoxy Housing as per figure No. 13.

Figure No. 1



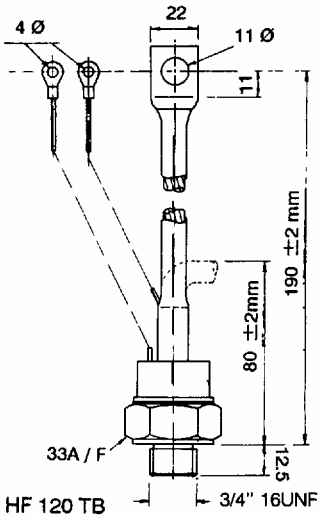
HF36TB
HF46TB

Figure No. 2



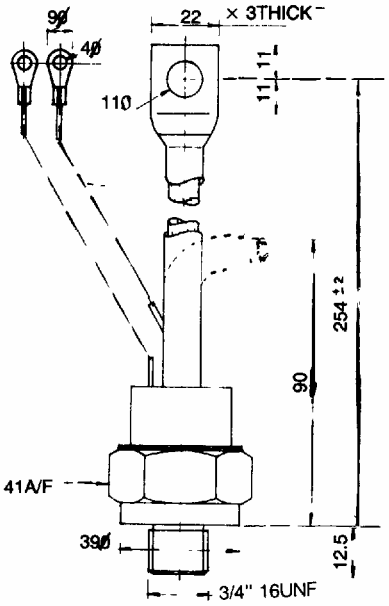
HF80TB
HF121TB

Figure No. 3



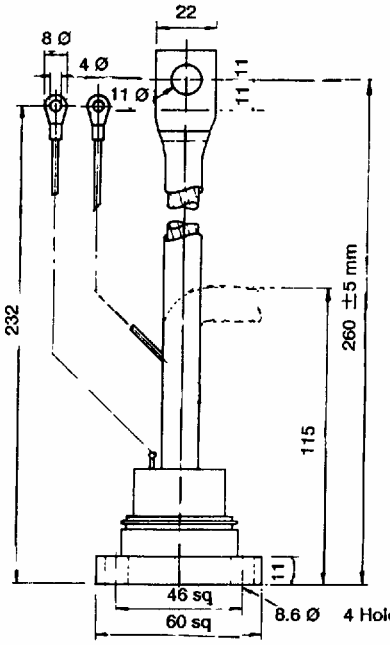
HF 120 TB

Figure No. 4



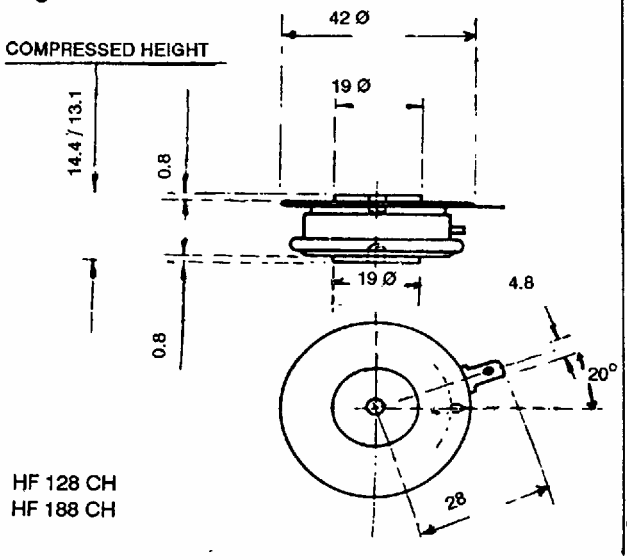
HF 196 TB

Figure No. 5



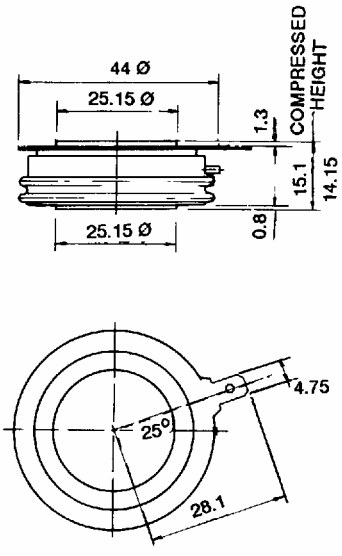
HF 195 TB
HF 290 TB

Figure No. 6



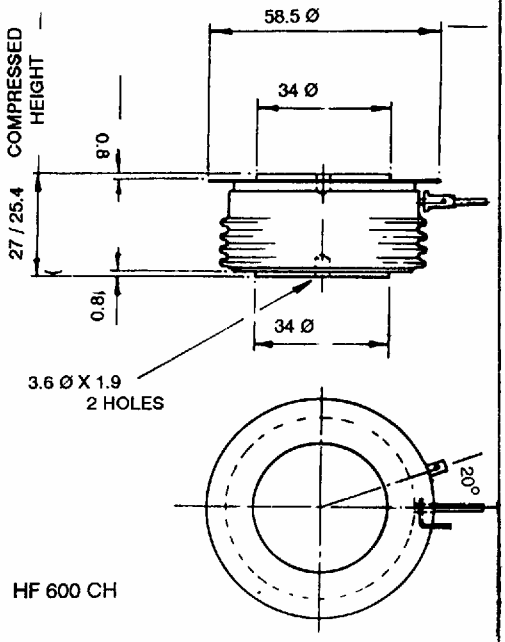
HF 128 CH
HF 188 CH

Figure No. 7



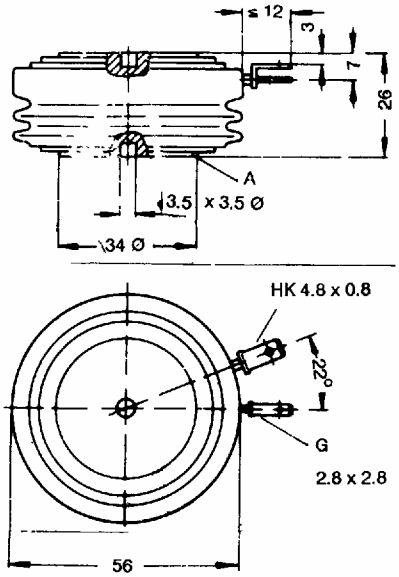
HF 318 CH
HF 408 CH

Figure No. 8



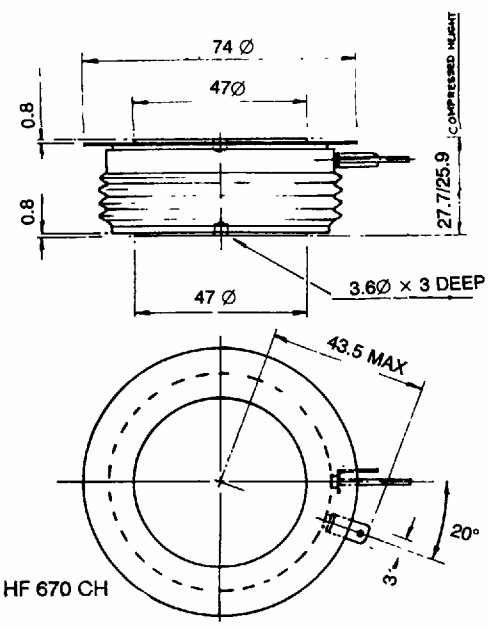
HF 600 CH

Figure No. 9



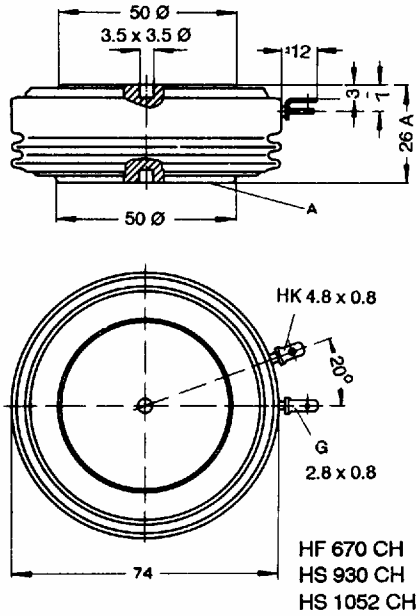
HF 600 CH
HS 510 CH

Figure No. 10



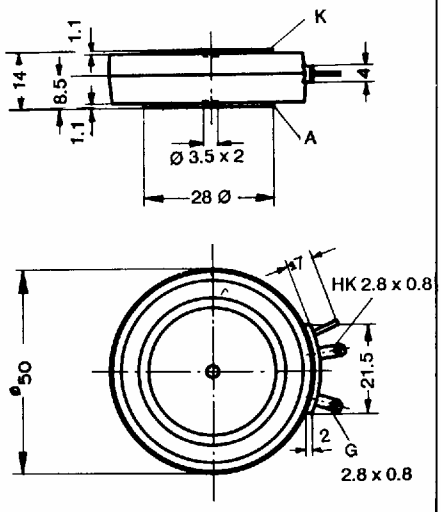
HF 670 CH

Figure No. 11



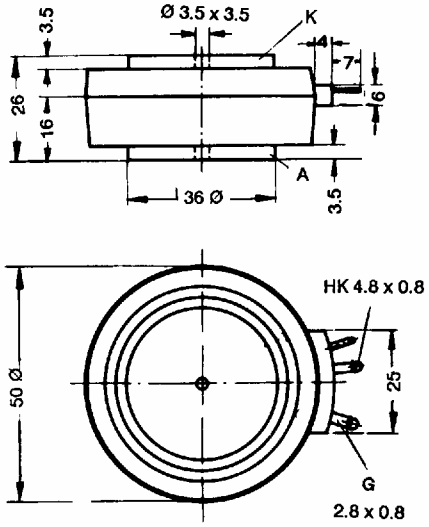
HF 670 CH
HS 930 CH
HS 1052 CH

Figure No. 12



HS 388 CH

Figure No. 13



HS 510 CH

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