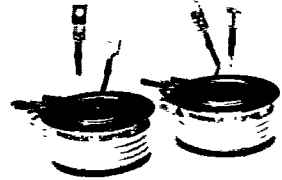


V _{DRM} V _{RRM}	t _q (T _{vj} = 125 °C)	I _{TRMS} (maximum values for continuous operation)	
		1300 A	1500 A
V	μs	I _{TAV} (sin. 180; T _{case} = 85 °C; 50 Hz; DSC)	
		510 A	590 A
400	20	SKT 513 F 04 DT	
800	15		SKT 593 F 08 DS
	20	SKT 513 F 08 DT	
900	15		SKT 593 F 09 DS
	20	SKT 513 F 09 DT	
1000	15		SKT 593 F 10 DS
	20	SKT 513 F 10 DT	
1100	15		SKT 593 F 11 DS
	20	SKT 513 F 11DT	
1200	20	SKT 513 F 12 DT	
1300	25	SKT 513 F 13 DU	
1400	30	SKT 513 F 14 DV	

Fast Thyristors with Interdigitated Amplifying Gate

SKT 513 F
SKT 593 F

T.25.20



Symbol	Conditions	SKT 513 F	SKT 593 F
I _{TM}	sin. 180; T _{case} = 60 °C; DSC; 50 Hz	2300 A	2700 A
I _{TSM}	T _{vj} = 25 °C	11 000 A	13 000 A
	T _{vj} = 125 °C	10 000 A	12 000 A
i ² t	T _{vj} = 25 °C	600 000 A ² s	845 000 A ² s
	T _{vj} = 125 °C	500 000 A ² s	720 000 A ² s
t _{gd}	T _{vj} = 25 °C; I _G = 1 A; di _G /dt = 1 A/μs	typ. 1 μs	
t _{gr}	V _D = 0,67 · V _{DRM}	typ. 1 μs	
(di/dt) _{cr}	non-repetitive	1000 A/μs	
	f = 50 ... 60 Hz	400 A/μs	
(dv/dt) _{cr}	T _{vj} = 125 °C	500 V/μs	
I _H	T _{vj} = 25 °C; typ./max.	200 mA/400 mA	
I _L	T _{vj} = 25 °C; R _G = 33 Ω; typ./max.	1 A/2 A	
V _T	T _{vj} = 25 °C; I _T = 1800 A; max.	2,2 V	1,85 V
V _{T(TO)}	T _{vj} = 125 °C	1,4 V	1,25 V
r _T	T _{vj} = 125 °C	0,4 mΩ	0,3 mΩ
I _{DD} , I _{RD}	T _{vj} = 125 °C; V _{DD} = V _{DRM} ; V _{RD} = V _{RRM}	100 mA	100 mA
V _{GT}	T _{vj} = 25 °C	4 V	
I _{GT}	T _{vj} = 25 °C	250 mA	
V _{GD}	T _{vj} = 125 °C	0,25 V	
I _{GD}	T _{vj} = 125 °C	10 mA	
R _{thjc}	cont.; DSC/SSC	0,038/0,078 °C/W	
R _{thch}	DSC/SSC	0,008/0,016 °C/W	
T _{vj}		-40 ... +125 °C	
T _{stg}		-40 ... +125 °C	
F	SI units	11 ... 13 kN	
	US units	2200 ... 2850 lbs.	
w		240 g	
Case		B 10	

Features

- Capsule cases
- Hermetic ceramic to metal sealing
- Gold diffused silicon chip
- Amplifying interdigitated gate
- Precious metal pressure contact

Typical Applications

- Self-commutated inverters
- DC choppers
- Motor speed control
- Inductive heating
- Uninterruptible power supplies
- Electronic welders
- General power switching applications

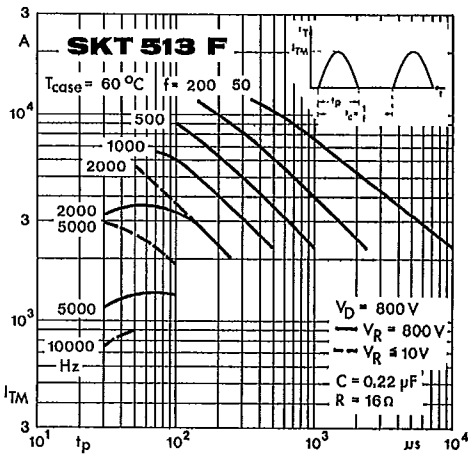


Fig. 1 a Rated peak on-state current vs. pulse duration

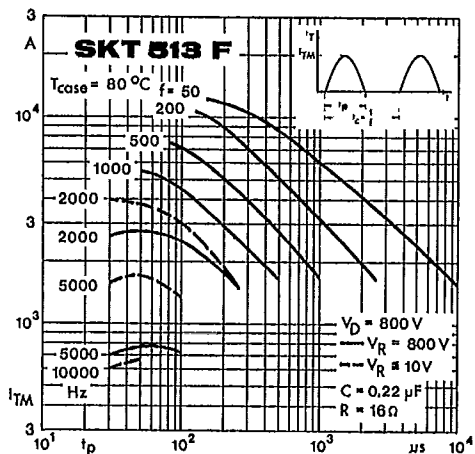


Fig. 1 b Rated peak on-state current vs. pulse duration

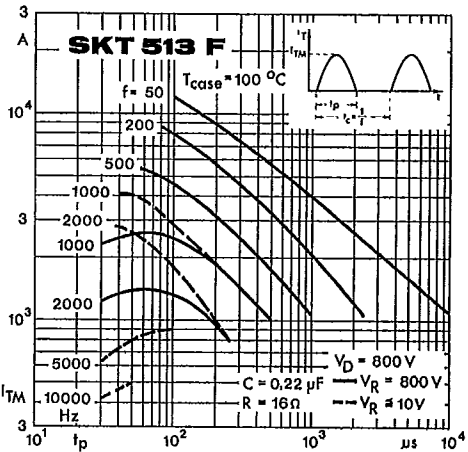


Fig. 1 c Rated peak on-state current vs. pulse duration

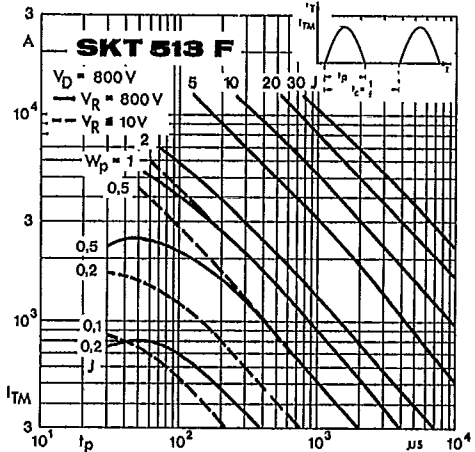


Fig. 2 Energy dissipation per pulse

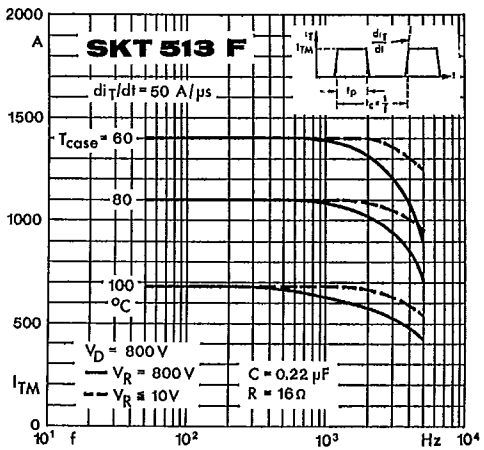


Fig. 3 a Rated peak on-state current vs. pulse duration

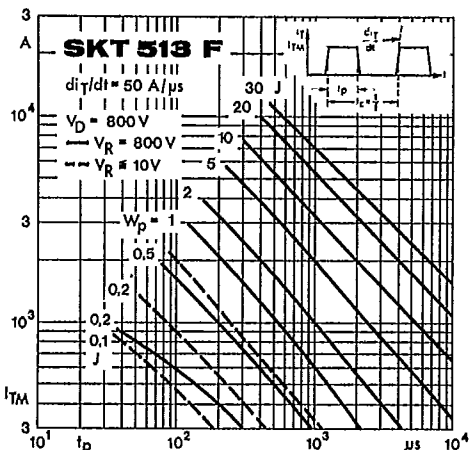


Fig. 4 a Energy dissipation per pulse

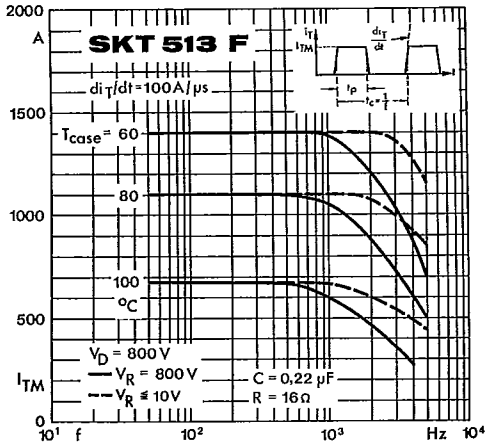


Fig. 3 b Rated peak on-state current vs. pulse duration

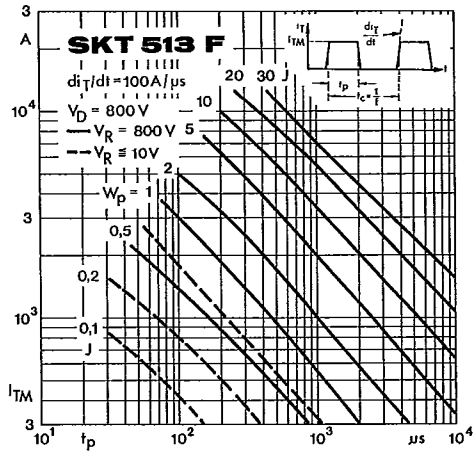


Fig. 4 b Energy dissipation per pulse

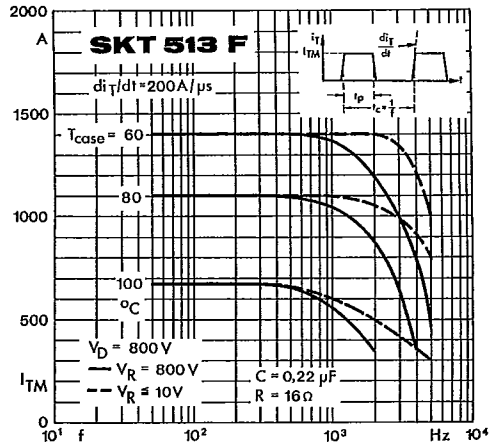


Fig. 3 c Rated peak on-state current vs. pulse duration

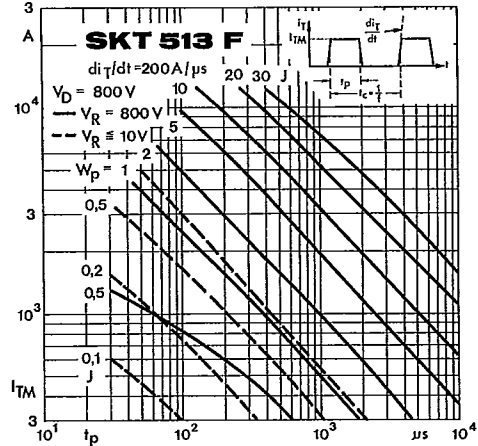


Fig. 4 c Energy dissipation per pulse

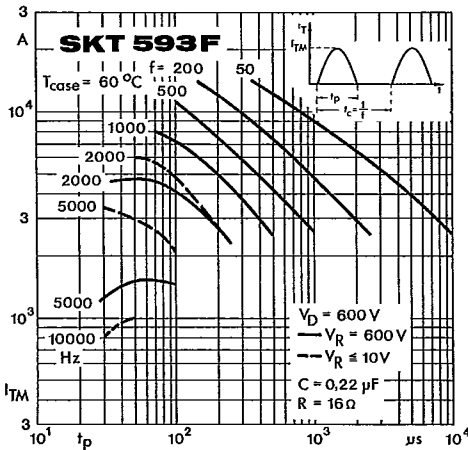


Fig. 1 a Rated peak on-state current vs. pulse duration

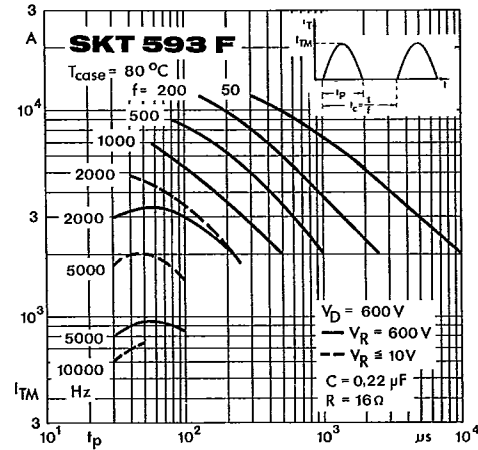


Fig. 1 b Rated peak on-state current vs. pulse duration

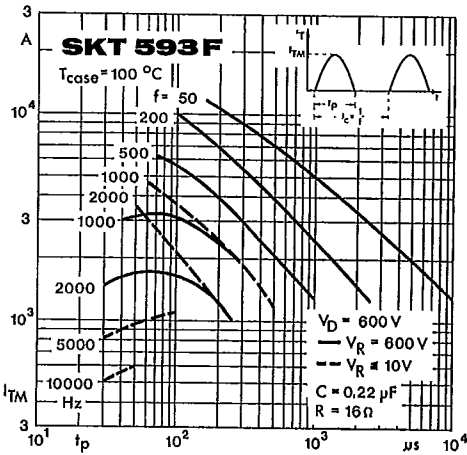


Fig. 1 c Rated peak on-state current vs. pulse duration

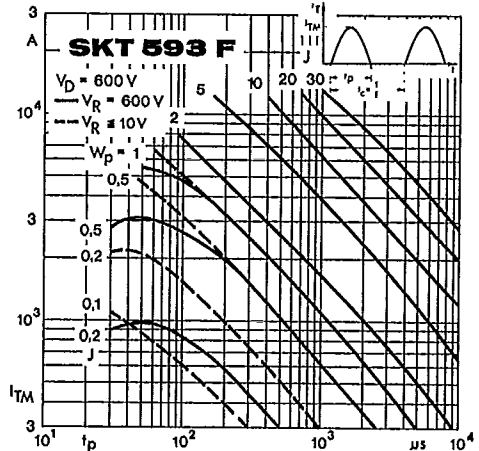


Fig. 2 Energy dissipation per pulse

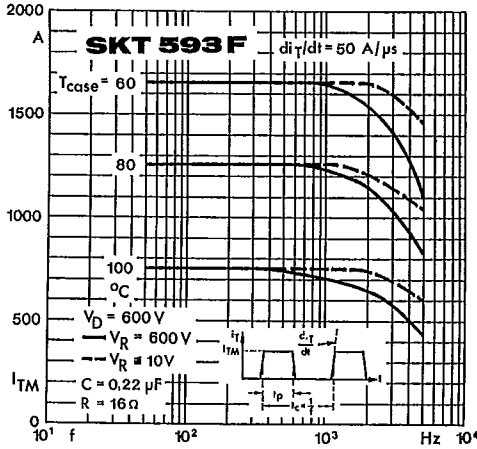


Fig. 3 a Rated peak on-state current vs. pulse duration

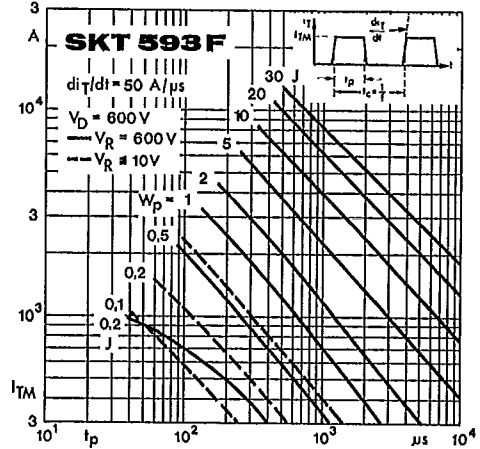


Fig. 4 a Energy dissipation per pulse

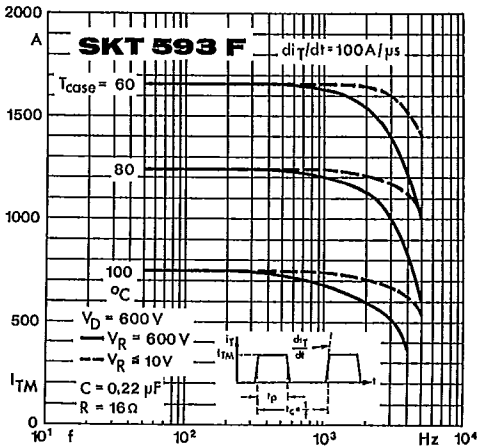


Fig. 3 b Rated peak on-state current vs. pulse duration

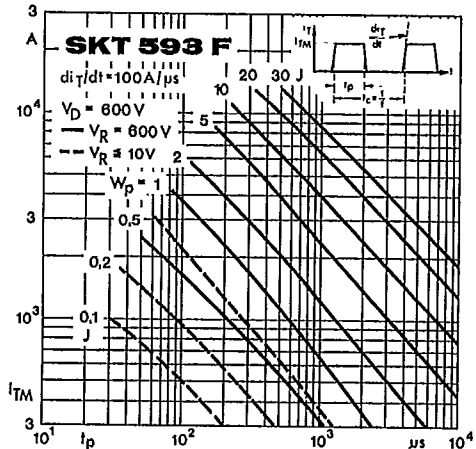


Fig. 4 b Energy dissipation per pulse

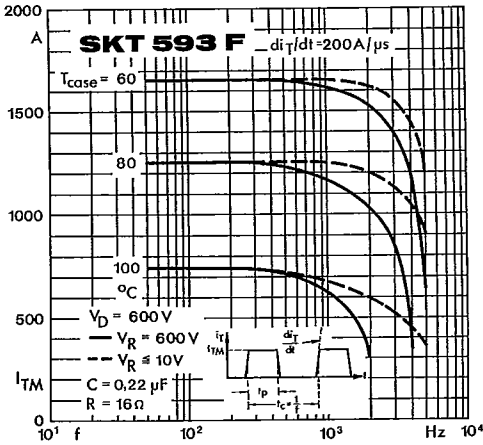


Fig. 3 c Rated peak on-state current vs. pulse duration

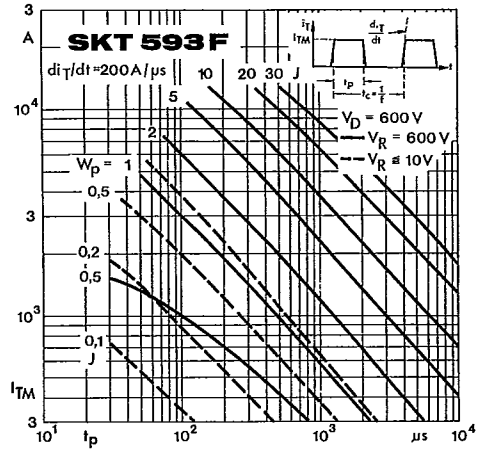


Fig. 4 c Energy dissipation per pulse

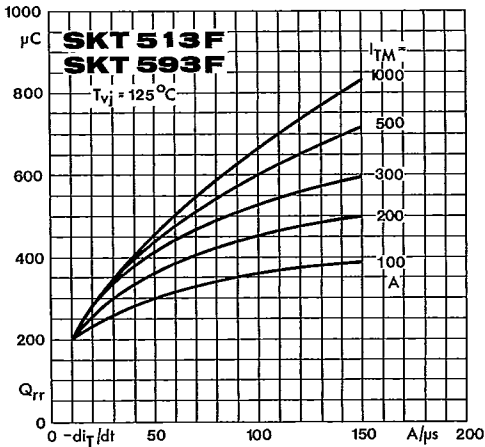


Fig. 5 Recovered charge vs. current decrease

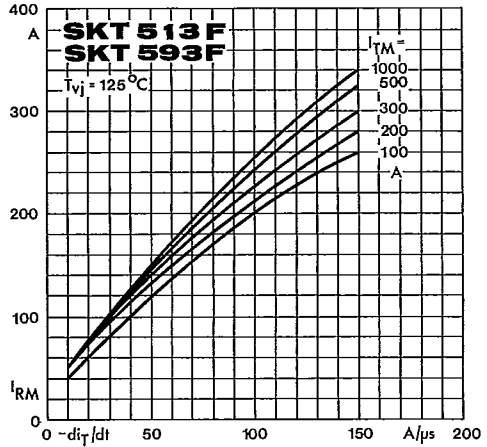


Fig. 6 Peak recovery current vs. current decrease

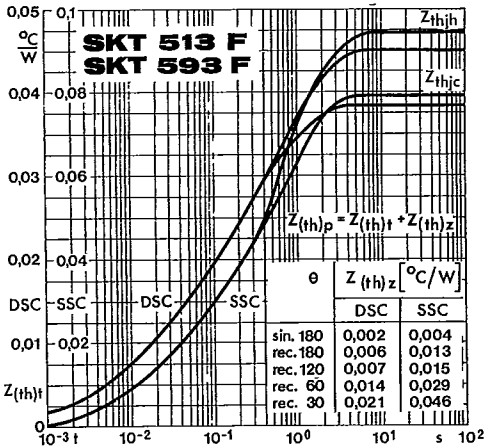


Fig. 7 Transient thermal impedance vs. time

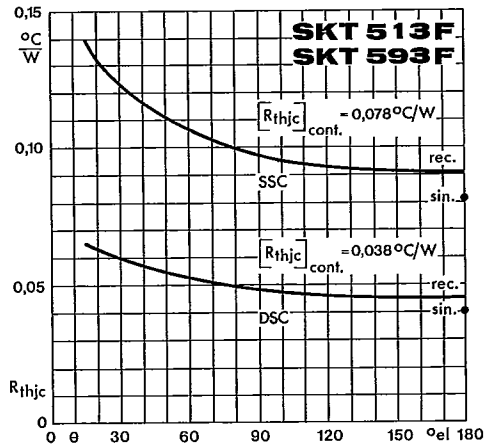


Fig. 8 Thermal resistance vs. conduction angle

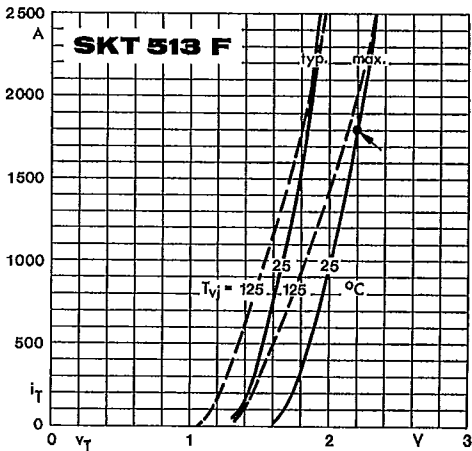


Fig. 9 a On-state characteristics

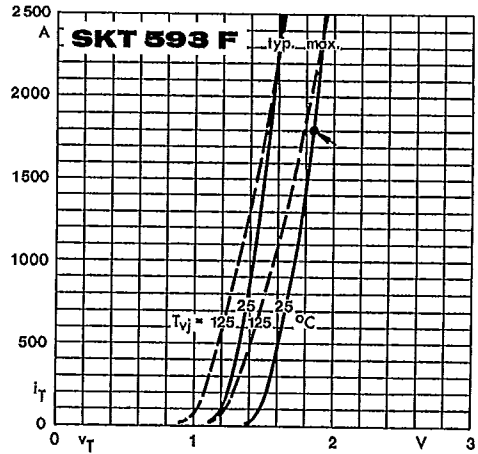


Fig. 9 b On-state characteristics

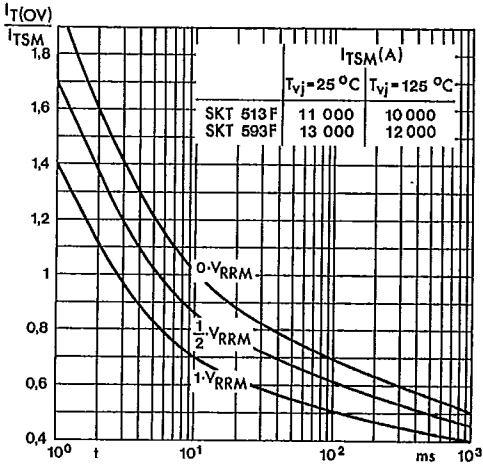


Fig. 10 Surge overload current vs. time

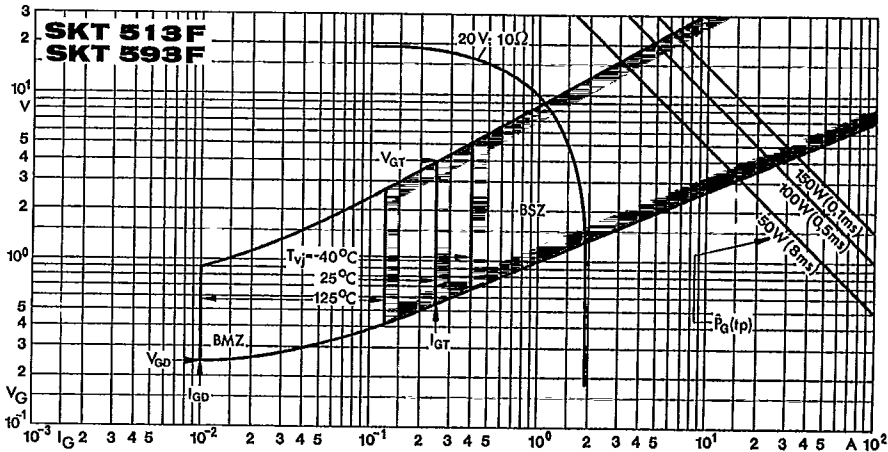
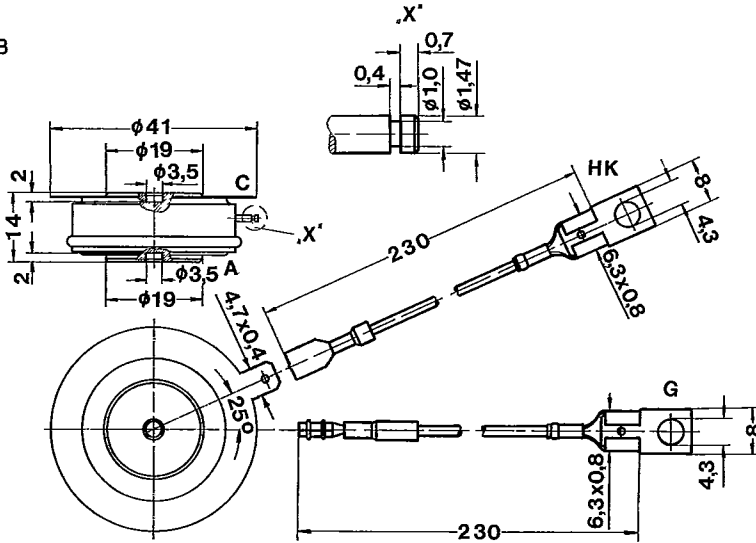


Fig. 11 Gate trigger characteristics

SKT 240 F
SKT 290 F

Case B 8

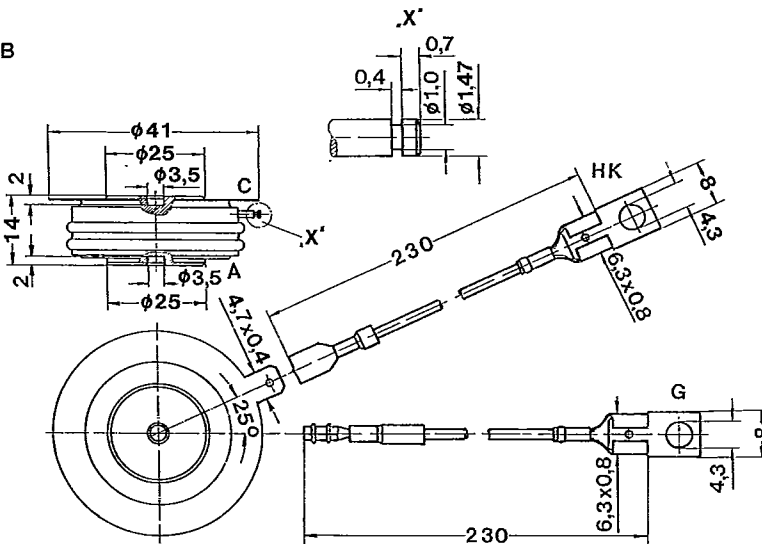
JEDEC: TO-200 AB
151 A4 DIN 41 814



SKT 351 F
SKT 431 F

Case B 11

JEDEC: TO-200 AB
152 A4 DIN 41 814



- C: Cathode terminal
- A: Anode terminal
- G: Gate terminal (yellow sleeve)
- HK: Auxiliary cathode terminal (red sleeve)

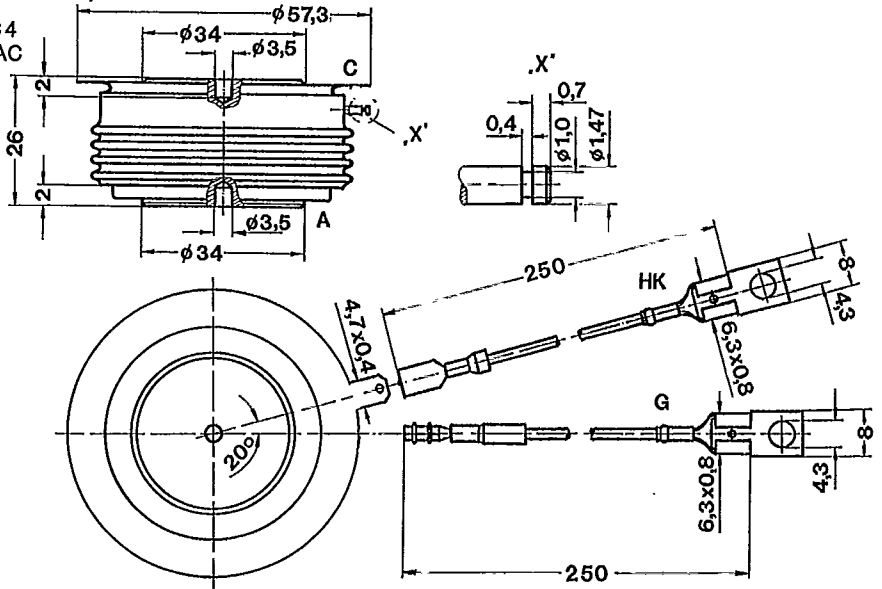
Dimensions in mm

SKT 513 F, SKT 593 F

Case B 10

DIN 41 814: 153 C 4

JEDEC: TO-200 AC



- C: Cathode terminal
- A: Anode terminal
- G: Gate terminal (yellow sleeve)
- HK: Auxiliary cathode terminal (red sleeve)

Dimensions in mm