

V <sub>DRM</sub> V <sub>RRM</sub>	t <sub>q</sub> (T <sub>vj</sub> = 125 °C)	I <sub>TRMS</sub> (maximum values for continuous operation)	
		900 A	1100 A
V	μs	I <sub>TA</sub> V (sin. 180; T <sub>case</sub> = ... °C; 50 Hz; DSC) 350 A (84 °C)      430 A (82,5 °C)	
400	15		<b>SKT 431 F 04 DS</b>
600	15 20		<b>SKT 431 F 06 DS</b> <b>SKT 431 F 06 DT</b>
800	15 20 25	<b>SKT 351 F 08 DT</b> <b>SKT 351 F 08 DU</b>	<b>SKT 431 F 08 DS</b> <b>SKT 431 F 08 DT</b>
1000	15 20 25	<b>SKT 351 F 10 DT</b> <b>SKT 351 F 10 DU</b>	<b>SKT 431 F 10 DS</b> <b>SKT 431 F 10 DT</b>
1200	20 25	<b>SKT 351 F 12 DT</b> <b>SKT 351 F 12 DU</b>	
1400	30	<b>SKT 351 F 14 DV*</b>	

**Fast Thyristors with Interdigitated Amplifying Gate**

**SKT 351 F**  
**SKT 431 F**

T.25-19



Symbol	Conditions	SKT 351 F	SKT 431 F
I <sub>TM</sub>	sin. 180; T <sub>case</sub> = 60 °C; DSC; 50 Hz	1400 A	1800 A
I <sub>RSM</sub>	T <sub>vj</sub> = 25 °C T <sub>vj</sub> = 125 °C	6500 A 5500 A	8000 A 7000 A
i <sup>2</sup> t	T <sub>vj</sub> = 25 °C T <sub>vj</sub> = 125 °C	210 000 A <sup>2</sup> s 150 000 A <sup>2</sup> s	320 000 A <sup>2</sup> s 245 000 A <sup>2</sup> s
t <sub>gd</sub> t <sub>gr</sub> (di/dt) <sub>cr</sub> (dv/dt) <sub>cr</sub>	T <sub>vj</sub> = 25 °C; I <sub>G</sub> = 1 A; di <sub>G</sub> /dt = 1 A/μs V <sub>D</sub> = 0,67 · V <sub>DRM</sub> non-repetitive f = 50 ... 60 Hz T <sub>vj</sub> = 125 °C	typ. 1 μs typ. 1 μs 1000 A/μs 400 A/μs 500 V/μs	
I <sub>H</sub> I <sub>L</sub>	T <sub>vj</sub> = 25 °C; typ./max. T <sub>vj</sub> = 25 °C; R <sub>G</sub> = 33 Ω; typ./max.	200 mA/400 mA 1 A/2 A	
V <sub>T</sub> V <sub>T(RO)</sub> r <sub>T</sub>	T <sub>vj</sub> = 25 °C; I <sub>T</sub> = 1200 A; max. T <sub>vj</sub> = 125 °C T <sub>vj</sub> = 125 °C	2,4 V 1,9 V 0,4 mΩ	2,0 V 1,4 V 0,5 mΩ
I <sub>DD</sub> , I <sub>RD</sub>	T <sub>vj</sub> = 125 °C; V <sub>DD</sub> = V <sub>DRM</sub> ; V <sub>RD</sub> = V <sub>RRM</sub>	80 mA	80 mA
V <sub>GT</sub> I <sub>GT</sub> V <sub>GD</sub> I <sub>GD</sub>	T <sub>vj</sub> = 25 °C T <sub>vj</sub> = 25 °C T <sub>vj</sub> = 125 °C T <sub>vj</sub> = 125 °C	4 V 250 mA 0,25 V 10 mA	
R <sub>thjc</sub> R <sub>thch</sub> T <sub>vj</sub> T <sub>stg</sub>	cont.; DSC/SSC DSC/SSC	0,045/0,092 °C/W 0,012/0,024 °C/W -40 ... +125 °C -40 ... +125 °C	
F w	SI units US units	5,2 ... 7,5 kN 1150 ... 1650 lbs. 105 g	
Case	→ page B 4-21	B 11	

**Features**

- Capsule cases
- Hermetic ceramic to metal sealing
- Gold diffused silicon chips
- 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

\* Available in limited quantities

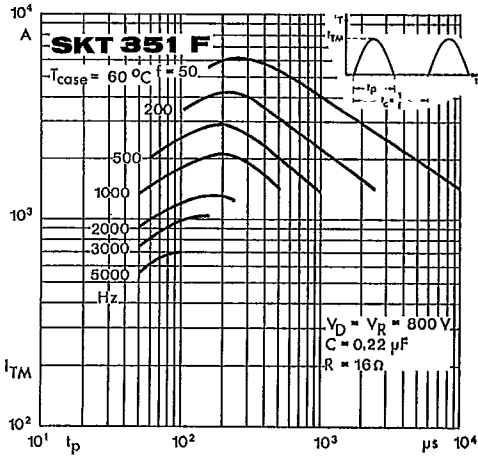


Fig. 1 a Rated peak on-state current vs. pulse duration

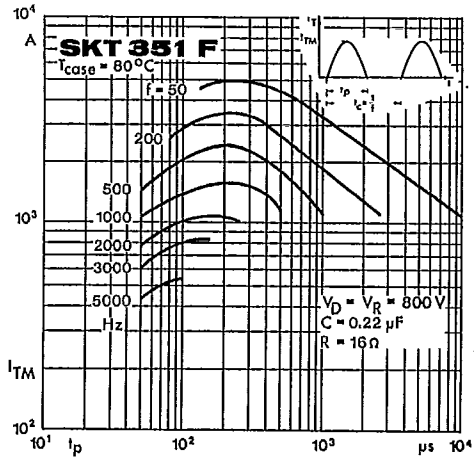


Fig. 1 b Rated peak on-state current vs. pulse duration

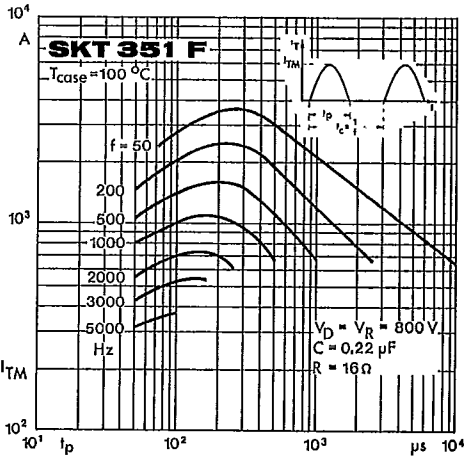


Fig. 1 c Rated peak on-state current vs. pulse duration

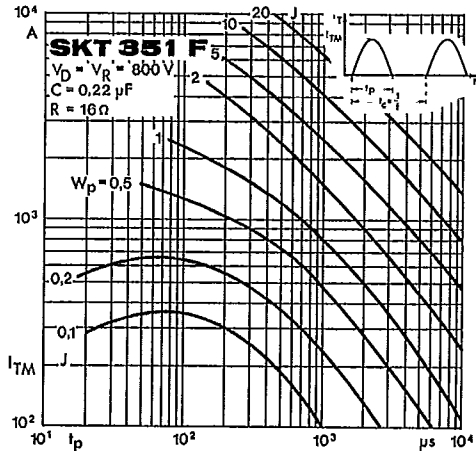


Fig. 2 Energy dissipation per pulse

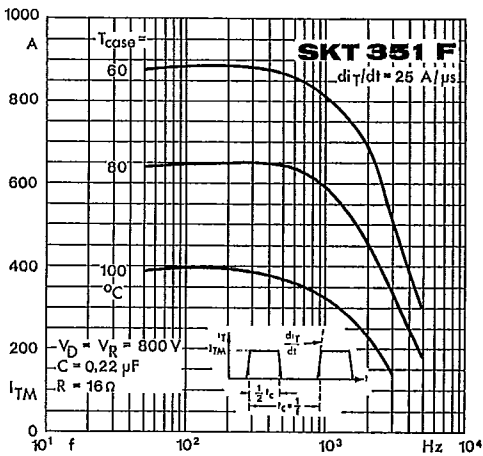


Fig. 3 a Rated peak on-state current vs. pulse duration

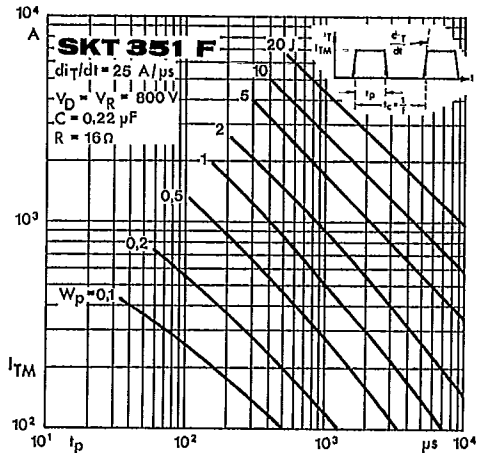


Fig. 4 a Energy dissipation per pulse

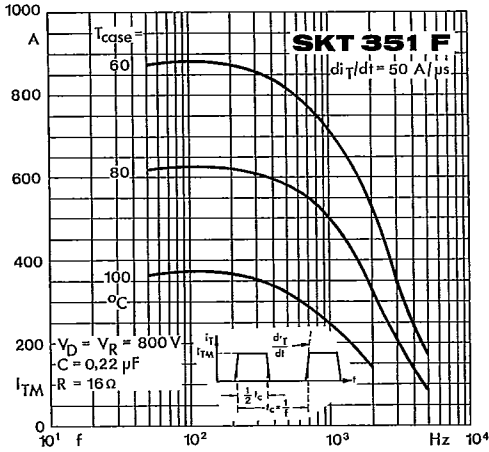


Fig. 3 c Rated peak on-state current vs. pulse duration

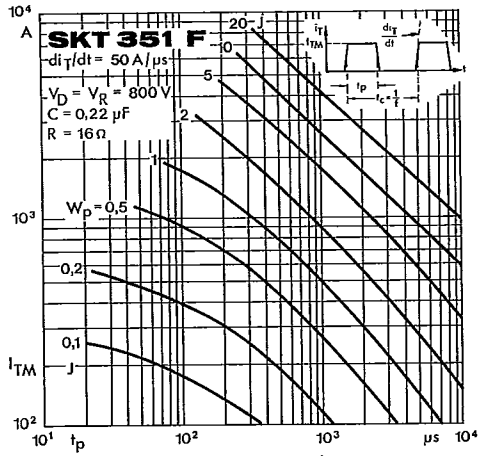


Fig. 4 c Energy dissipation per pulse

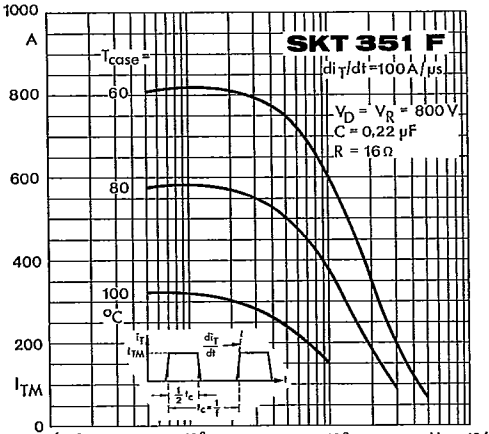


Fig. 3 b Rated peak on-state current vs. pulse duration

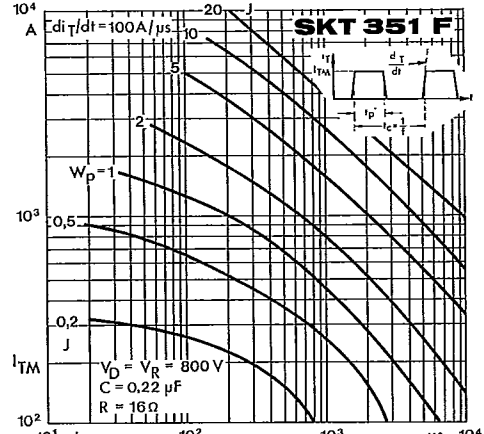


Fig. 4 b Energy dissipation per pulse

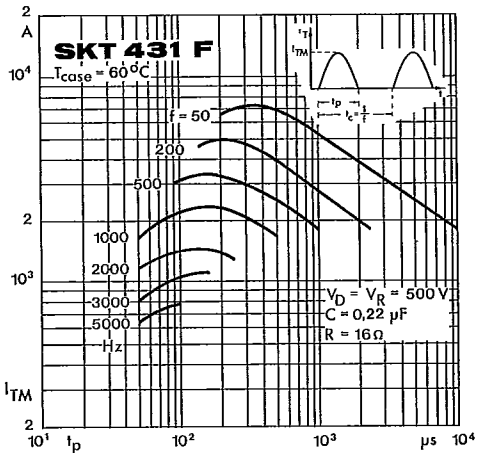


Fig. 1 a Rated peak on-state current vs. pulse duration

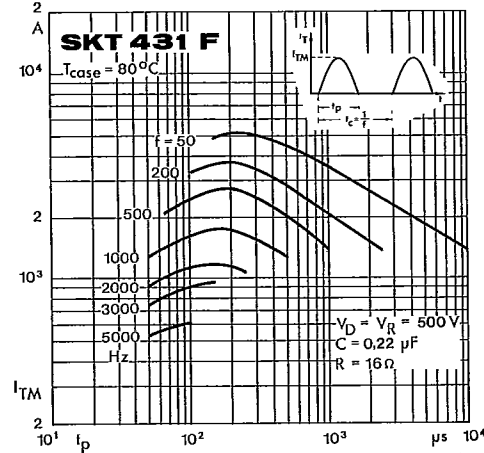


Fig. 1 b Rated peak on-state current vs. pulse duration

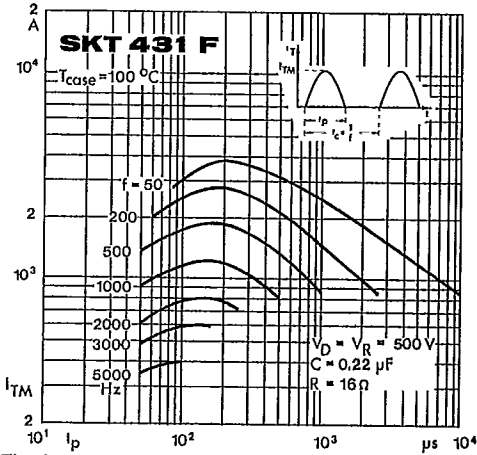


Fig. 1 c Rated peak on-state current vs. pulse duration

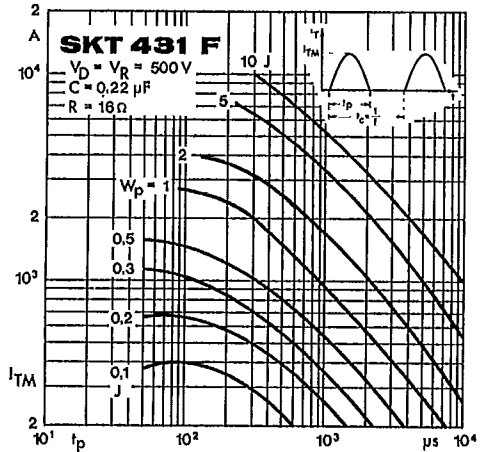


Fig. 2 Energy dissipation per pulse

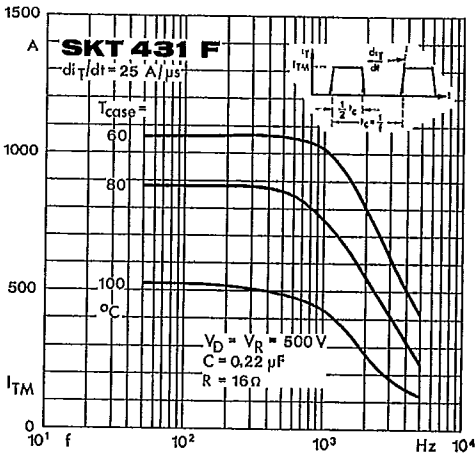


Fig. 3 a Rated peak on-state current vs. pulse duration

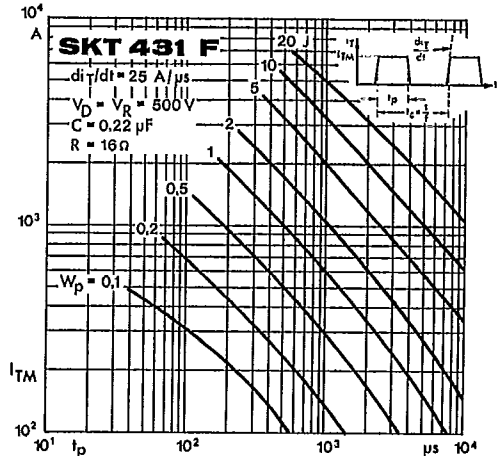


Fig. 4 a Energy dissipation per pulse

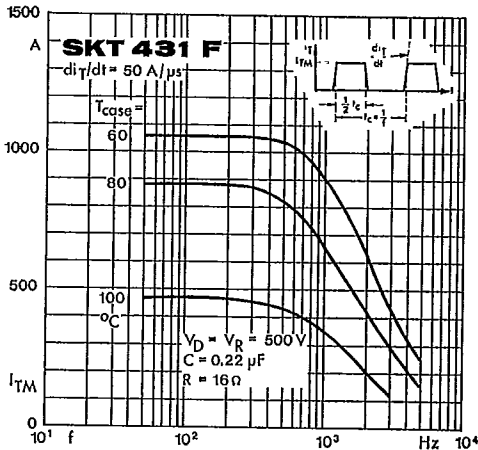


Fig. 3 b Rated peak on-state current vs. pulse duration

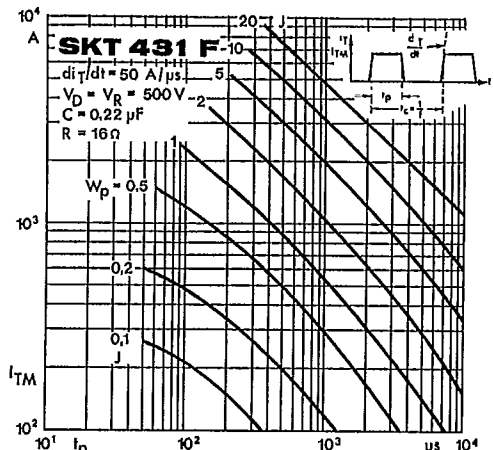


Fig. 4 b Energy dissipation per pulse

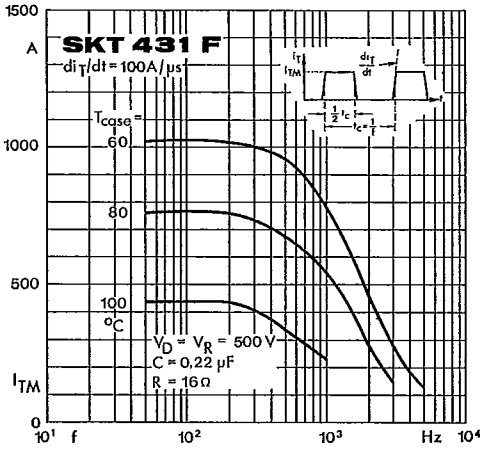


Fig. 3 c Rated peak on-state current vs. pulse duration

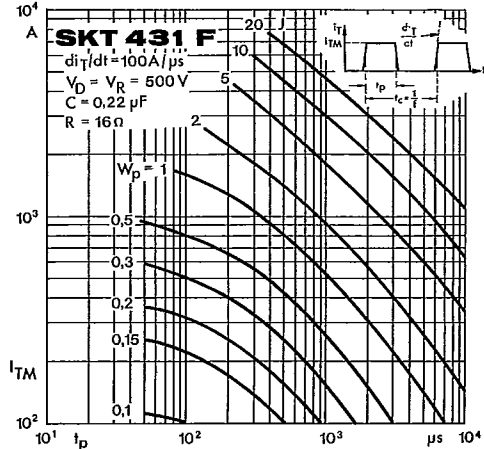


Fig. 4 c Energy dissipation per pulse

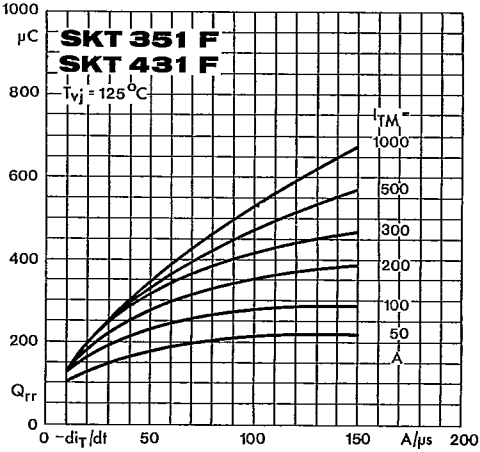


Fig. 5 Recovered charge vs. current decrease

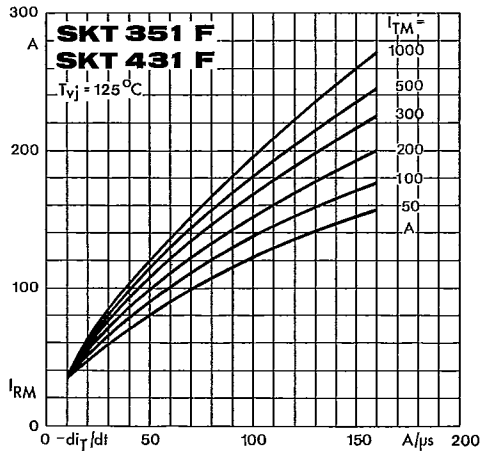


Fig. 6 Peak recovery current vs. current decrease

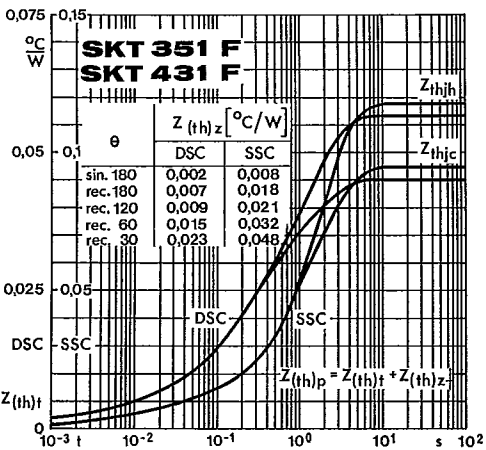


Fig. 7 Transient thermal impedance vs. time

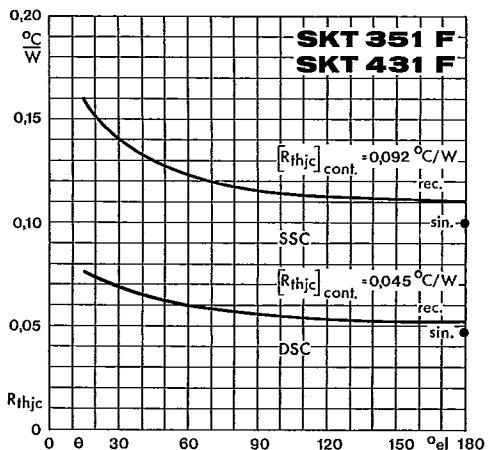


Fig. 8 Thermal resistance vs. conduction angle

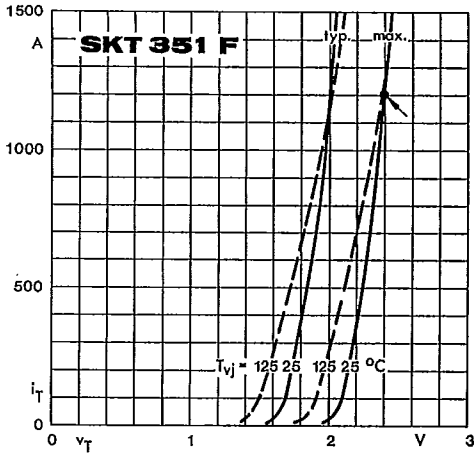


Fig. 9 a On-state characteristics

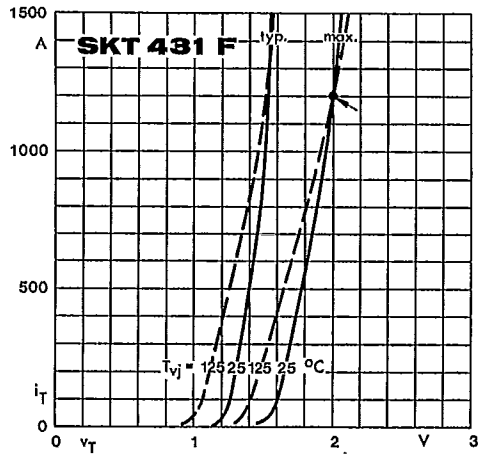


Fig. 9 b On-state characteristics

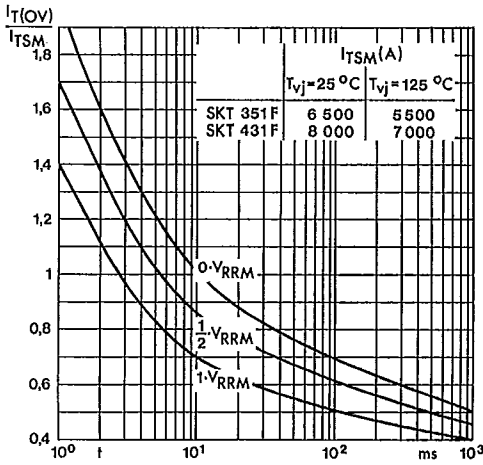


Fig. 10 Surge overload current vs. time

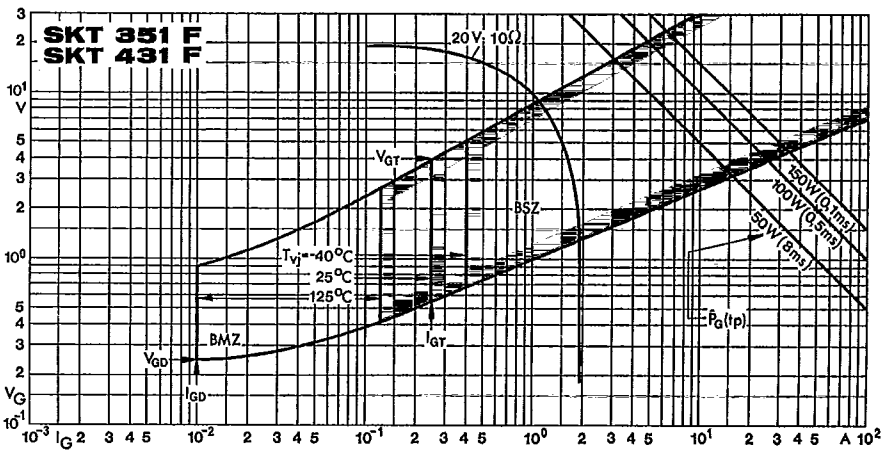


Fig. 11 Gate trigger characteristics