

## Fast Recovery Rectifier Diodes

**SKN 135 F**   **SKR 135 F**  
**SKN 136 F**   **SKR 136 F**  
**SKN 140 F**   **SKR 140 F**  
**SKN 141 F**   **SKR 141 F**



### Features

- Small recovered charge
- Soft recovery
- Hermetic metal cases with glass insulators
- Threaded studs M12
- **SKN**: anode to stud
- **SKR**: cathode to stud

### Typical Applications

- Inverse diodes for GTO and asymmetric thyristors
- Inverters and choppers
- A.C. motor control,
- uninterruptible power supplies (UPS)

$V_{RSM}$ $V_{RRM}$	$I_{FRMS}$ (maximum values for continuous operation)			
	260 A			
	$I_{FAV}$ (sin. 180; $T_{case} = 85^\circ C$ )			
	160 A		168 A	
V	$t_{rr} = 500$ ns		$t_{rr} = 800$ ns	
	800	<b>SKN 135 F 08</b> <b>SKN 136 F 08</b>	<b>SKR 135 F 08</b> <b>SKR 136 F 08</b>	
	1000	<b>SKN 135 F 10</b> <b>SKN 136 F 10</b>	<b>SKR 135 F 10</b> <b>SKR 136 F 10</b>	
1200		<b>SKN 135 F 12</b> <b>SKN 136 F 12</b>	<b>SKR 135 F 12</b> <b>SKR 136 F 12</b>	<b>SKN 140 F 12</b> <b>SKN 141 F 12</b>
1400			<b>SKN 140 F 14</b> <b>SKN 141 F 14</b>	<b>SKR 140 F 14</b> <b>SKR 141 F 14</b>
1500			<b>SKN 140 F 15</b> <b>SKN 141 F 15</b>	<b>SKR 140 F 15</b> <b>SKR 141 F 15</b>
1700			<b>SKN 141 F 17</b>	<b>SKR 141 F 17</b>

Symbol	Conditions	SKN 135 F SKR 135 F SKN 136 F SKR 136 F	SKN 140 F SKR 140 F SKN 141 F SKR 141 F	Units	
I <sub>FAV</sub>	sin. 180; T <sub>case</sub> = 85 °C; 1000 Hz	160	168	A	
	T <sub>case</sub> = 100 °C; 1000 Hz	135	140	A	
	sin. 180/ rec. 120	T <sub>amb</sub> = 45 °C; K 1,1	54 / 52	55 / 53,5	A
		P 1/200	97 / 93	100 / 96	A
		K 0,55	80 / 76	82 / 78	A
	T <sub>amb</sub> = 35 °C; P1/120F K1,1F	136 / 130 110 / 105	141 / 134 114 / 109	A A	
I <sub>FSM</sub>	T <sub>vj</sub> = 25 °C; 10 ms	2500		A	
i <sup>2</sup> t	T <sub>vj</sub> = 150 °C; 10 ms	2100		A	
	T <sub>vj</sub> = 25 °C; 8,3 ... 10 ms	31000		A <sup>2</sup> s	
	T <sub>vj</sub> = 150 °C; 8,3 ... 10 ms	22000		A <sup>2</sup> s	
Q <sub>rr</sub>	T <sub>vj</sub> = 150 °C V <sub>R</sub> = 400 V – di <sub>F</sub> /dt = 10 A/μs	I <sub>F</sub> = 100 A I <sub>F</sub> = 300 A I <sub>F</sub> = 100 A I <sub>F</sub> = 300 A	50	90	μC
I <sub>RM</sub>			75	135	μC
			53	90	A
			69	115	A
I <sub>R</sub>	T <sub>vj</sub> = 25 °C; V <sub>R</sub> = V <sub>RRM</sub>	1		mA	
t <sub>rr</sub>	T <sub>vj</sub> = 150 °C; V <sub>R</sub> = V <sub>RRM</sub>	100		mA	
	T <sub>vj</sub> = 25 °C T <sub>vj</sub> = 150 °C	I <sub>F</sub> = I <sub>R</sub> = 1 A	max. 500	max. 800	ns
			typ. 1	typ. 1,6	μs
V <sub>F</sub>	T <sub>vj</sub> = 25 °C; I <sub>F</sub> = 300 A	max, 1,95	max. 1,80	V	
V <sub>(TO)</sub>	T <sub>vj</sub> = 150 °C	1,1	1,1	V	
r <sub>T</sub>	T <sub>vj</sub> = 150 °C	2,3	2	mΩ	
R <sub>thjc</sub>		0,2		°C/W	
R <sub>thch</sub>		0,08		°C/W	
T <sub>vj</sub>		– 40 ... + 150		°C	
T <sub>stg</sub>		– 55 ... + 150		°C	
M	SI (US) units	10 (90 lb.in.)		Nm	
a		5 · 9,81		m/s <sup>2</sup>	
w	approx.	100		g	
Case	135 F, 140 F	E 14			
	136 F, 141 F	E 31			

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.

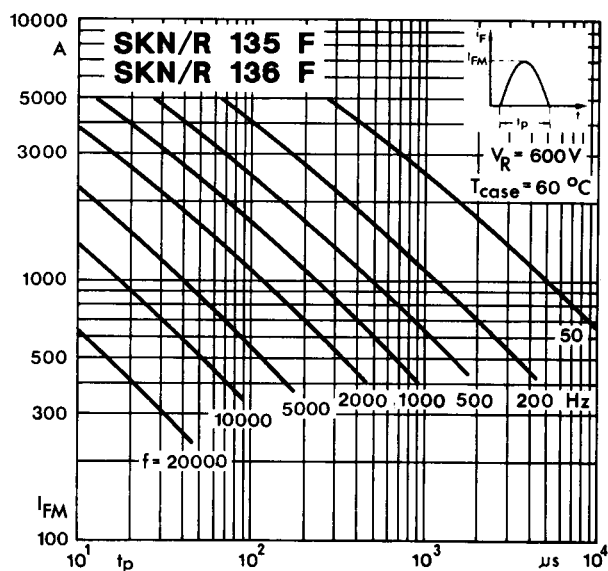


Fig. 1 a Rated sinusoidal peak forward current

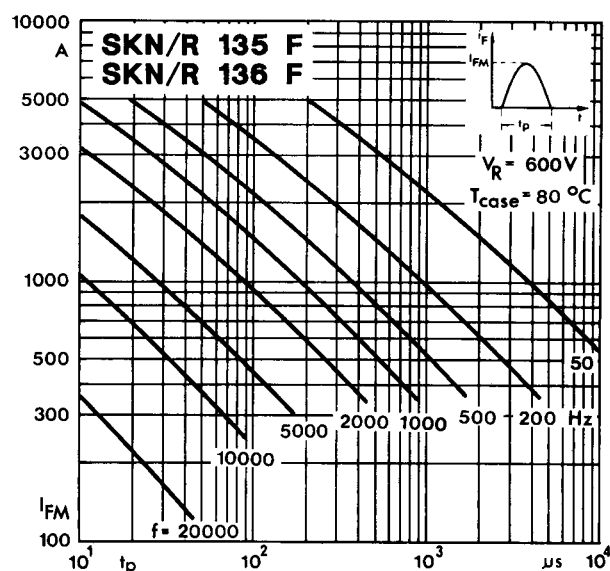


Fig. 1 b Rated sinusoidal peak forward current

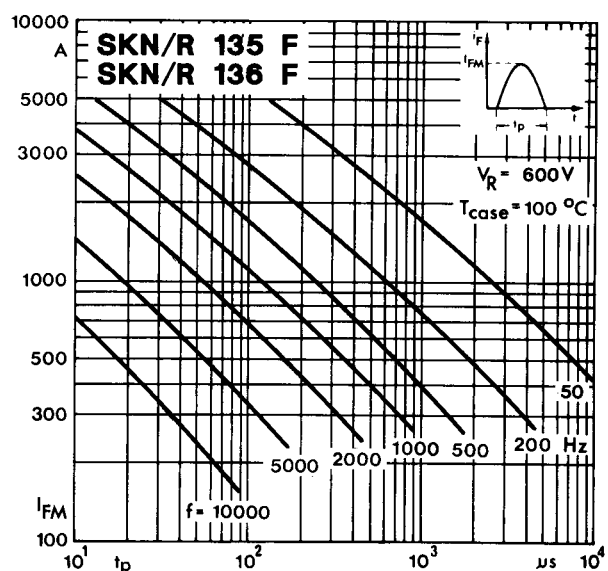


Fig. 1 c Rated sinusoidal peak forward current

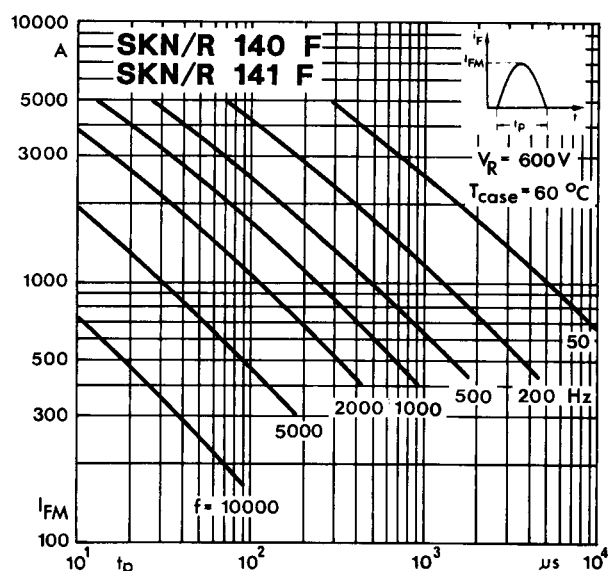


Fig. 1 d Rated sinusoidal peak forward current

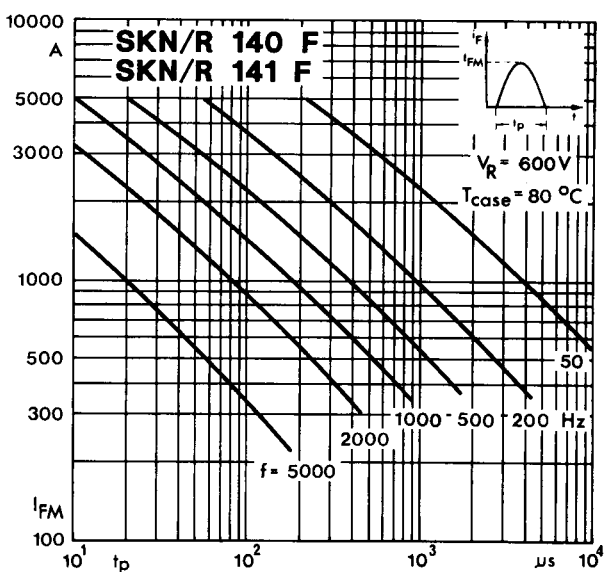


Fig. 1 e Rated sinusoidal peak forward current

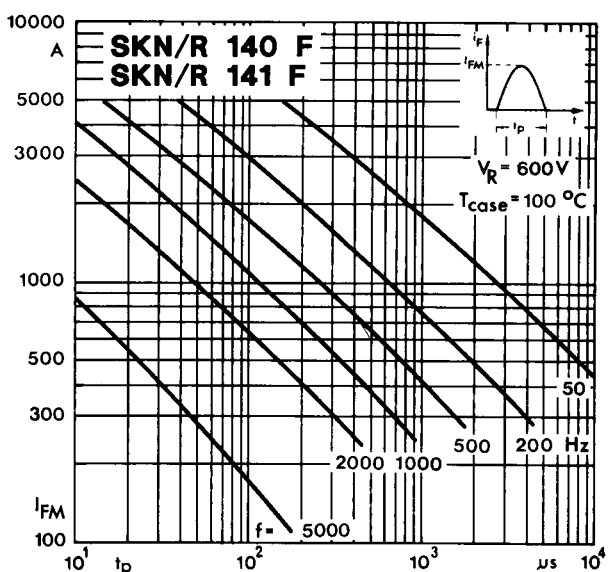


Fig. 1 f Rated sinusoidal peak forward current

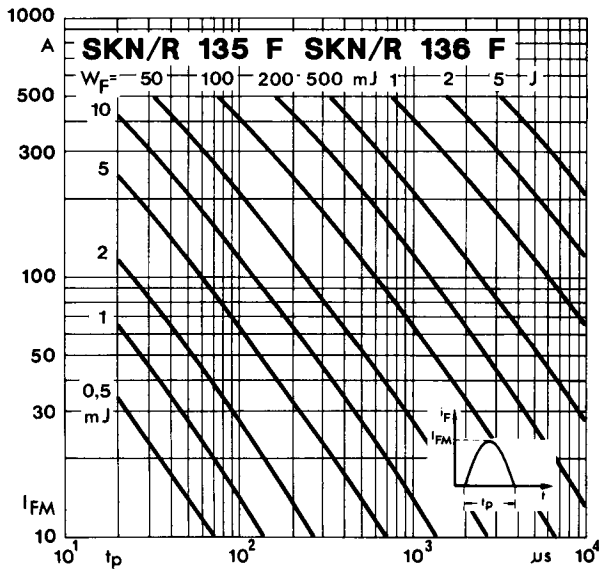


Fig. 2 a Forward energy dissipation, sinusoidal

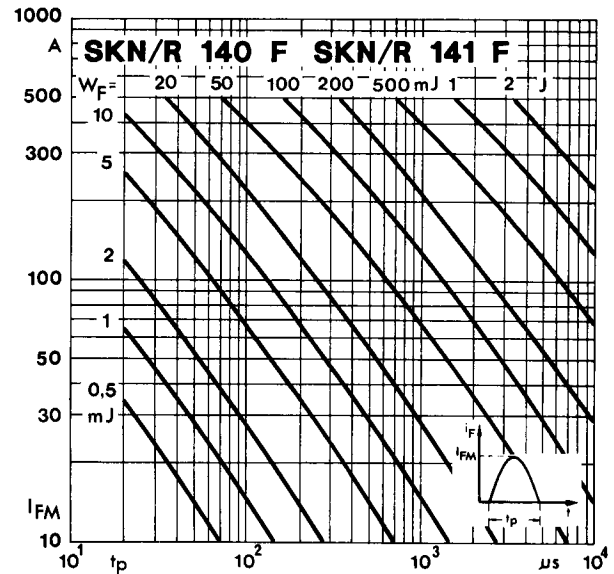


Fig. 2 b Forward energy dissipation, sinusoidal

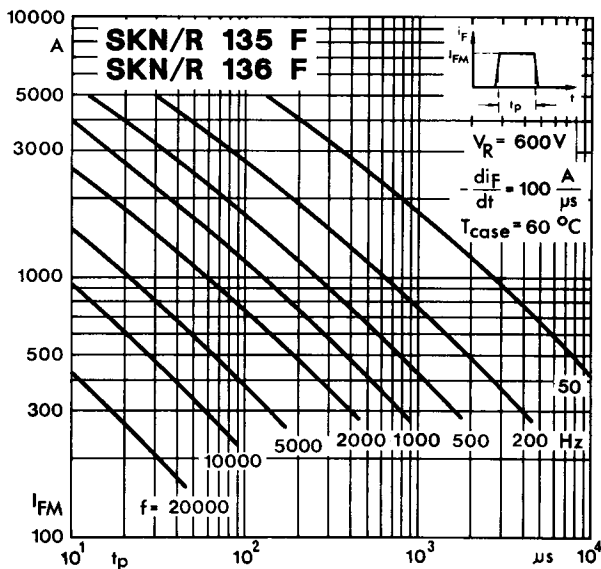


Fig. 3 a Rated rectangular peak forward current

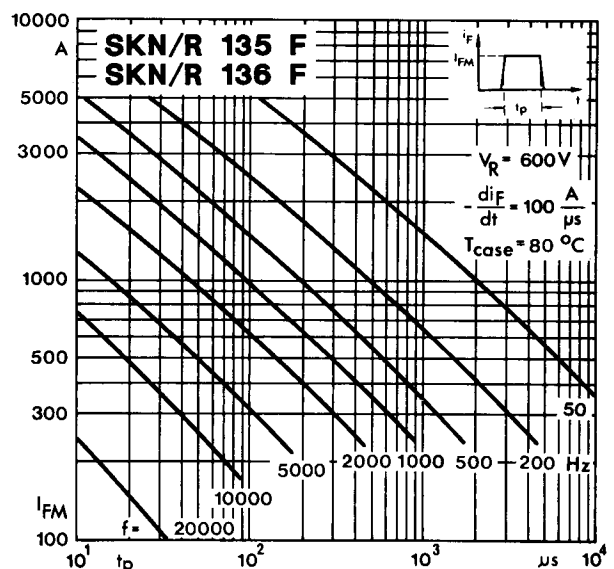


Fig. 3 b Rated rectangular peak forward current

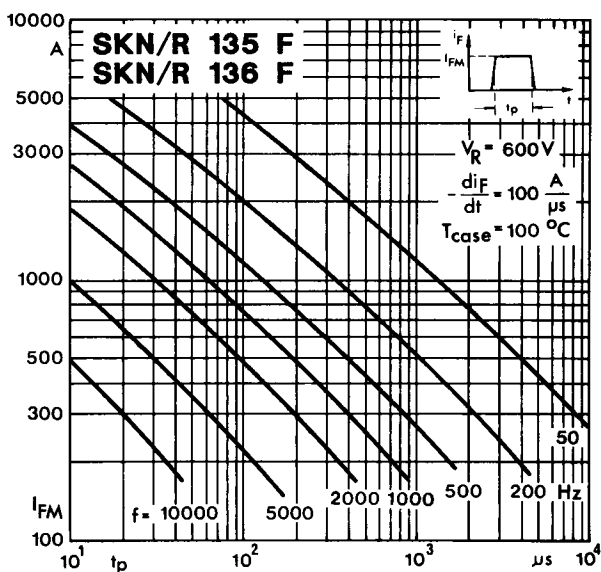


Fig. 3 c Rated rectangular peak forward current

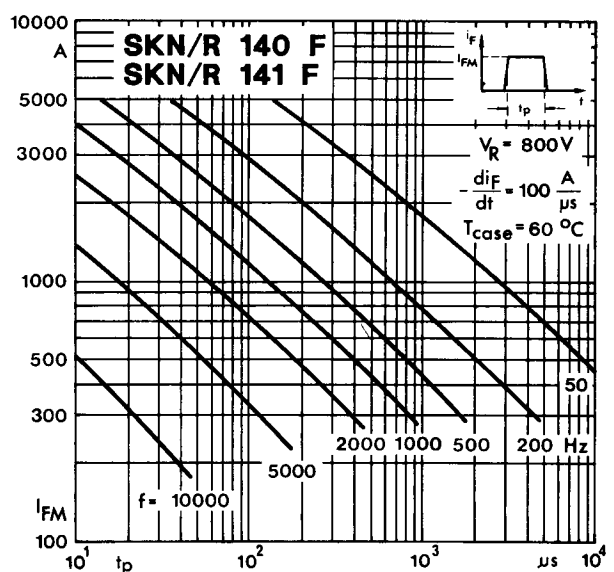


Fig. 3 d Rated rectangular peak forward current

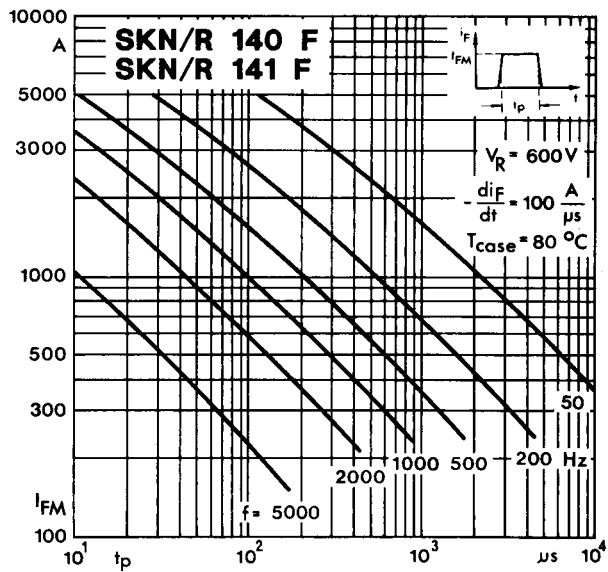


Fig. 3 e Rated rectangular peak forward current

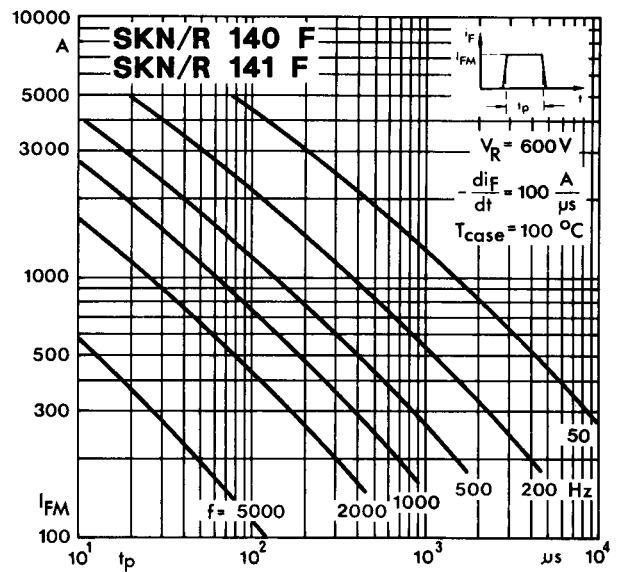


Fig. 3 f Rated rectangular peak forward current

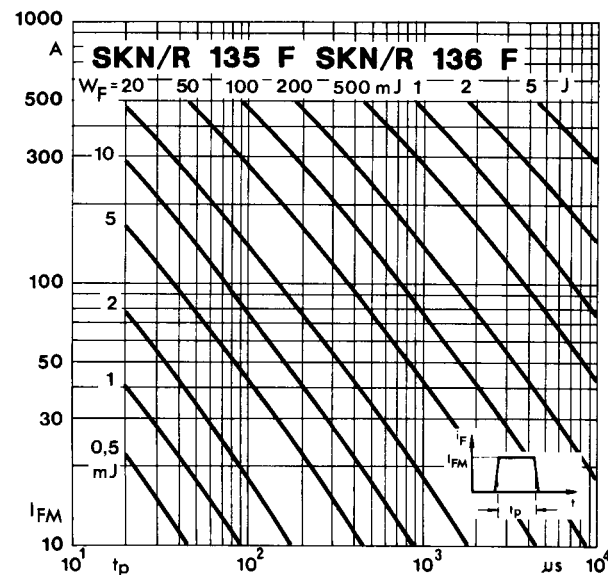


Fig. 4 a Forward energy dissipation, rectangular

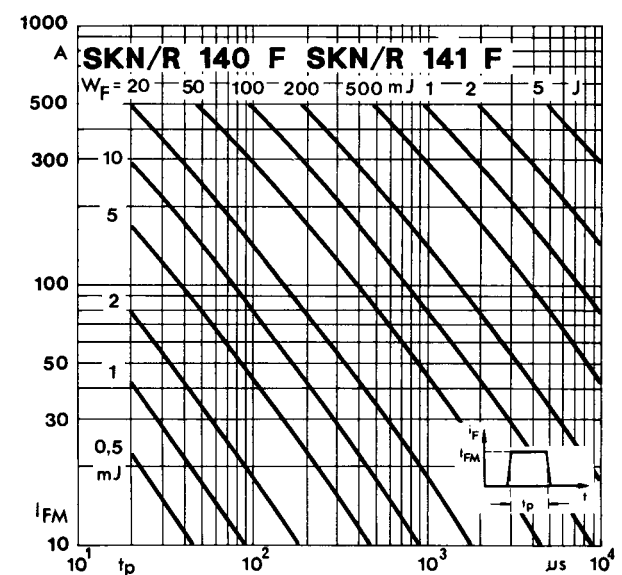


Fig. 4 b Forward energy dissipation, rectangular

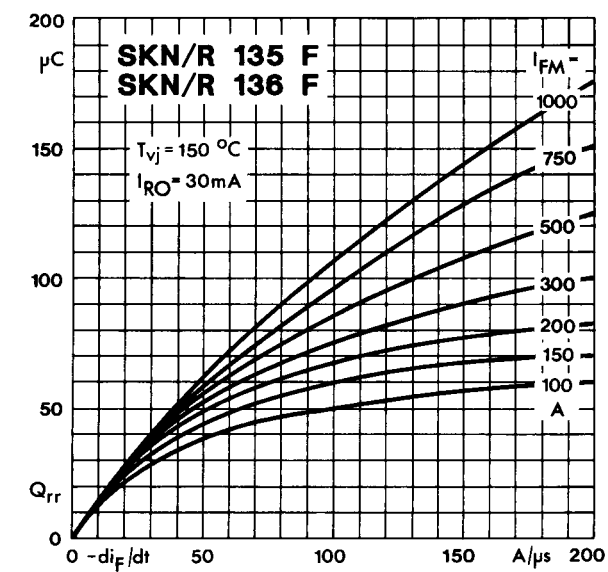


Fig. 5 a Recovered charge

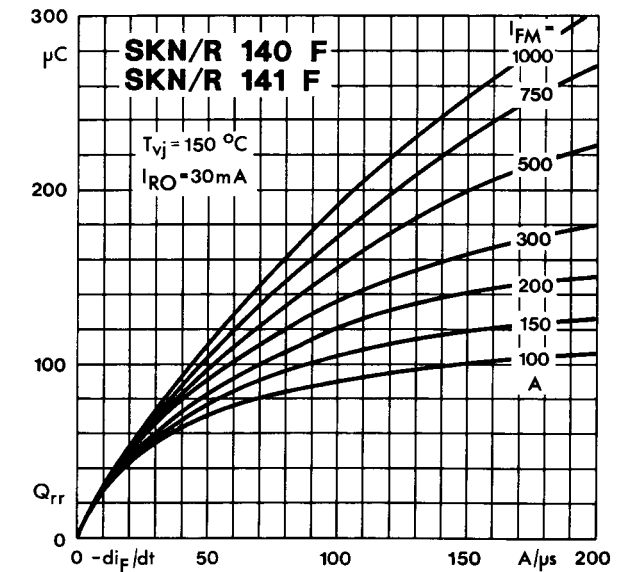


Fig. 5 b Recovered charge

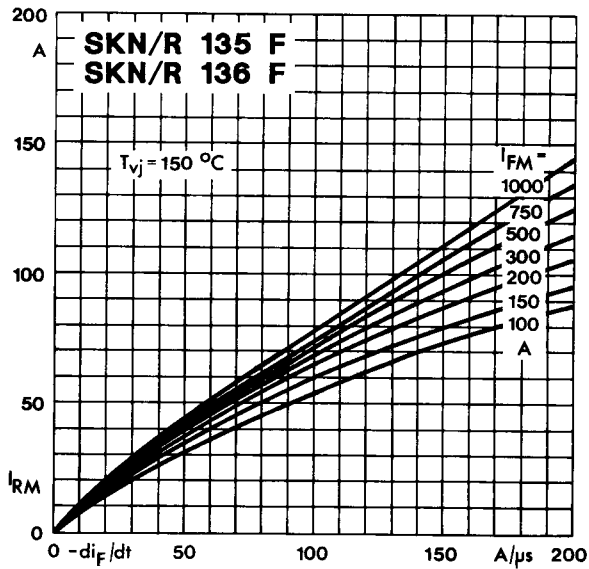


Fig. 6 a Peak reverse recovery current

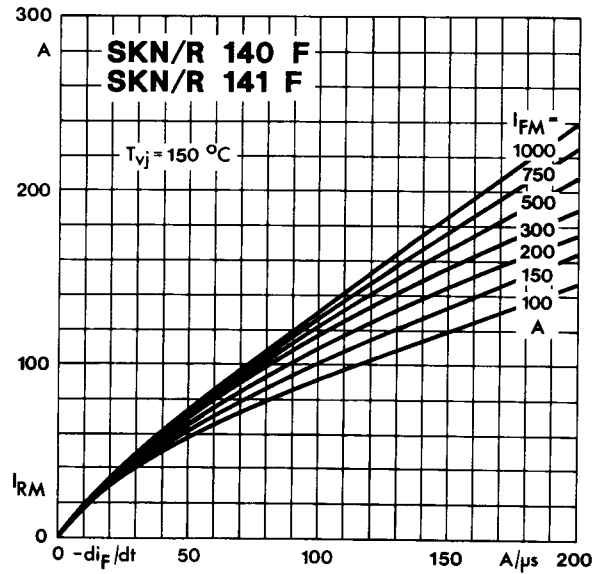


Fig. 6 b Peak reverse recovery current

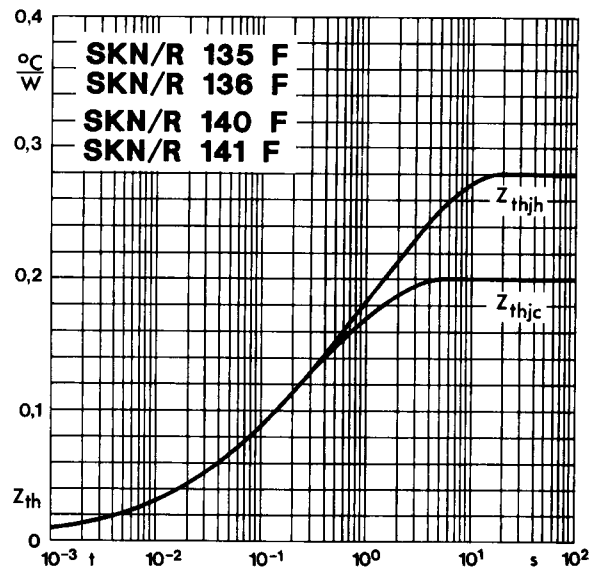


Fig. 7 Transient thermal impedance

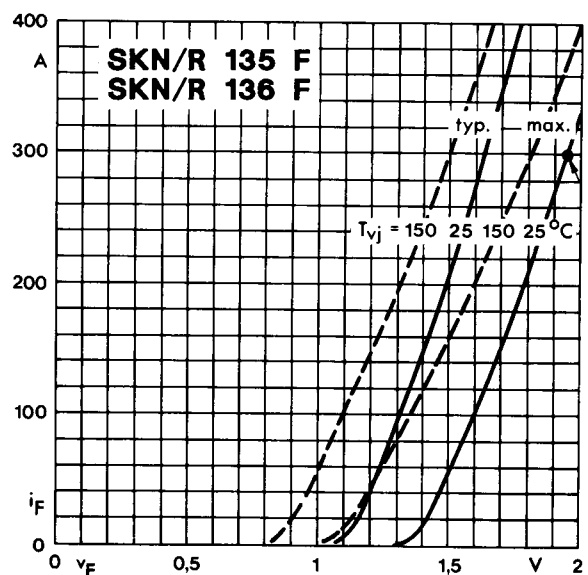


Fig. 8 a Forward characteristics

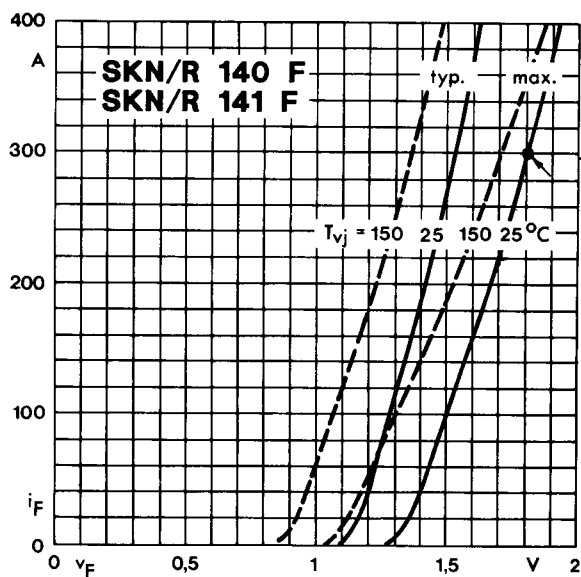


Fig. 8 b Forward characteristics

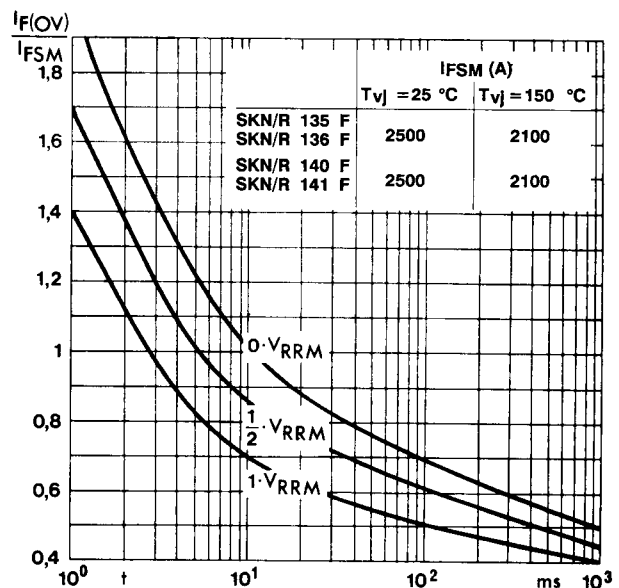
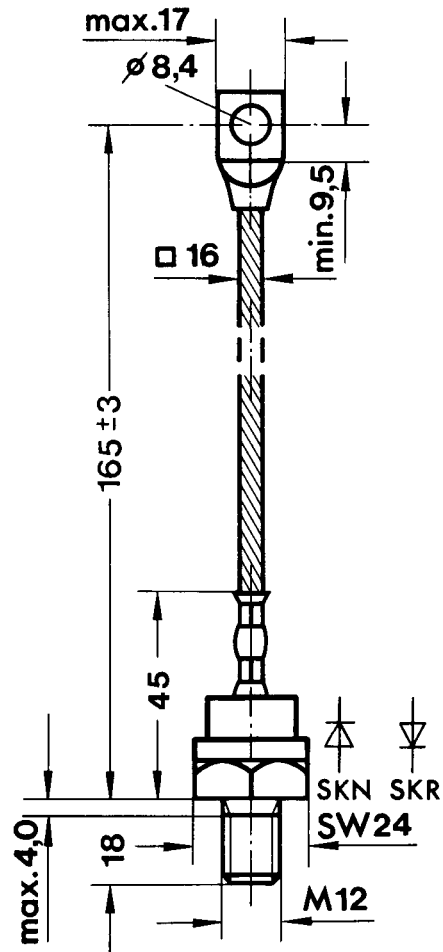


Fig. 9 Rated surge overload current

SKN 135 F  
SKR 135 F  
SKN 140 F  
SKR 140 F

Case E 14

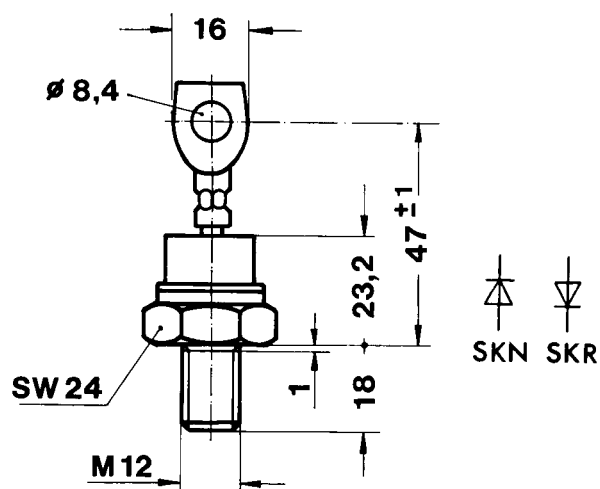
IEC: A 9 MA<sup>1)</sup>  
DIN 41 887: 105 B 2<sup>1)</sup>  
BS 3934: SO-29 B  
JEDEC: DO-205 AC (DO-30)<sup>1)2)</sup>



Dimensions in mm

SKN 136 F  
SKR 136 F  
SKN 141 F  
SKR 141 F

Case E 31



Dimensions in mm

<sup>1)</sup> modified

<sup>2)</sup> These types are also available with the original DO-205 AA (DO-8) dimensions with thread 3/8-24.