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

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

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_{FAV}	sin. 180; T_{case} = 85 °C; 1000 Hz		160	168	A
	T_{case} = 100 °C; 1000 Hz		135	140	A
	sin. 180/ T_{amb} = 45 °C; K 1,1		54 / 52	55 / 53,5	A
	rec. 120	P 1/200	97 / 93	100 / 96	A
		K 0,55	80 / 76	82 / 78	A
	T_{amb} = 35 °C; P1/120F		136 / 130	141 / 134	A
		K1,1F	110 / 105	114 / 109	A
I_{FSM}	T_{vj} = 25 °C; 10 ms		2500		A
	T_{vj} = 150 °C; 10 ms		2100		A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms		31000		A^2s
	T_{vj} = 150 °C; 8,3 ... 10 ms		22000		A^2s
Q_{rr}	T_{vj} = 150 °C	I_F = 100 A	50	90	µC
	V_R = 400 V	I_F = 300 A	75	135	µC
I_{RM}	– di_F/dt = 10 A/µs	I_F = 100 A	53	90	A
		I_F = 300 A	69	115	A
I_R	T_{vj} = 25 °C;	$V_R = V_{RRM}$	1		mA
	T_{vj} = 150 °C;	$V_R = V_{RRM}$	100		mA
t_{rr}	T_{vj} = 25 °C	$I_F = I_R$ = 1 A	max. 500	max. 800	ns
	T_{vj} = 150 °C		typ. 1	typ. 1,6	µs
V_F	T_{vj} = 25 °C; I_F = 300 A		max, 1,95	max. 1,80	V
$V_{(TO)}$	T_{vj} = 150 °C		1,1	1,1	V
r_T	T_{vj} = 150 °C		2,3	2	mΩ
R_{thjc}			0,2		°C/W
R_{thch}			0,08		°C/W
T_{vj}			– 40 ... + 150		°C
T_{stg}			– 55 ... + 150		°C
M	SI (US) units		10 (90 lb.in.)		Nm
a			5 · 9,81		m/s^2
w	approx.		100		g
Case		135 F, 140 F	E 14		
		136 F, 141 F	E 31		

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)

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

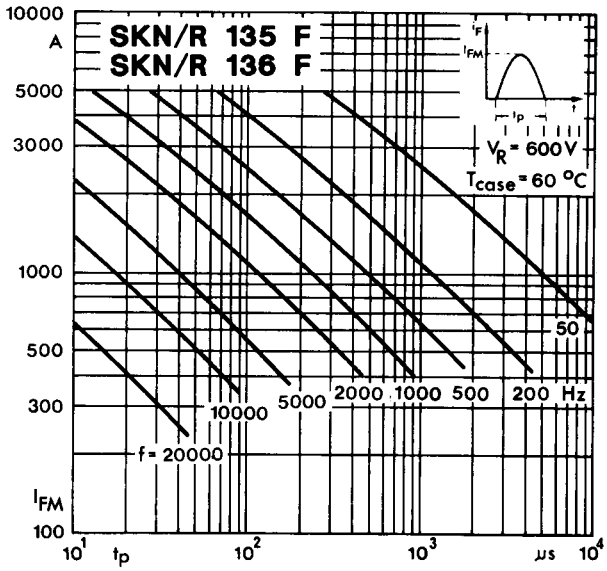


Fig. 1 a Rated sinusoidal peak forward current

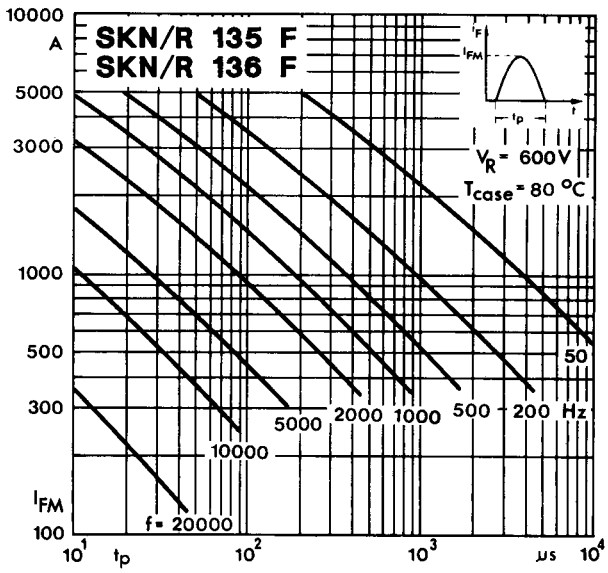


Fig. 1 b Rated sinusoidal peak forward current

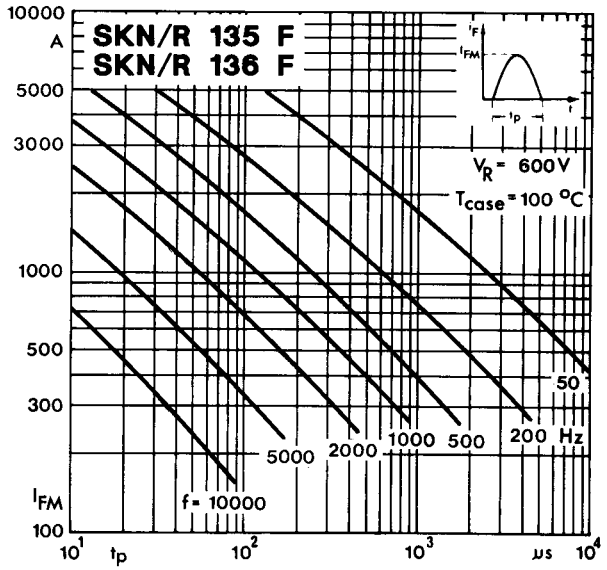


Fig. 1 c Rated sinusoidal peak forward current

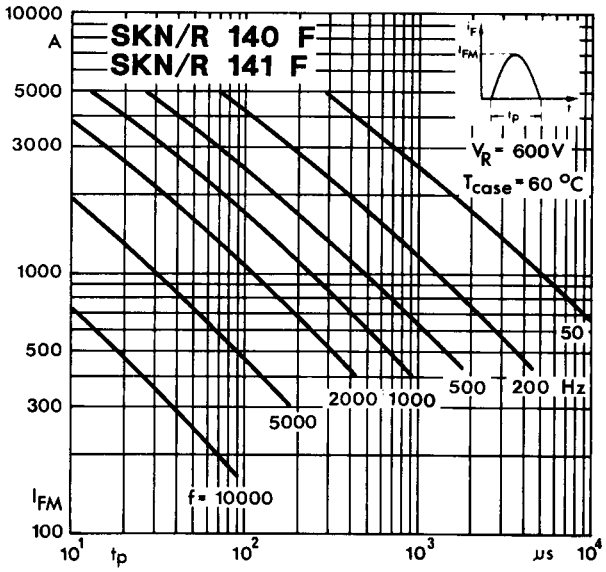


Fig. 1 d Rated sinusoidal peak forward current

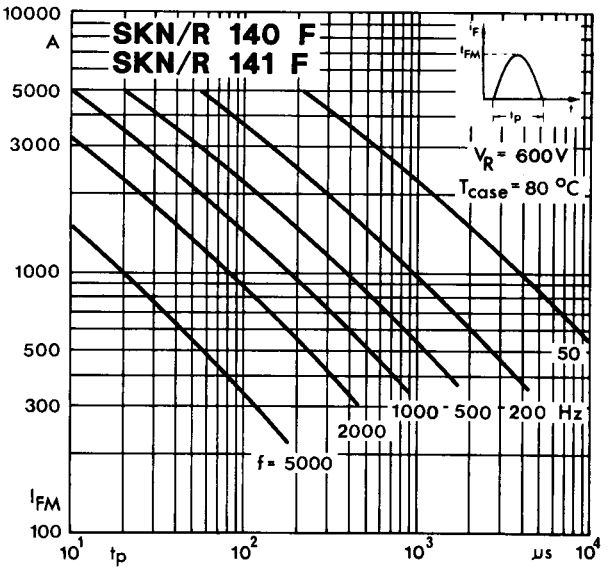


Fig. 1 e Rated sinusoidal peak forward current

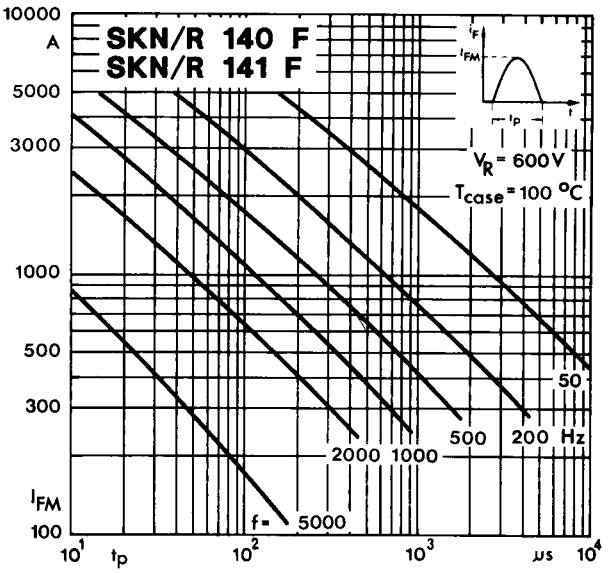


Fig. 1 f Rated sinusoidal peak forward current

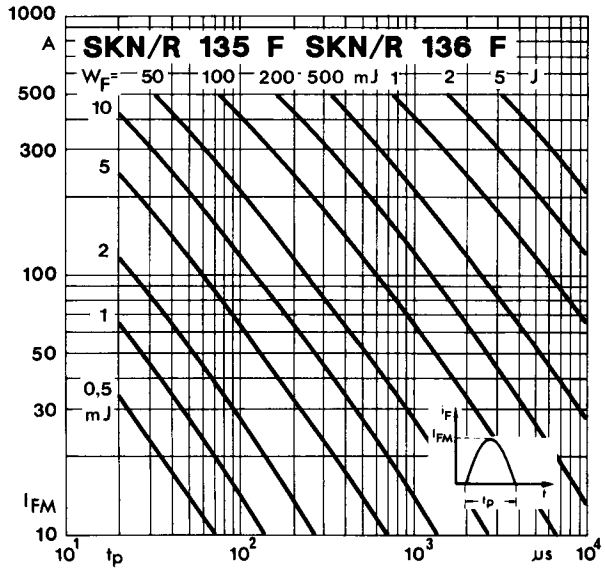


Fig. 2 a Forward energy dissipation, sinusoidal

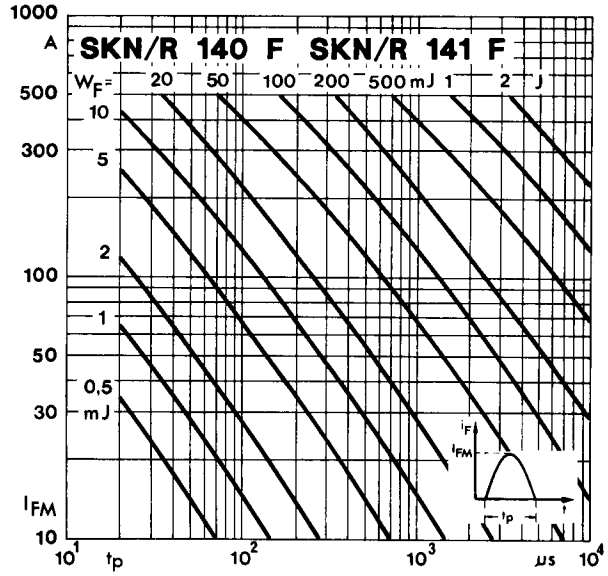


Fig. 2 b Forward energy dissipation, sinusoidal

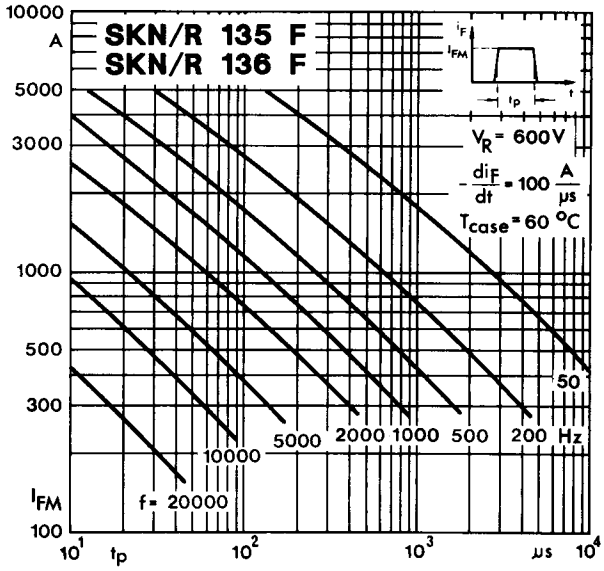


Fig. 3 a Rated rectangular peak forward current

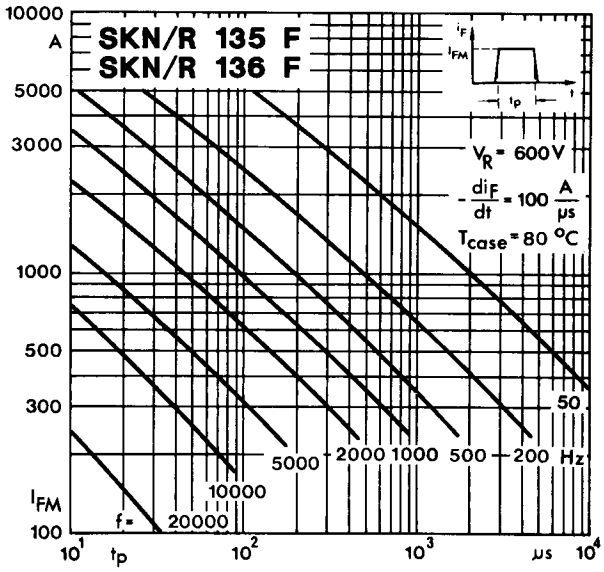


Fig. 3 b Rated rectangular peak forward current

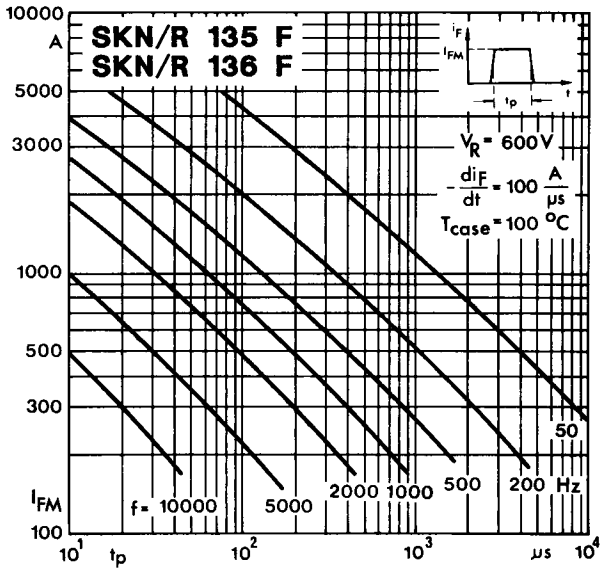


Fig. 3 c Rated rectangular peak forward current

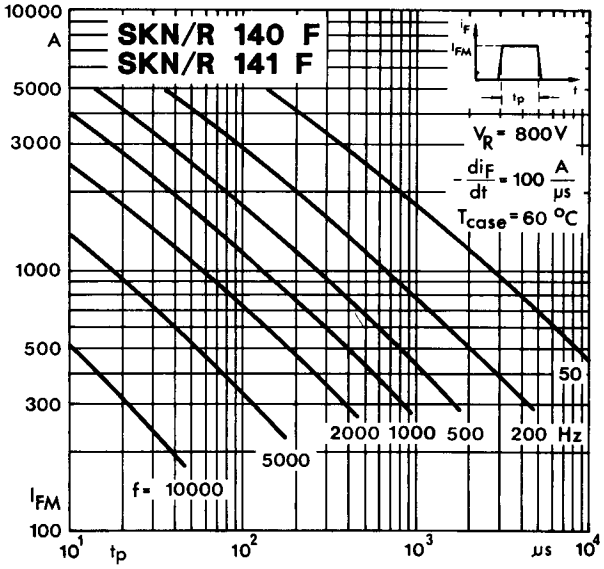


Fig. 3 d Rated rectangular peak forward current

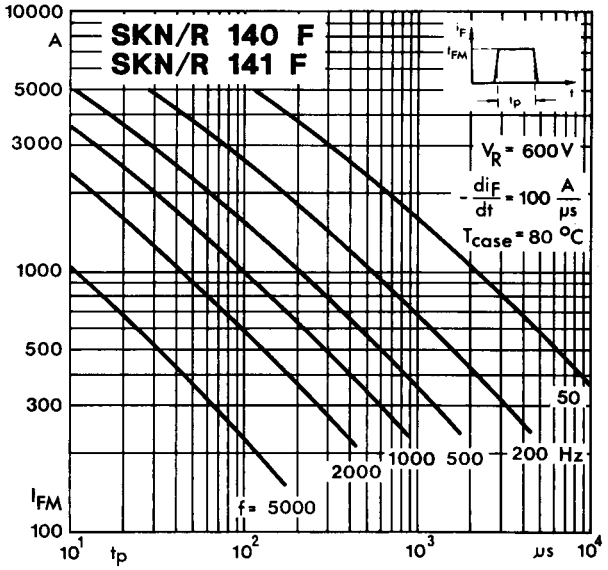


Fig. 3 e Rated rectangular peak forward current

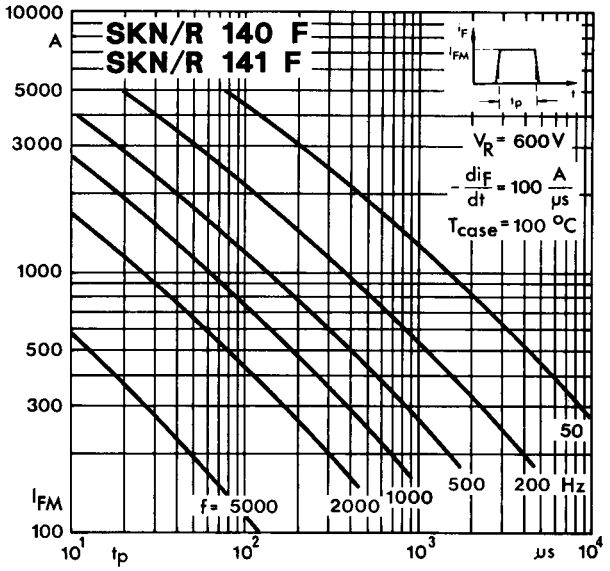


Fig. 3 f Rated rectangular peak forward current

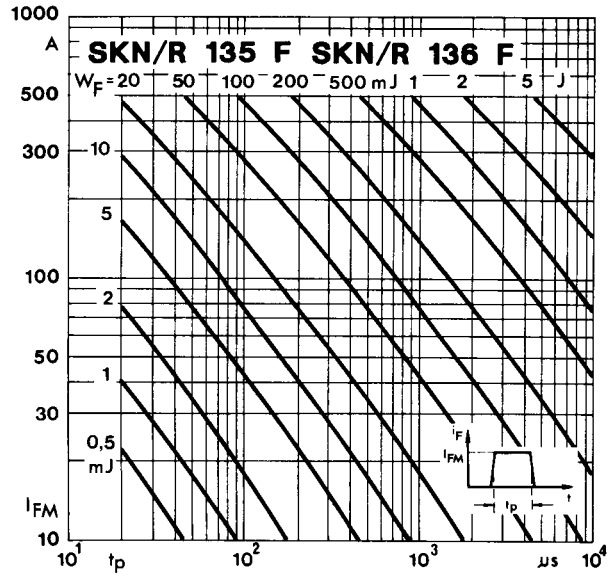


Fig. 4 a Forward energy dissipation, rectangular

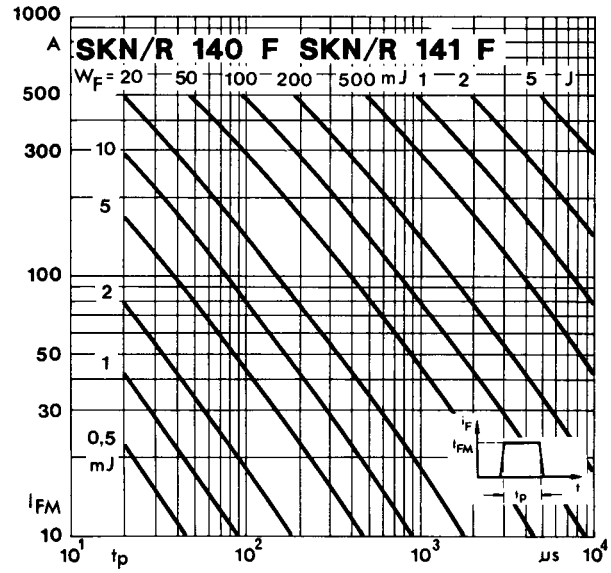


Fig. 4 b Forward energy dissipation, rectangular

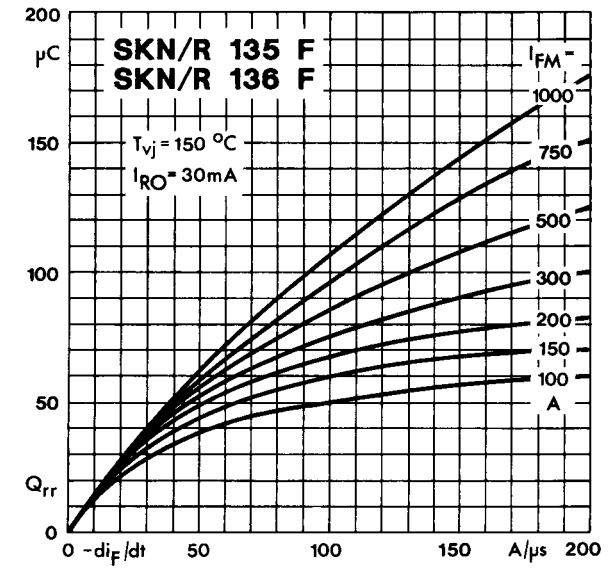


Fig. 5 a Recovered charge

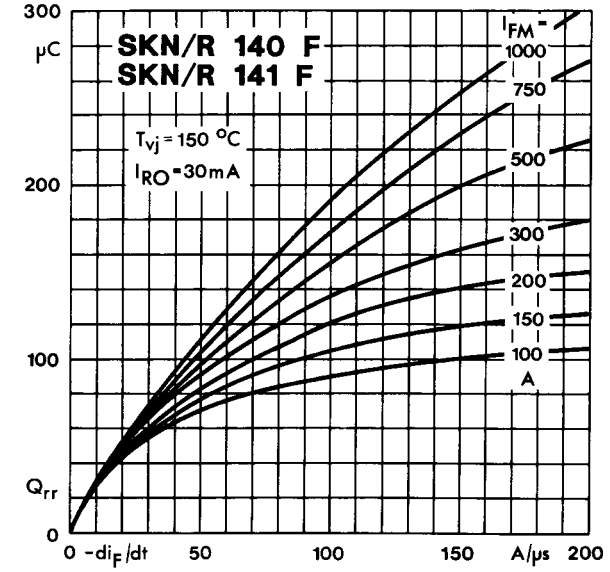


Fig. 5 b Recovered charge

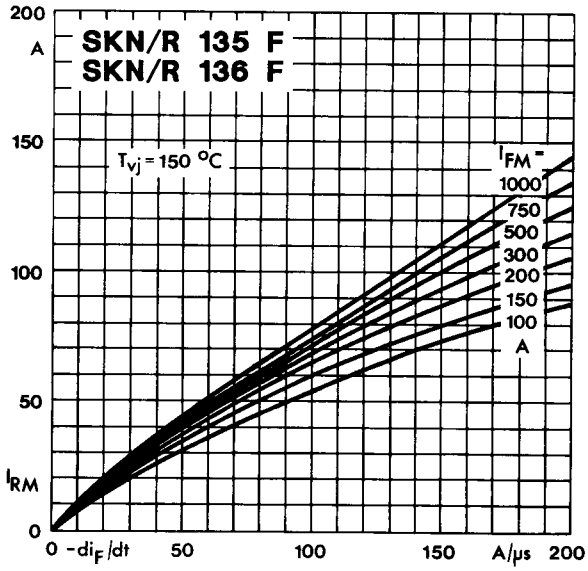


Fig. 6 a Peak reverse recovery current

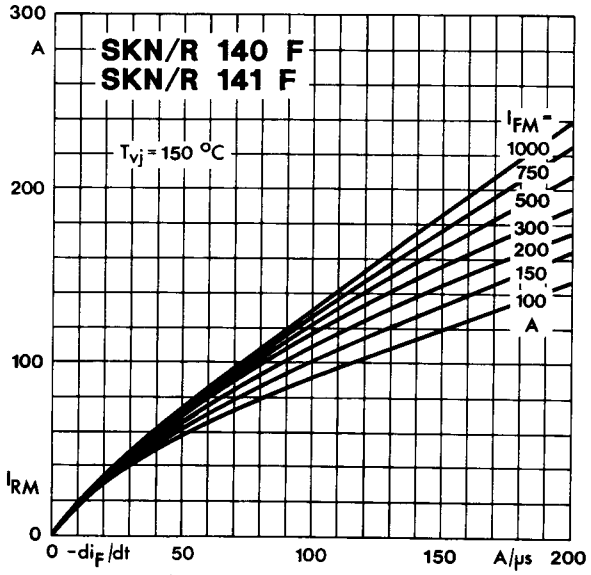


Fig. 6 b Peak reverse recovery current

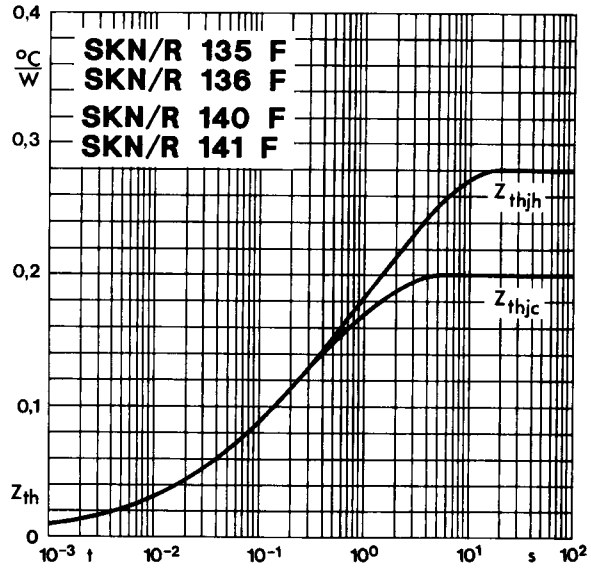


Fig. 7 Transient thermal impedance

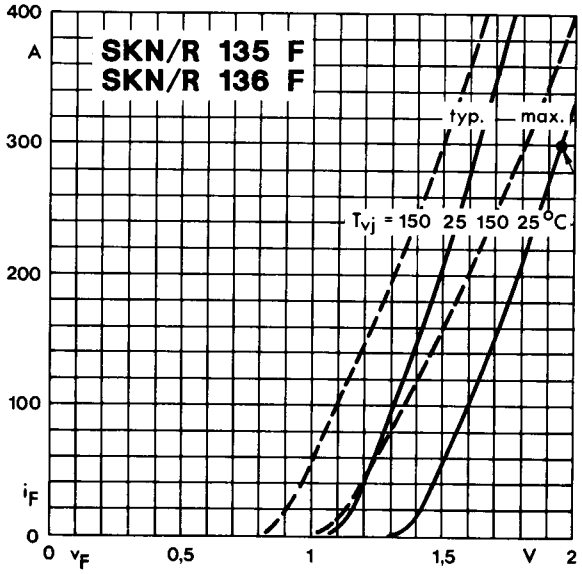


Fig. 8 a Forward characteristics

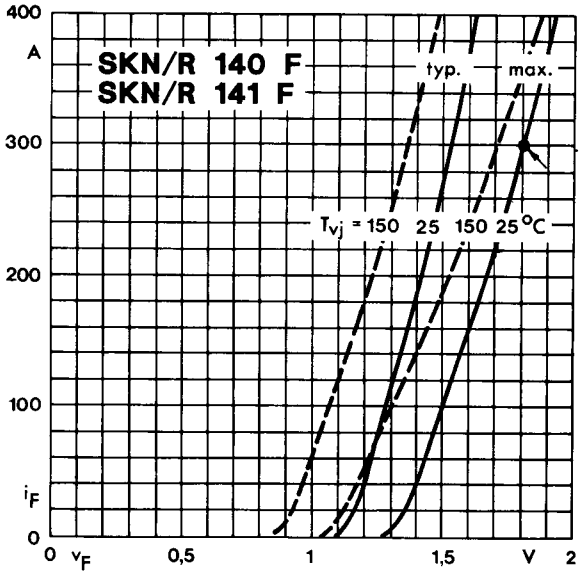


Fig. 8 b Forward characteristics

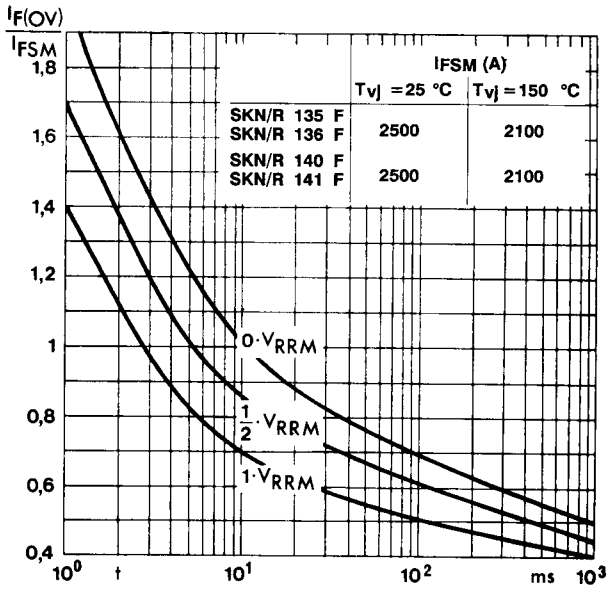
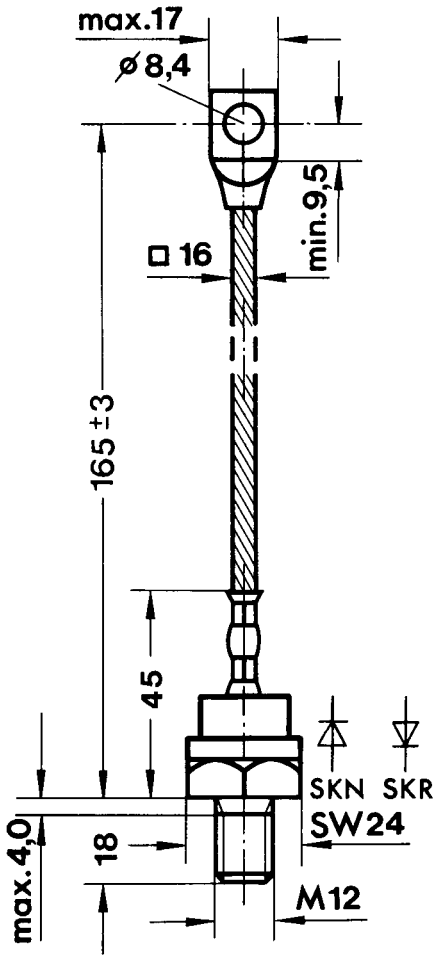


Fig. 9 Rated surge overload current

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

Case E 14

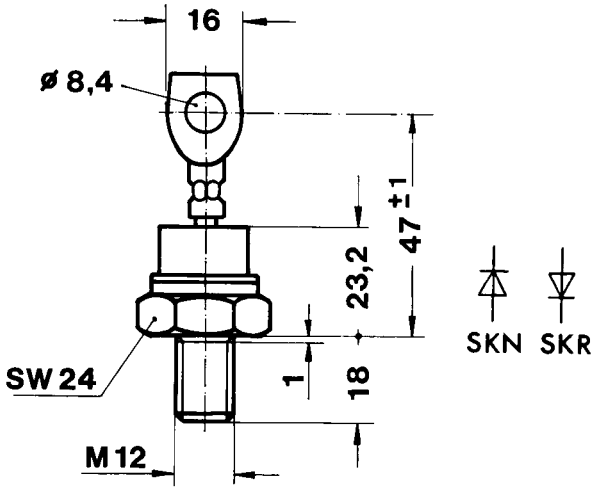
IEC: A 9 MA[1)]
DIN 41 887: 105 B 2[1)]
BS 3934: SO-29 B
JEDEC: DO-205 AC (DO-30)[1)2)]



Dimensions in mm

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

Case E 31



Dimensions in mm

[1)] modified
[2)] These types are also available with the original DO-205 AA (DO-8) dimensions with thread 3/8-24.