

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

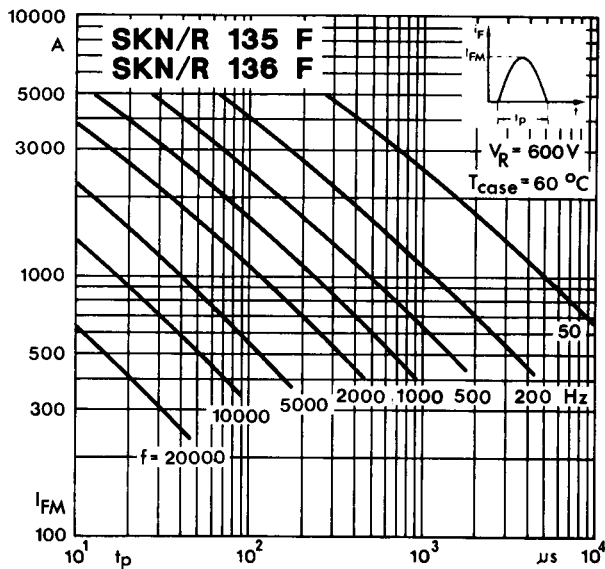


Fig. 1 a Rated sinusoidal peak forward current

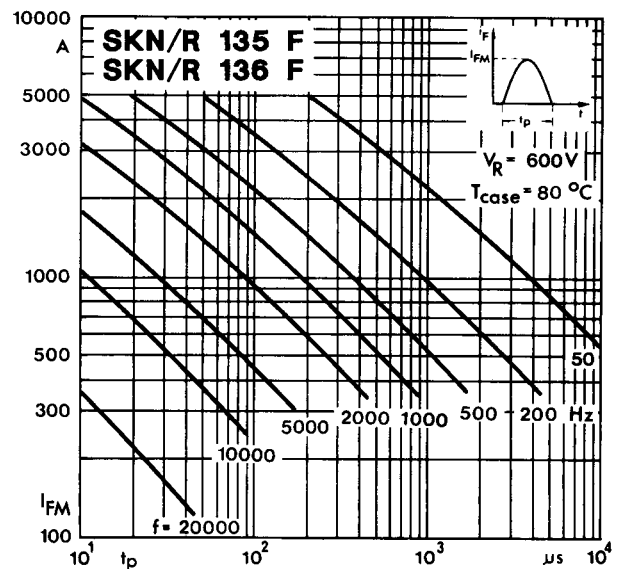


Fig. 1 b Rated sinusoidal peak forward current

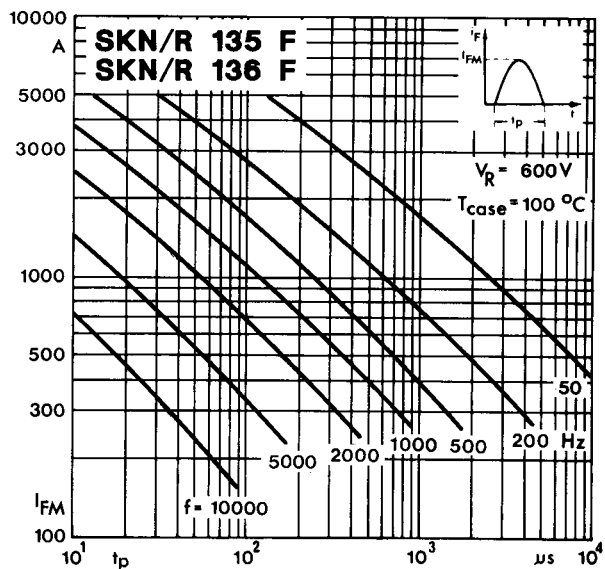


Fig. 1 c Rated sinusoidal peak forward current

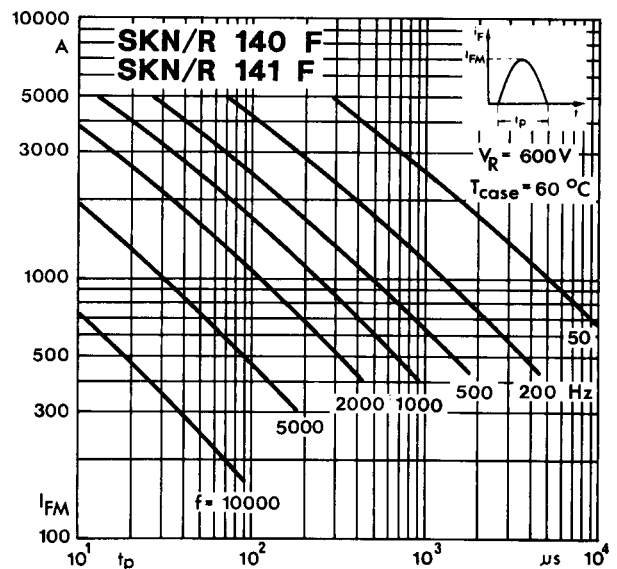


Fig. 1 d Rated sinusoidal peak forward current

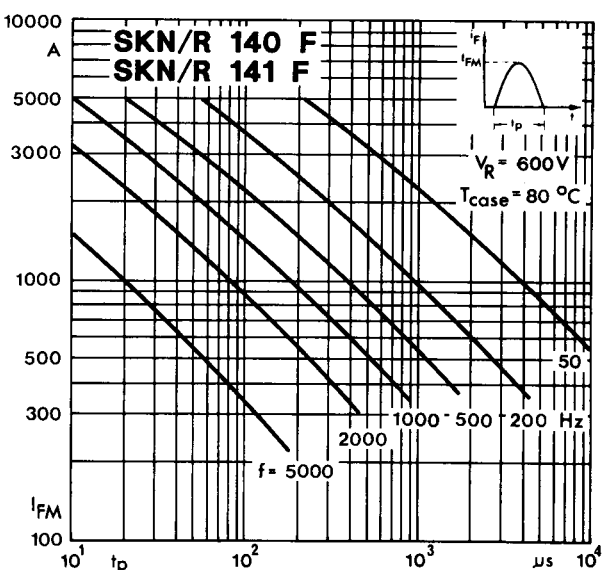


Fig. 1 e Rated sinusoidal peak forward current

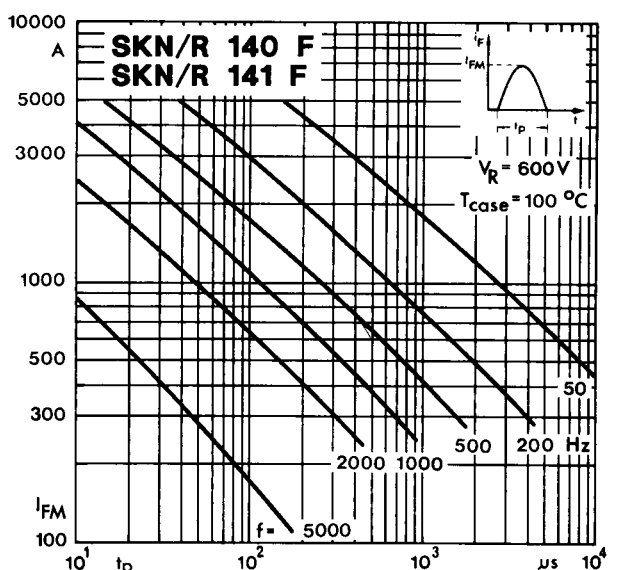


Fig. 1 f Rated sinusoidal peak forward current

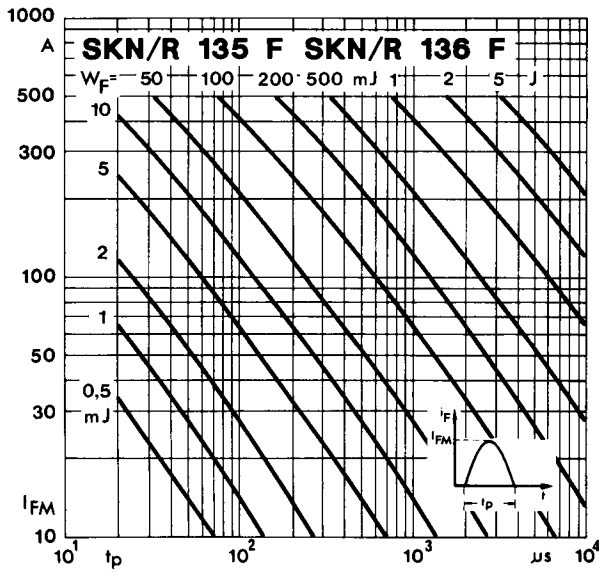


Fig. 2 a Forward energy dissipation, sinusoidal

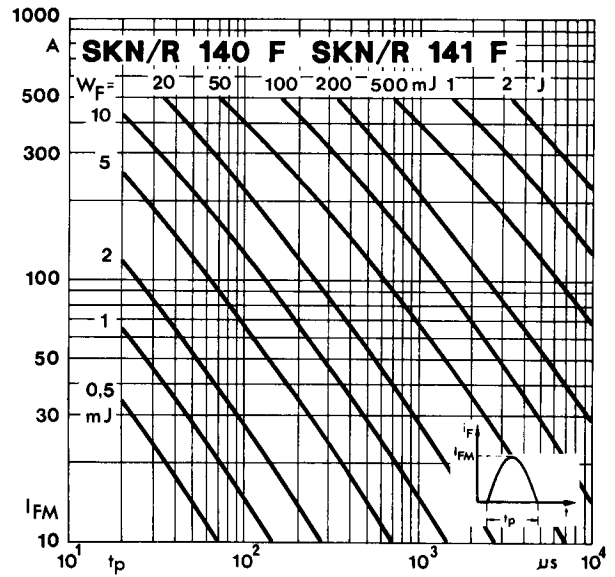


Fig. 2 b Forward energy dissipation, sinusoidal

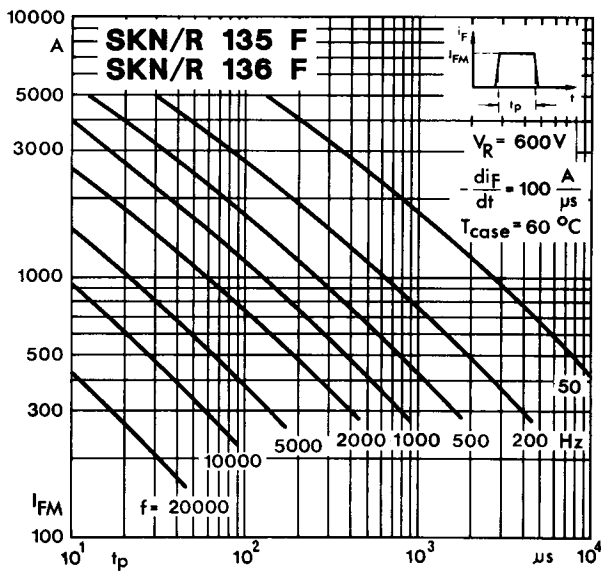


Fig. 3 a Rated rectangular peak forward current

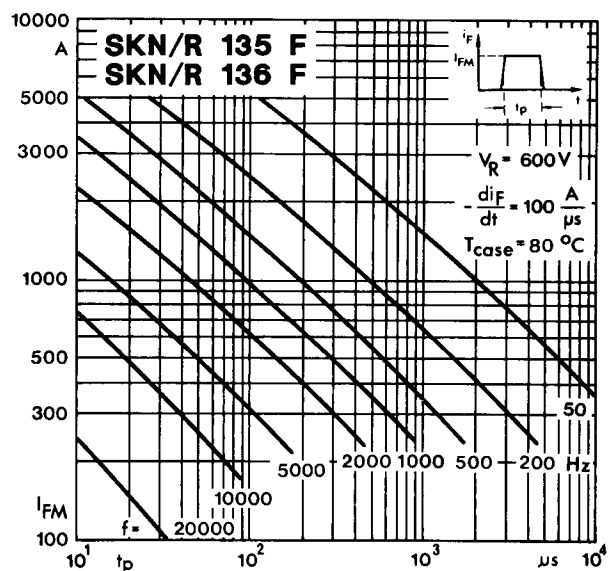


Fig. 3 b Rated rectangular peak forward current

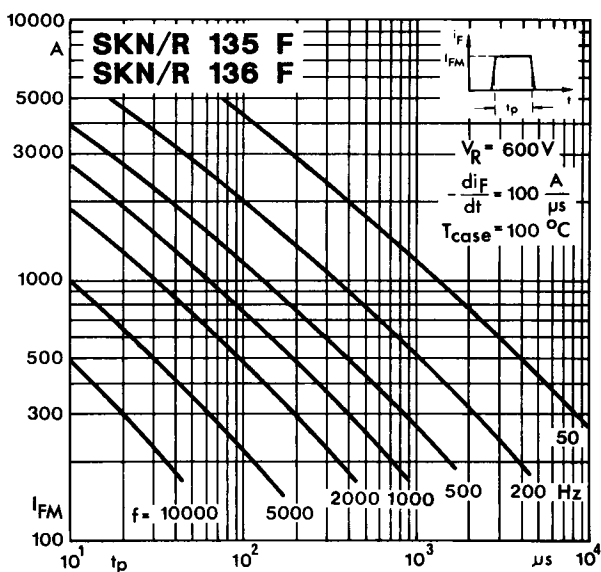


Fig. 3 c Rated rectangular peak forward current

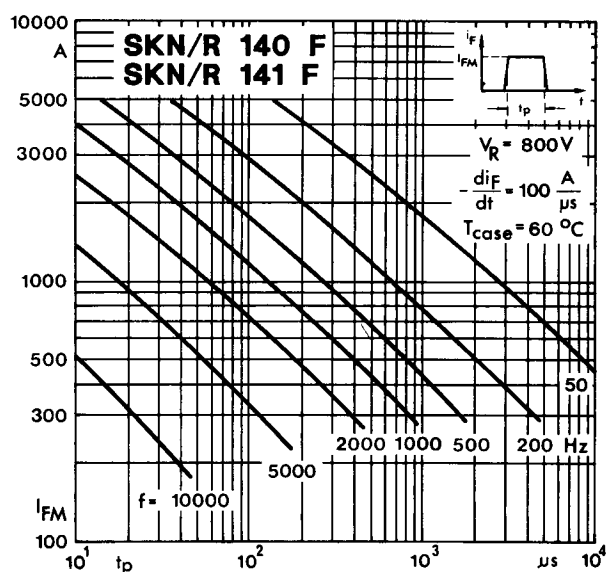


Fig. 3 d Rated rectangular peak forward current

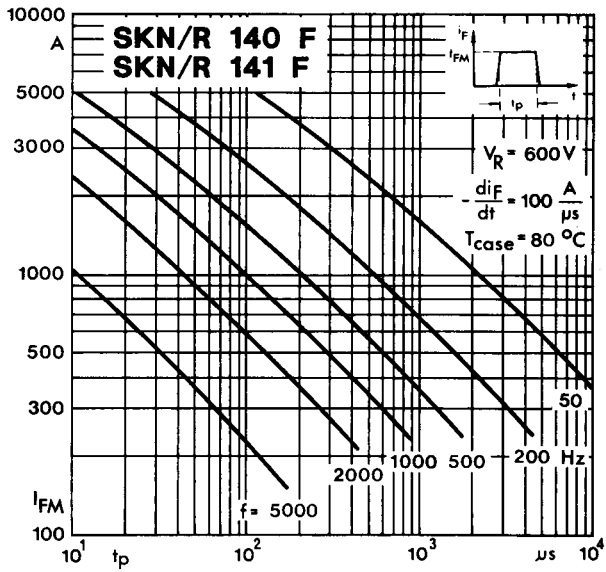


Fig. 3 e Rated rectangular peak forward current

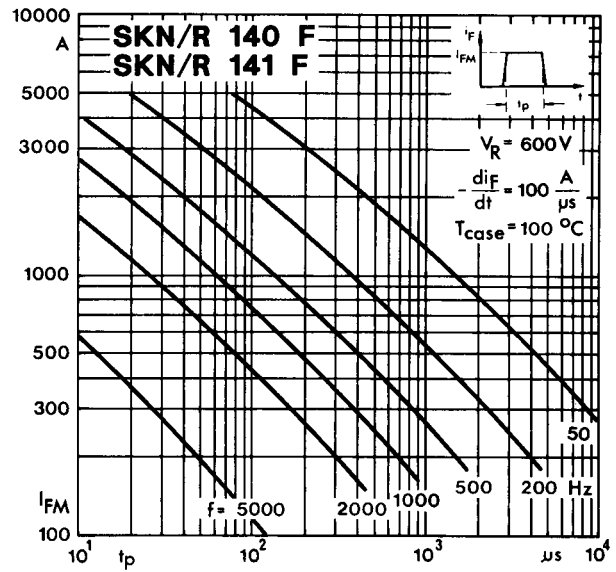


Fig. 3 f Rated rectangular peak forward current

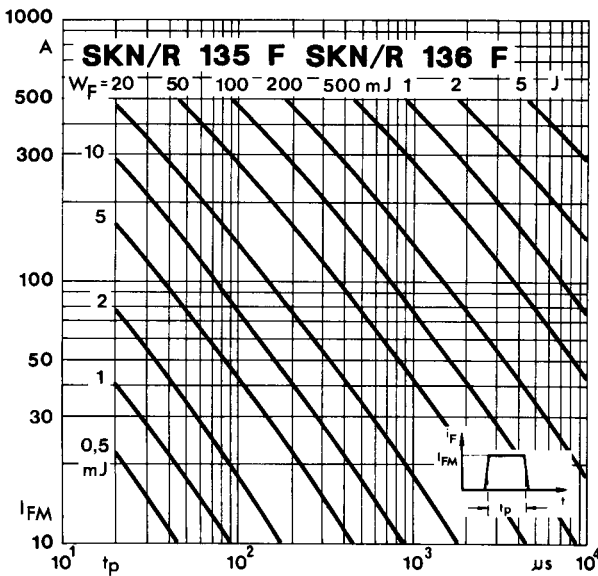


Fig. 4 a Forward energy dissipation, rectangular

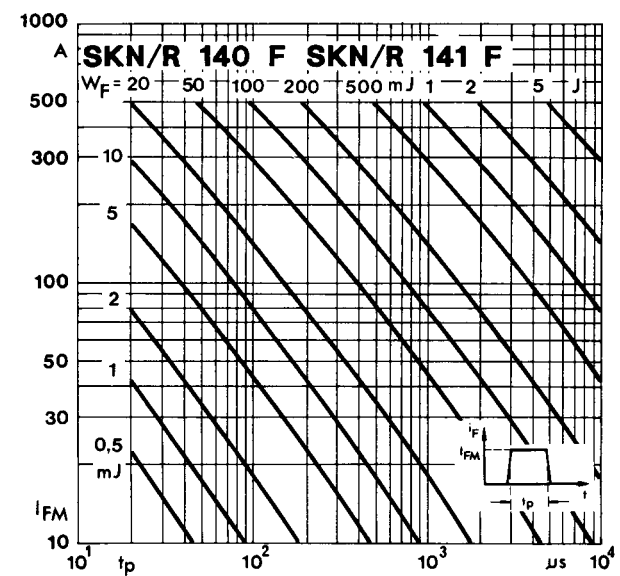


Fig. 4 b Forward energy dissipation, rectangular

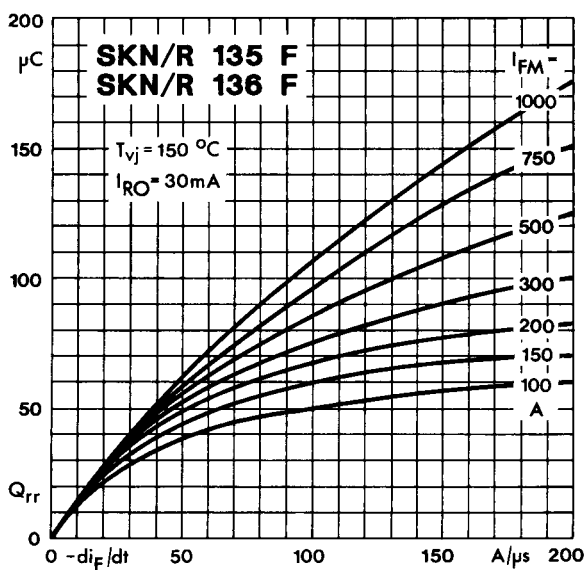


Fig. 5 a Recovered charge

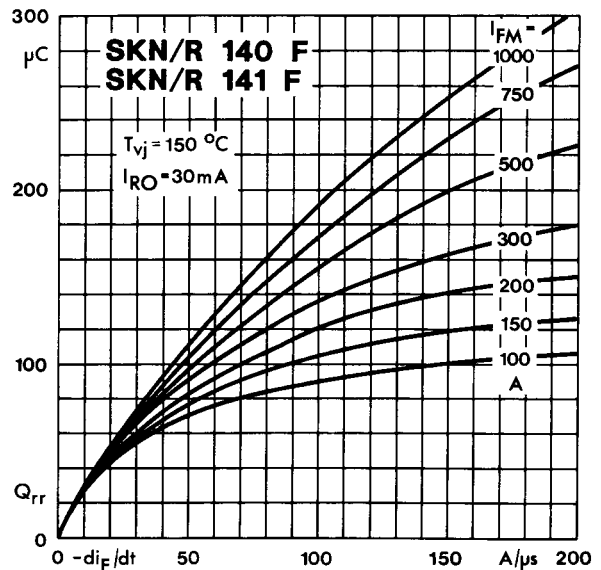


Fig. 5 b Recovered charge

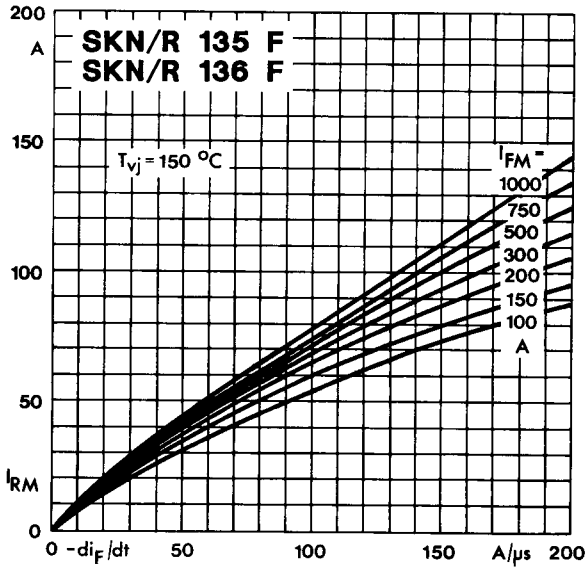


Fig. 6 a Peak reverse recovery current

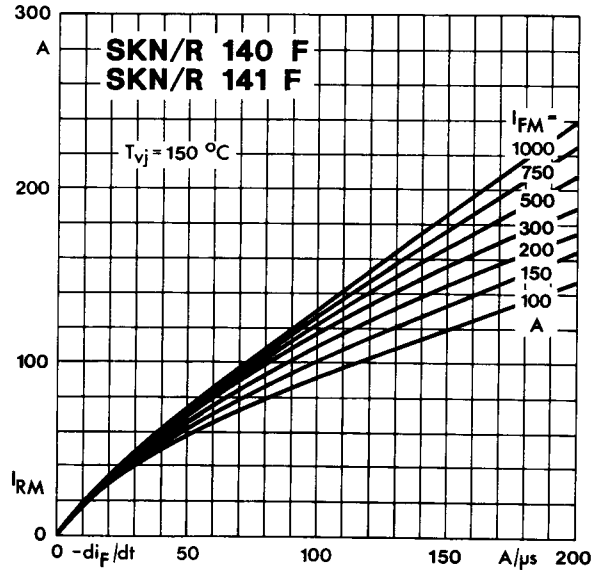


Fig. 6 b Peak reverse recovery current

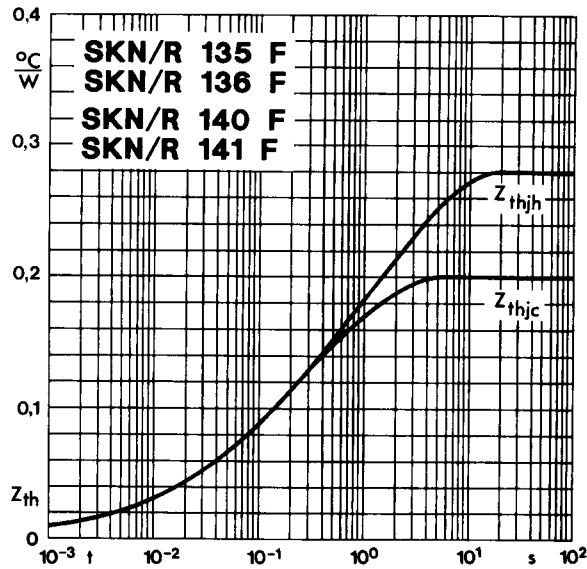


Fig. 7 Transient thermal impedance

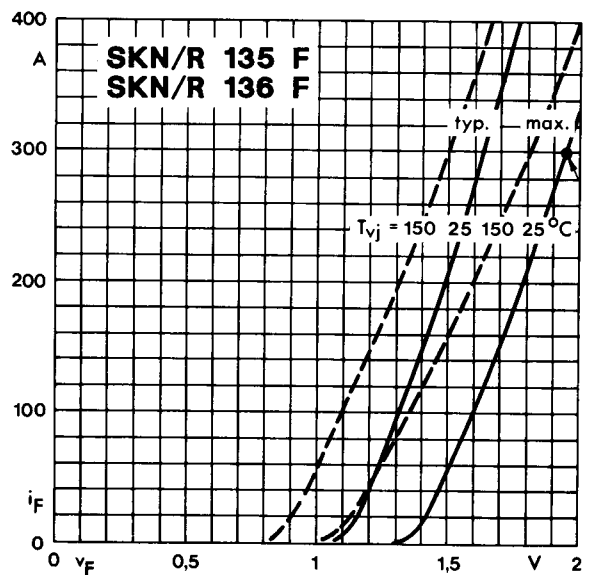


Fig. 8 a Forward characteristics

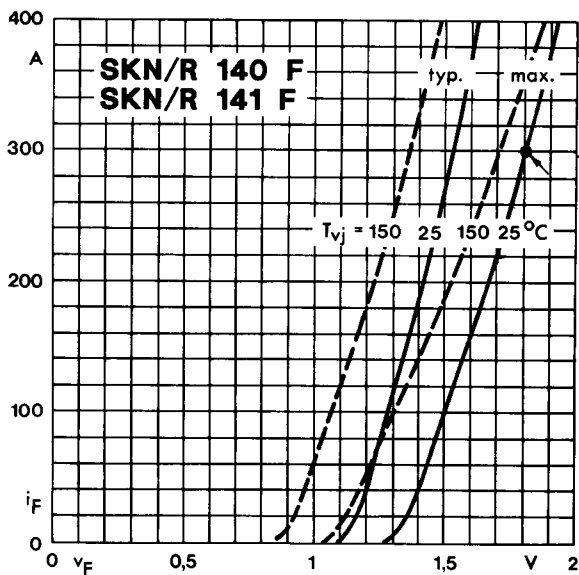


Fig. 8 b Forward characteristics

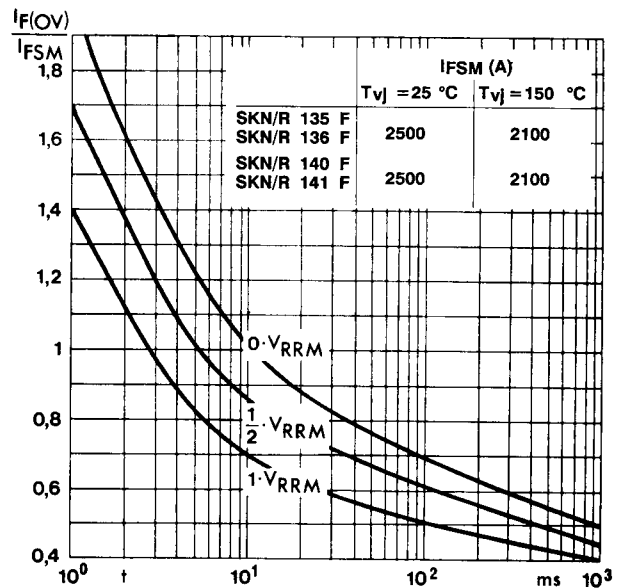
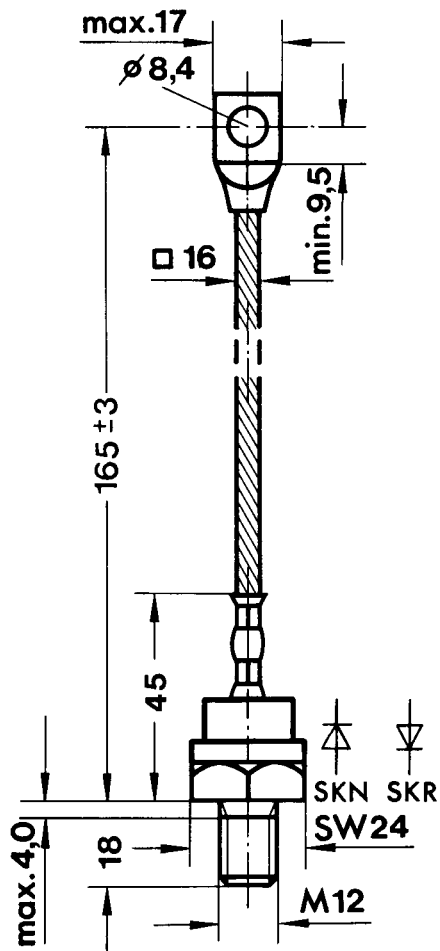


Fig. 9 Rated surge overload current

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

Case E 14

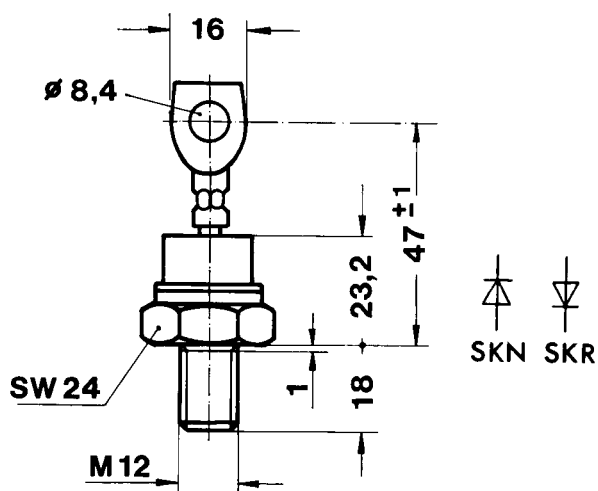
IEC: A 9 MA¹⁾
 DIN 41 887: 105 B 2¹⁾
 BS 3934: SO-29 B
 JEDEC: DO-205 AC (DO-30)¹⁾²⁾



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.