Fast Recovery Rectifier Diodes

SKN 60 F SKR 60 F

V_{RSM} V_{RRM}	I_{FRMS} (maximum values for continuous operation) 120 A	
	I_{FAV} (sin. 180; T_{case} = 85 °C) 75 A	
	t_{rr} = 700 ns	
V		
1200	**SKN 60 F 12**	**SKR 60 F 12**
1400	**SKN 60 F 14**	**SKR 60 F 14**
1500	**SKN 60 F 15**	**SKR 60 F 15**

Symbol	Conditions	SKN 60 F SKR 60 F	Units
I_{FAV}	sin. 180; T_{case} =100 °C; f = 1000 Hz	60	A
	sin.180/rec.120; T_{amb} = 45 °C; K5	15 / 14,5	A
	K3	21,5 / 21	A
	K1,1	38 / 36,5	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	1400	A
	T_{vj} = 150 °C; 10 ms	1200	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	9800	A^2s
	T_{vj} = 150 °C; 8,3 ... 10 ms	7200	A^2s
Q_{rr}	T_{vj} = 150 °C; I_F = 100 A; $-\frac{di_F}{dt} = 100\frac{A}{\mu s}$; V_R = 30 V	75	µC
I_{RM}		70	A
I_R	T_{vj} = 25 °C; $V_R = V_{RRM}$	0,4	mA
	T_{vj} = 150 °C; $V_R = V_{RRM}$	60	mA
t_{rr}	T_{vj} = 25 °C; $I_F = I_R$ = 1 A	max. 0,7	µs
	T_{vj} = 150 °C; $I_F = I_R$ = 1 A	typ. 1,4	µs
V_F	T_{vj} = 25 °C; I_F = 150 A	max. 1,75	V
$V_{(TO)}$	T_{vj} = 150 °C	0,1	V
r_T	T_{vj} = 150 °C	4	m Ω
R_{thjc}		0,5	°C/W
R_{thch}		0,25	°C/W
T_{vj}		– 40 . . . + 150	°C
T_{stg}		– 55 . . . + 150	°C
M	SI units	2,5	Nm
	US units	22	lb.in.
a		5 · 9,81	m/s^2
w		02	g
Case		E10	

Features

- Small recovered charge
- Soft recovery
- Up to 1500 V reverse voltage
- Hermetic metal cases with glass insulators
- Threaded studs ISO M6 and M8
- **SKN:** anode to stud
  SKR: cathode to stud

Typical Applications

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

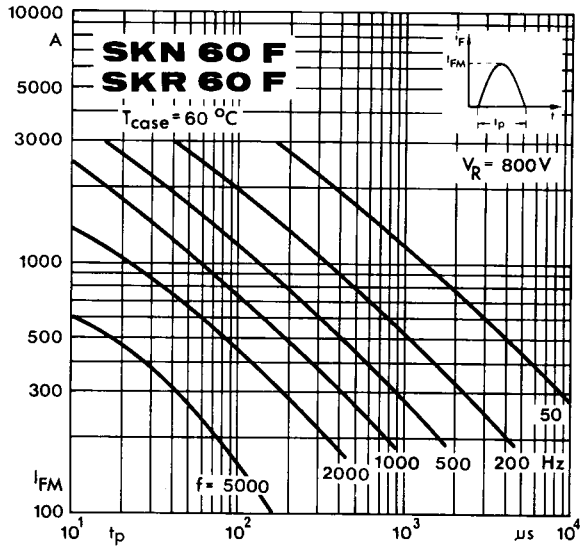


Fig. 1 a Rated sinusoidal peak forward current

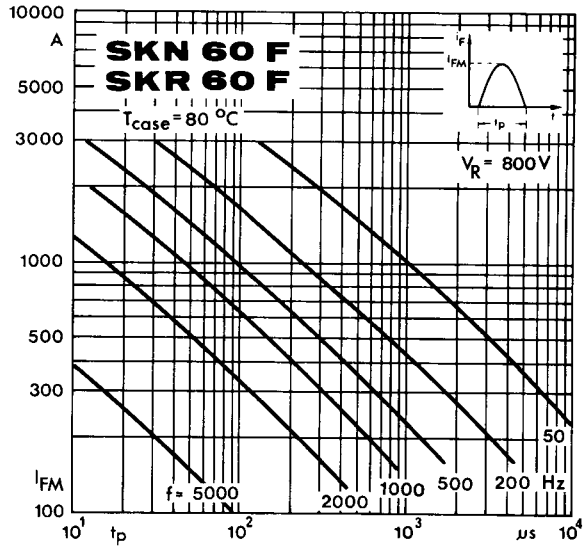


Fig. 1 b Rated sinusoidal peak forward current

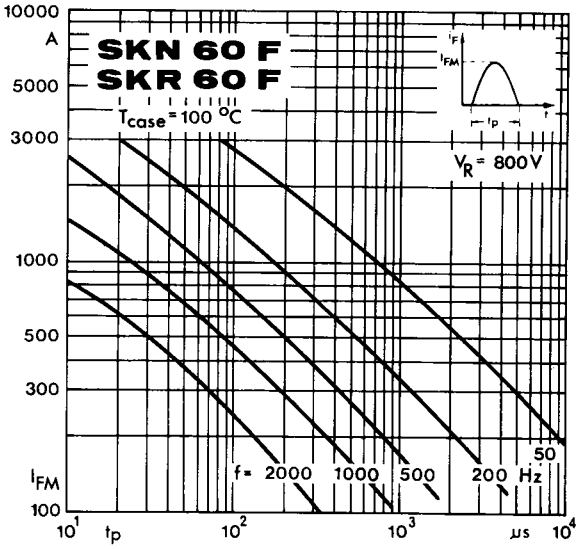


Fig. 1 c Rated sinusoidal peak forward current

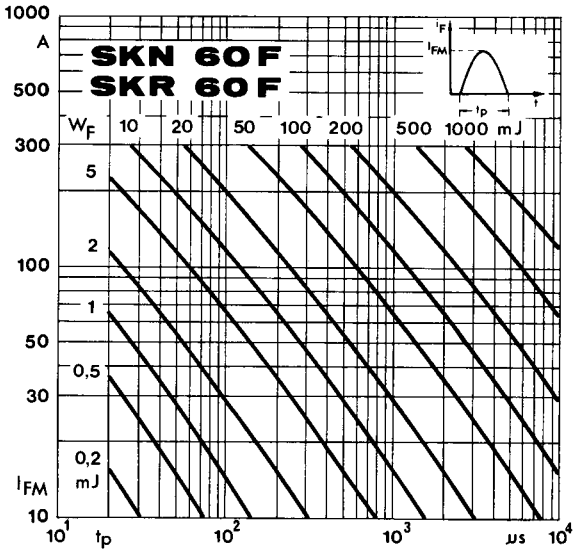


Fig. 2 Forward energy dissipation, sinusoidal

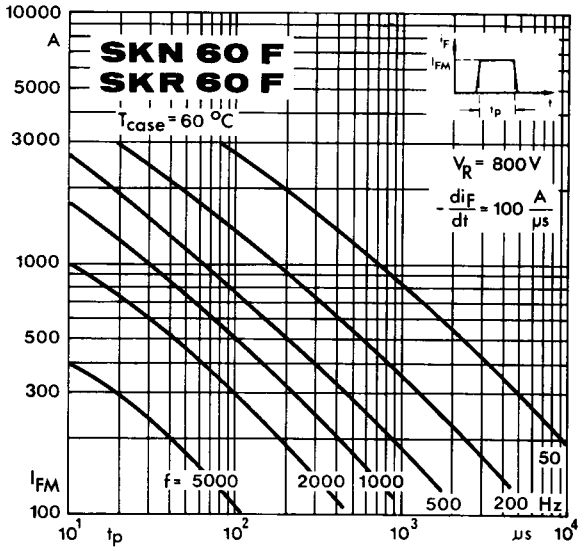


Fig. 3 a Rated rectangular peak forward current

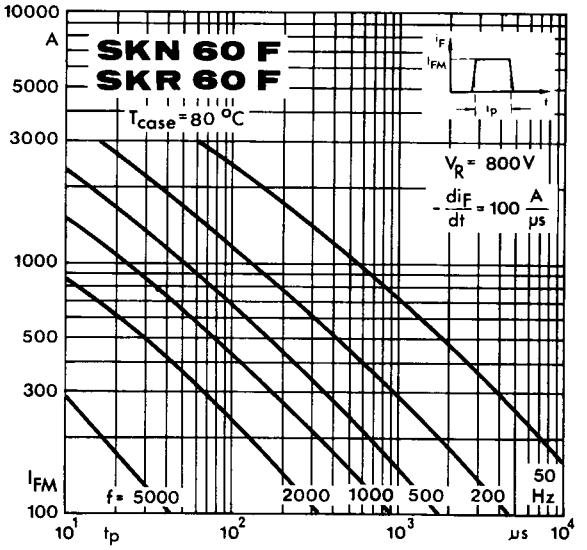


Fig. 3 b Rated rectangular peak forward current

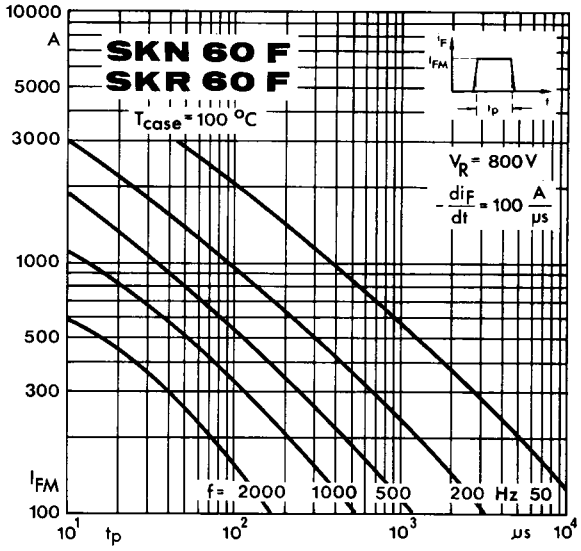


Fig. 3 c Rated rectangular peak forward current

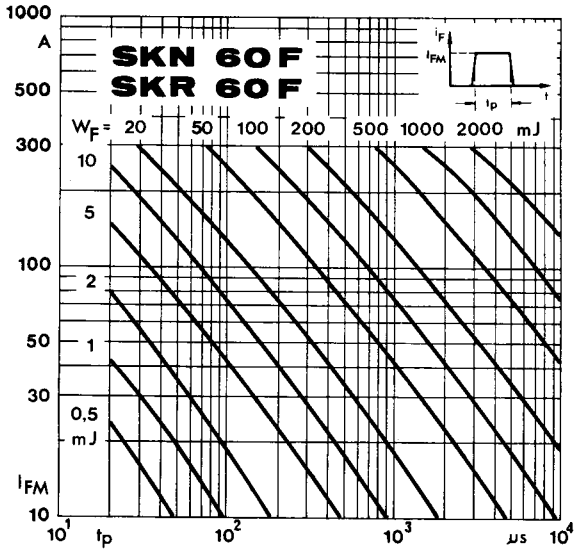


Fig. 4 Forward energy dissipation, rectangular

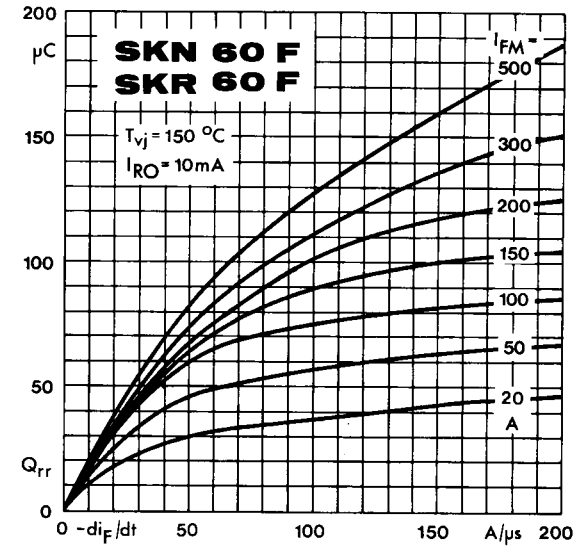


Fig. 5 Recovered charge

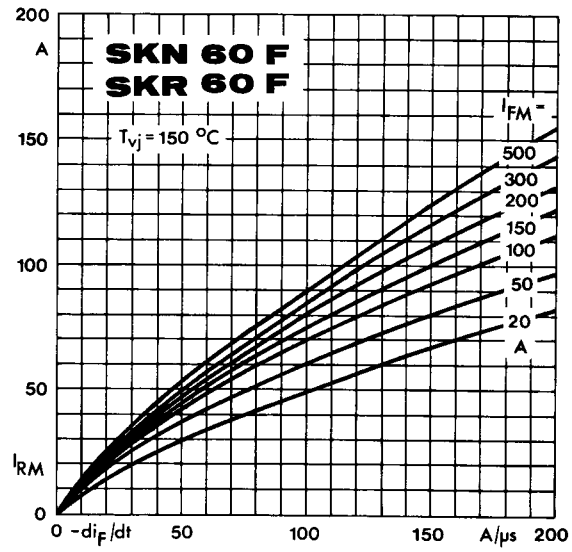


Fig. 6 Peak reverse recovery current

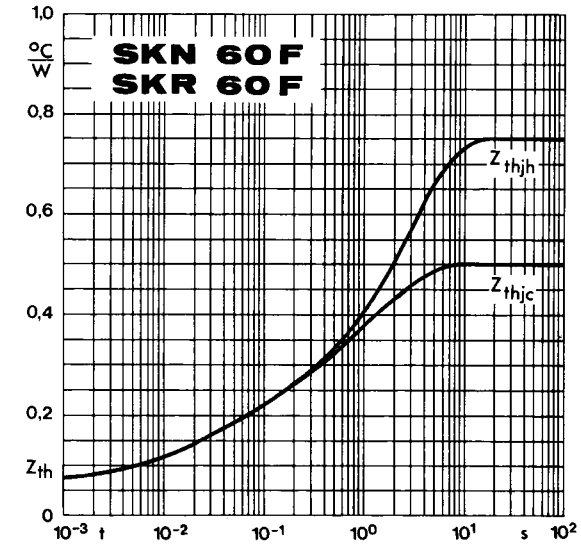


Fig. 7 Transient thermal impedance

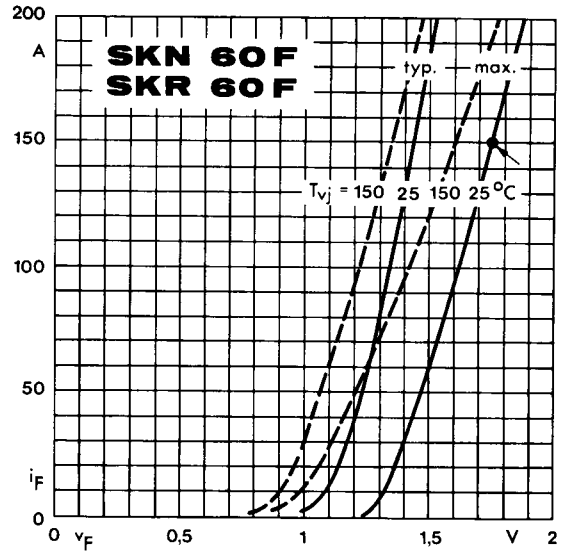


Fig. 8 Forward characteristics

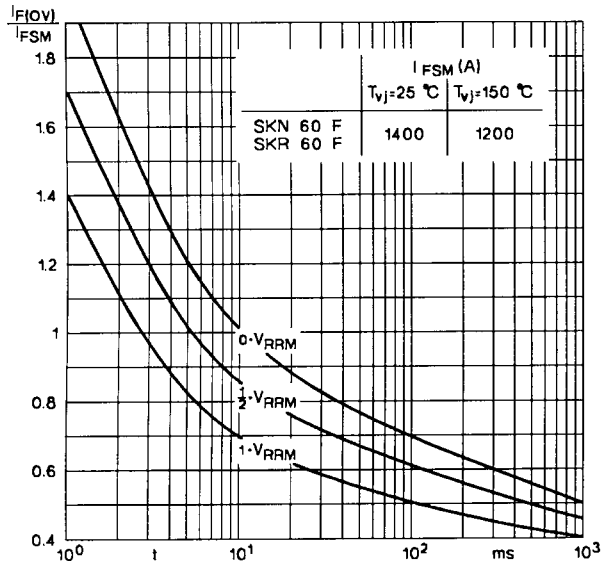
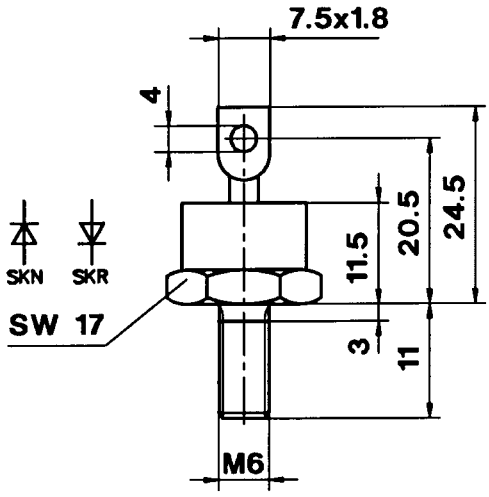


Fig. 9 Rated surge overload current

SKN 60 F
SKR 60 F

Case E 10

IEC-Publ. 191-2: A 4 M
JEDEC: DO-203 AB (DO-5) metric



Dimensions in mm