

Fast Recovery Rectifier Diodes

SKN 2 F 50
SKR 2 F 50



V_{RSM} V_{RRM}	I_{RMS} (maximum values for continuous operation) 100 A	
	I_{FAV} (sin. 180; $T_{case} = \dots$) 50 A (105 °C) 50 A (95 °C)	
V	$t_{rr} = 200$ ns	
400	SKN 2 F 50/04 SKN 2 F 50/04 UNF	SKR 2 F 50/04 SKR 2 F 50/04 UNF
600	SKN 2 F 50/06 SKN 2 F 50/06 UNF	SKR 2 F 50/06 SKR 2 F 50/06 UNF
800	SKN 2 F 50/08 SKN 2 F 50/08 UNF	SKR 2 F 50/08 SKR 2 F 50/08 UNF
1000	SKN 2 F 50/10 SKN 2 F 50/10 UNF	SKR 2 F 50/10 SKR 2 F 50/10 UNF

Symbol	Conditions	SKN 2 F 50	SKR 2 F 50	Units
I_{FAV}	sin.180; ($T_{case} = \dots$); $f = 5000$ Hz	50 (105 °C)	50 (95 °C)	A
	sin.180/rec.120; $T_{amb} = 45$ °C; K5 K3 K1,1	12/11	12/11	A
		18/17	17/16	A
		33/31	31/29	A
I_{FSM}	$T_{vj} = 25$ °C; 10 ms	1100	800	A
	$T_{vj} = 150$ °C; 10 ms	940	670	A
i^2t	$T_{vj} = 25$ °C; 8,3 ... 10 ms	6000	3200	A ² s
	$T_{vj} = 150$ °C; 8,3 ... 10 ms	4400	2200	A ² s
Q_{rr}	$T_{vj} = 130$ °C; $I_F = 100$ A; $-dI_F = 30 \frac{A}{\mu s}$; $V_R = 30$ V	3		μC
		10		A
I_R	$T_{vj} = 25$ °C; $V_R = V_{RRM}$ $T_{vj} = 130$ °C; $V_R = V_{RRM}$	0,4		mA
		50		mA
t_{rr}	$T_{vj} = 25$ °C $T_{vj} = 130$ °C } $I_F = I_R = 1$ A	max. 200		ns
		typ. 400		ns
V_F	$T_{vj} = 25$ °C; $I_F = 50$ A	max. 1,8		V
$V_{(TO)}$	$T_{vj} = 150$ °C	1,2		V
r_T	$T_{vj} = 150$ °C	4		m Ω
R_{thjc}	R_{thch}	0,5	0,65	°C/W
		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	approx.	20		g
Case		E10		

Features

- Small recovered charge
- Soft recovery
- Up to 1000 V reverse voltage
- Hermetic metal cases with glass insulators
- Threaded studs ISO M6 or 1/4-28 UNF
- **SKN**: anode to stud
SKR: cathode to stud

Typical Applications

- Inverse diodes for power transistors, GTO thyristors, asymmetric thyristors
- SMPS, inverters, choppers
- For severe ambient conditions

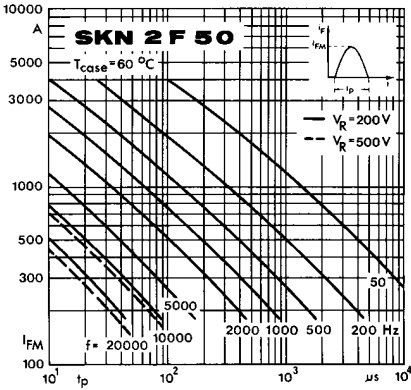


Fig. 1 a Rated sinusoidal peak forward current

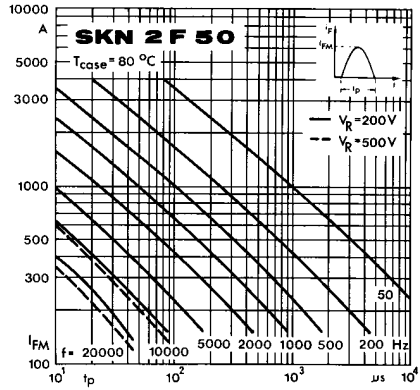


Fig. 1 b Rated sinusoidal peak forward current

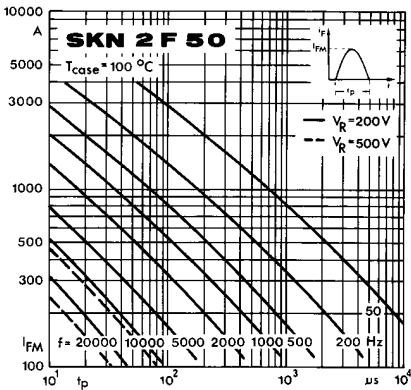


Fig. 1 c Rated sinusoidal peak forward current

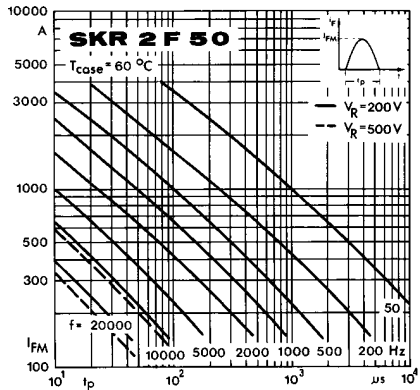


Fig. 1 d Rated sinusoidal peak forward current

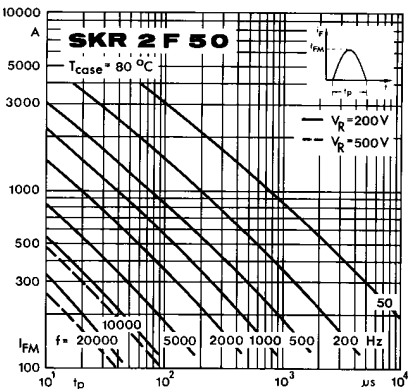


Fig. 1 e Rated sinusoidal peak forward current

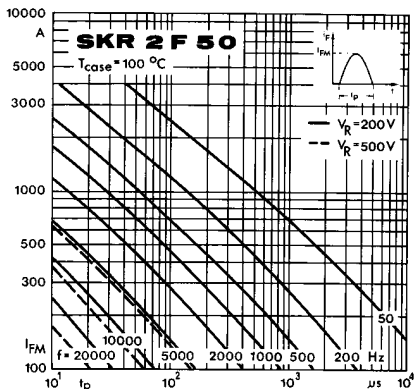


Fig. 1 f Rated sinusoidal peak forward current

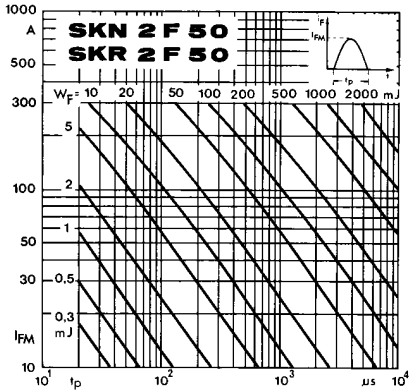


Fig. 2 Forward energy dissipation, sinusoidal

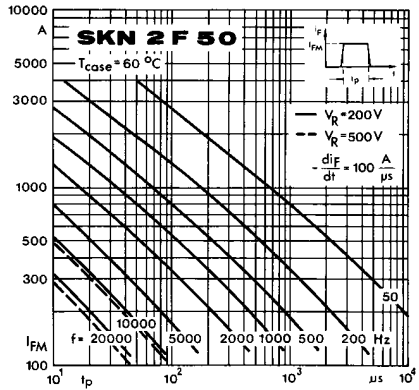


Fig. 3 a Rated rectangular peak forward current

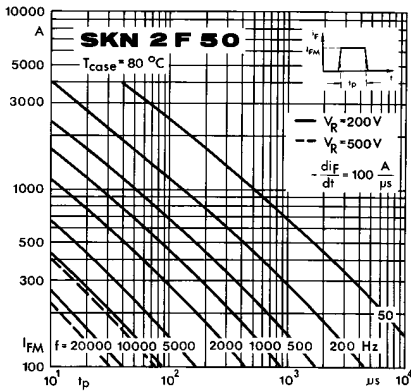


Fig. 3 b Rated rectangular peak forward current

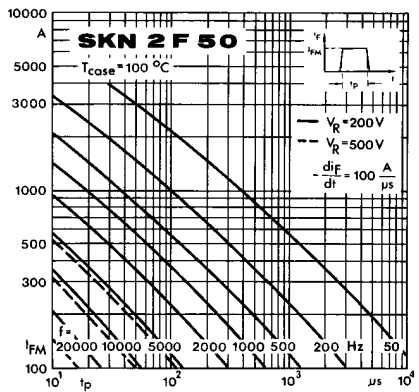


Fig. 3 c Rated rectangular peak forward current

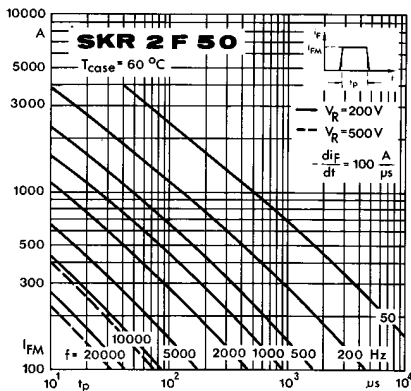


Fig. 3 d Rated rectangular peak forward current

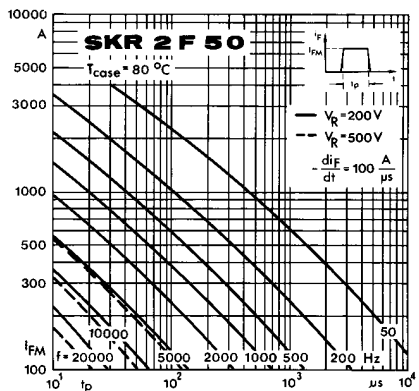


Fig. 3 e Rated rectangular peak forward current

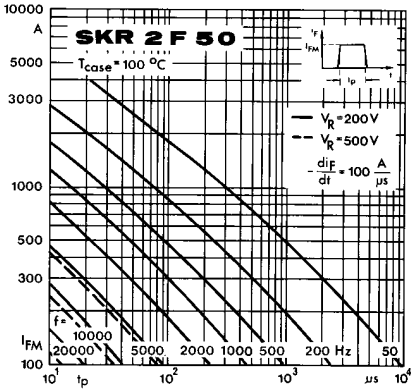


Fig. 3 f Rated rectangular peak forward current

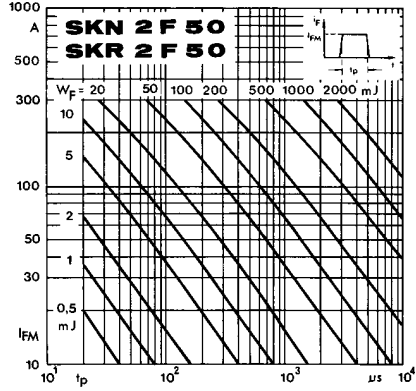


Fig. 4 Forward energy dissipation, rectangular

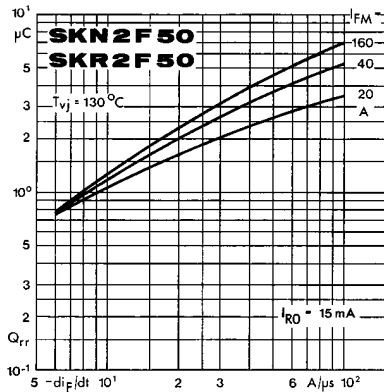


Fig. 5 Recovered charge

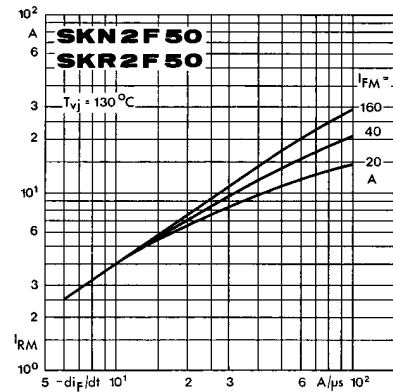


Fig. 6 Peak reverse recovery current

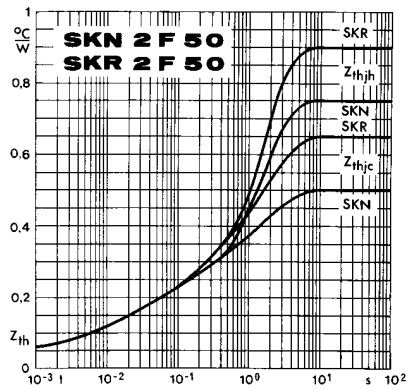


Fig. 7 Transient thermal impedance

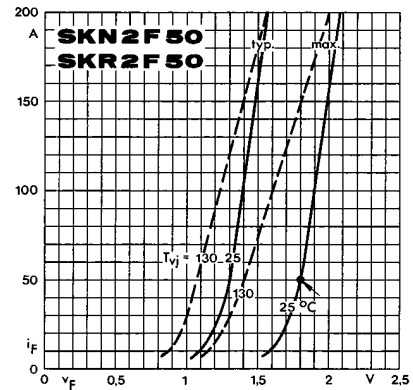


Fig. 8 Forward characteristics

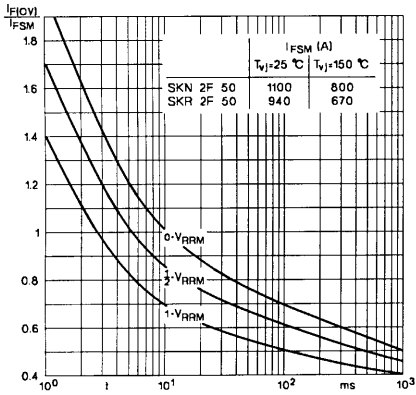
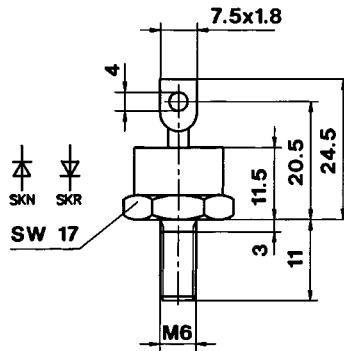


Fig. 9 Rated surge overload current

SKN 2 F 50
SKR 2 F 50

Case E 10

IEC-Publ. 191-2: A 4 M

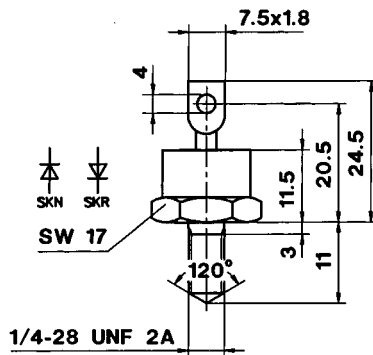


Dimensions in mm

SKN 2 F 50 ... UNF
SKR 2 F 50 ... UNF

Case E 10 UNF

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



Dimensions in mm

Fast Recovery Rectifier Diodes

SKN 60 F SKR 60 F



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)

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 K3 K1,1	15 / 14,5	A
		21,5 / 21	A
I _{FSM}	T _{vj} = 25 °C; 10 ms	1400	A
	T _{vj} = 150 °C; 10 ms	1200	A
i ² t	T _{vj} = 25 °C; 8,3 ... 10 ms	9800	A ² s
	T _{vj} = 150 °C; 8,3 ... 10 ms	7200	A ² s
Q _{rr}	T _{vj} = 150 °C; I _F = 100 A;	75	μC
I _{RM}	$-\frac{dI_F}{dt} = 100 \frac{A}{\mu s}$; V _R = 30 V	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 typ. 1,4	μs
	T _{vj} = 150 °C }		μs
V _F	T _{vj} = 25 °C; I _F = 150 A	max. 1,75	V
V _(TO)	T _{vj} = 150 °C	1,0	V
r _T	T _{vj} = 150 °C	4	mΩ
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		20	g
Case		E10	