SKN 3F20

THYRISTOR BRIDGE,SCR BRIDGE



Stud Diode

Fast Recovery Rectifier Diode

SKN 3F20

SKR 3F20

Features

- Small recovered charge
- Soft recovery
- Up to 1200 V reverse voltage
- Hermetic metal case with glass insulator
- Threaded stud ISO M5 or 10-32 UNF
- SKN: anode to stud
  SKR: cathode to stud

Typical Applications*

- Inverse diode for power transistor, GTO thyristor, asymmetric thyristor
- SMPS, inverters, choppers
- for severe ambient conditions

V_{RSM} V	V_{RRM} V	I_{FRMS} = 41 A (maximum value for continuous operation) I_{FAV} = 20 A (sin. 180; 5000 Hz; T_c = 104 °C)	
800	800	SKN 3F20/08	SKR 3F20/08
800	800	SKN 3F20/08UNF	SKR 3F20/08UNF
1000	1000	SKN 3F20/10	SKR 3F20/10
1000	1000	SKN 3F20/10UNF	SKR 3F20/10UNF
1200	1200	SKN 3F20/12	SKR 3F20/12
1200	1200	SKN 3F20/12UNF	SKR 3F20/12UNF

Symbol	Conditions	Values	Units
I_{FAV}	sin. 180; T_c = 85 (100) °C	26 (22)	A
I_{FAV}	K5,5; T_a = 45 °C; sin. 180; 5000 Hz	10	A
I_{FSM}	T_{vj} = 25 °C; 10 ms	375	A
	T_{vj} = 150 °C; 10 ms	310	A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms	700	A^2s
	T_{vj} = 150 °C; 8,3 ... 10 ms	480	A^2s
V_F	T_{vj} = 25 °C; I_F = 50 A	max. 2,15	V
$V_{(TO)}$	T_{vj} = 130 °C	max. 1,3	V
r_T	T_{vj} = 130 °C	max. 12	mΩ
I_{RD}	T_{vj} = 25 °C; V_{RD} = V_{RRM}	max. 0,2	mA
I_{RD}	T_{vj} = 130 °C; V_{RD} = V_{RRM}	max. 20	mA
Q_{rr}	T_{vj} = 130 °C, I_F = 50 A,	1,5	µC
I_{RM}	-di/dt = 15 A/µs, V_R = 30 V	5	A
t_{rr}		600	ns
E_{rr}		-	mJ
$R_{th(j-c)}$		1,2	K/W
$R_{th(c-s)}$		0,5	K/W
T_{vj}		- 40 ... + 150	°C
T_{stg}		- 55 ... + 150	°C
V_{isol}		-	V~
M_s	to heatsink	1,5	Nm
a		5 * 9,81	m/s^2
m	approx.	7	g
Case		E 7	



SKN SKR

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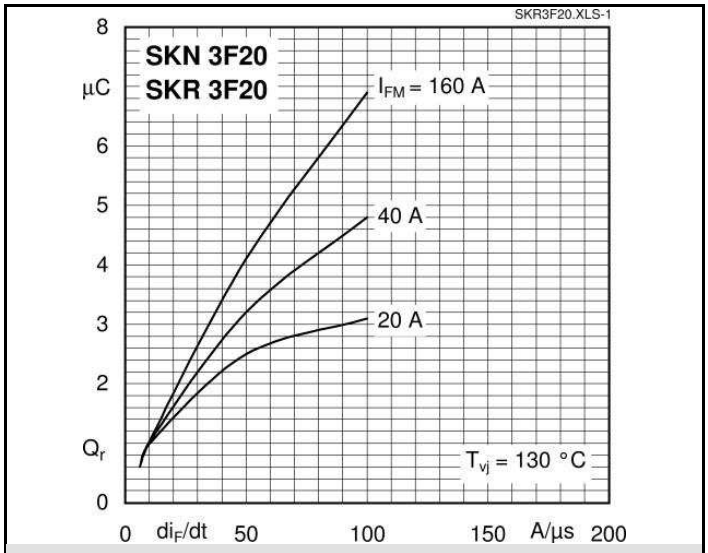


Fig. 1 Typ. recovery charge vs. current decrease

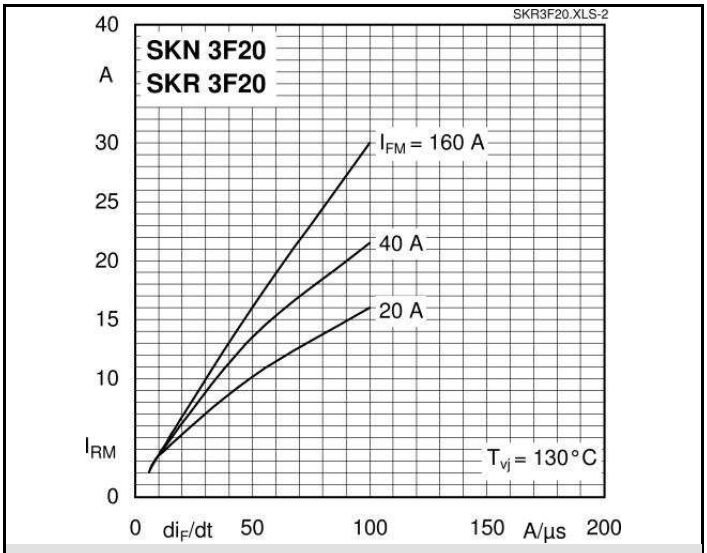


Fig. 2 Peak recovery current vs. current decrease

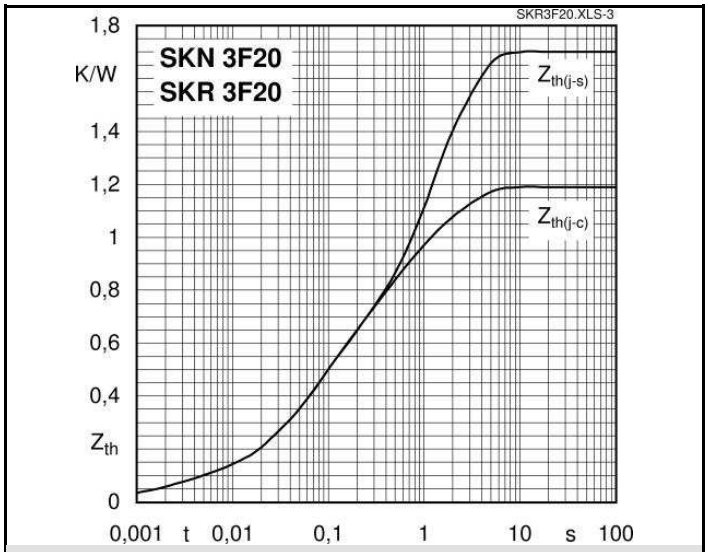


Fig. 3 Transient thermal impedance vs. time

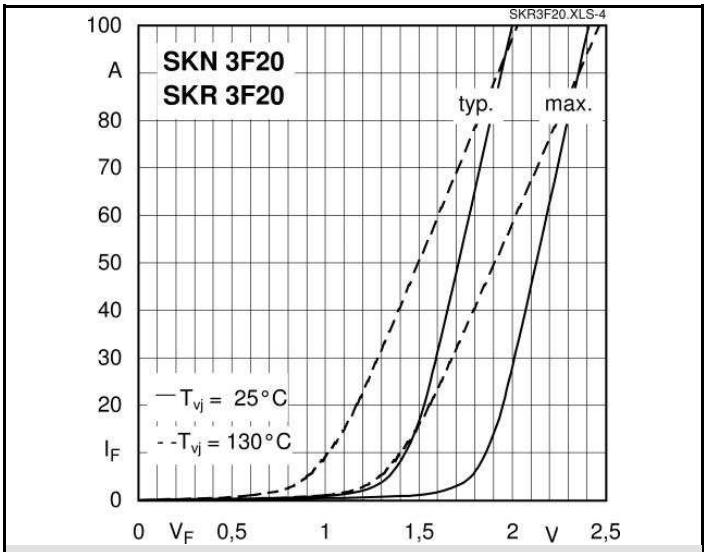


Fig. 4 Forward characteristics

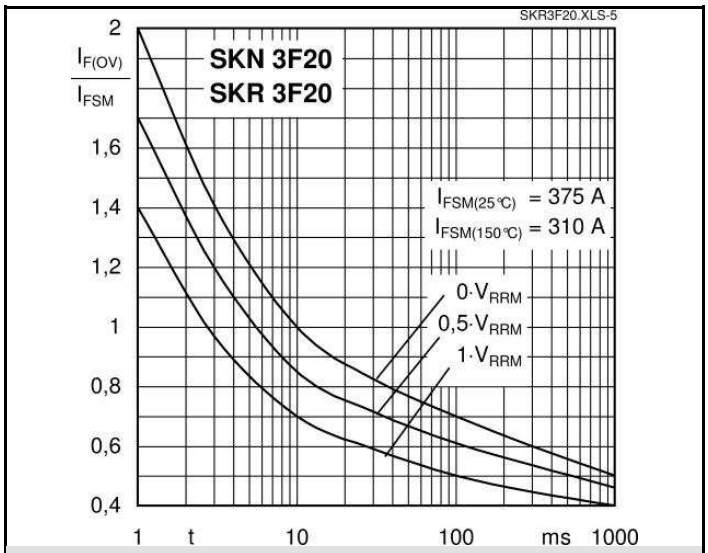
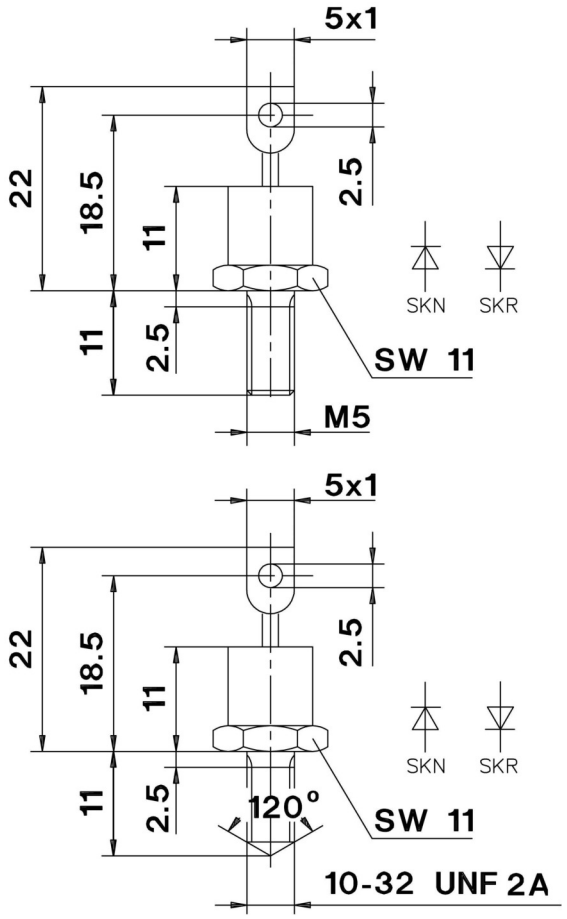


Fig. 5 Surge overload current vs. time

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Dimensions in mm



Case E 7 (IEC 60191: A 3 U, A 3 M; JEDEC: DO203- AA, DO-4 (metric))

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

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