SKN 3F20

Stud Diode

Fast Recovery Rectifier Diode

SKN 3F20

SKR 3F20

Features

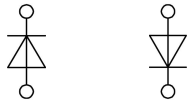
- Small recovered charge
- Soft recovery
- Up to 1200 V reverse voltage
- Hermetic metal case with glass insulator
- Threaded stud ISO M5 or 10-32 UNF
- SKN: anode to stud
  SKR: cathode to stud

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
i²t	T_{vj} = 25 °C; 8,3 ... 10 ms	700	A²s
	T_{vj} = 150 °C; 8,3 ... 10 ms	480	A²s
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/s²
m	approx.	7	g
Case		E 7	



SKN SKR

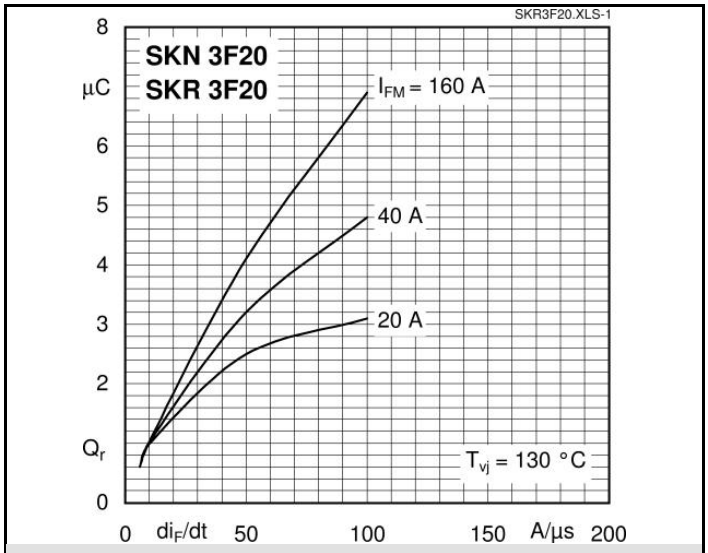


Fig. 1 Typ. recovery charge vs. current decrease

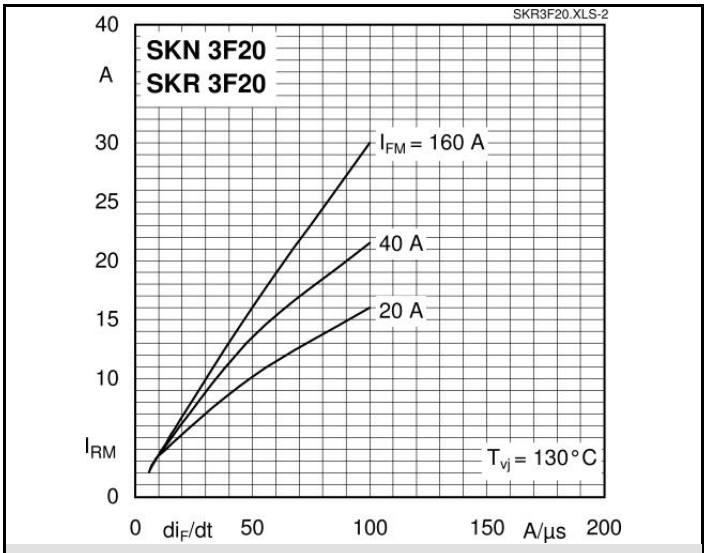


Fig. 2 Peak recovery current vs. current decrease

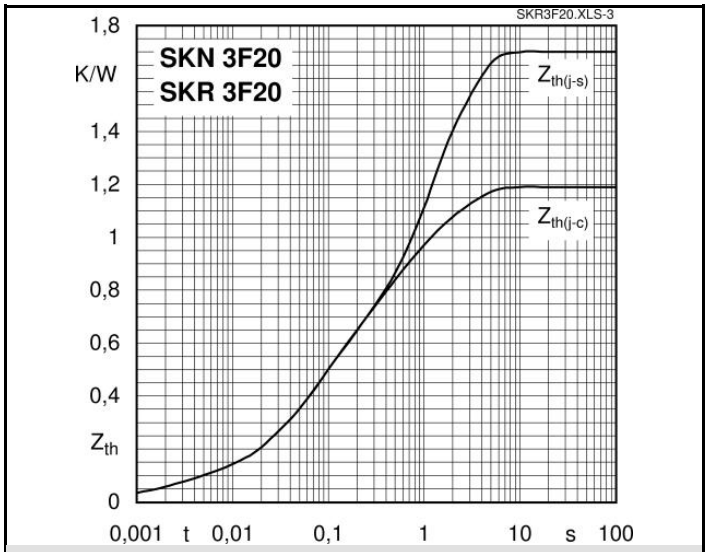


Fig. 3 Transient thermal impedance vs. time

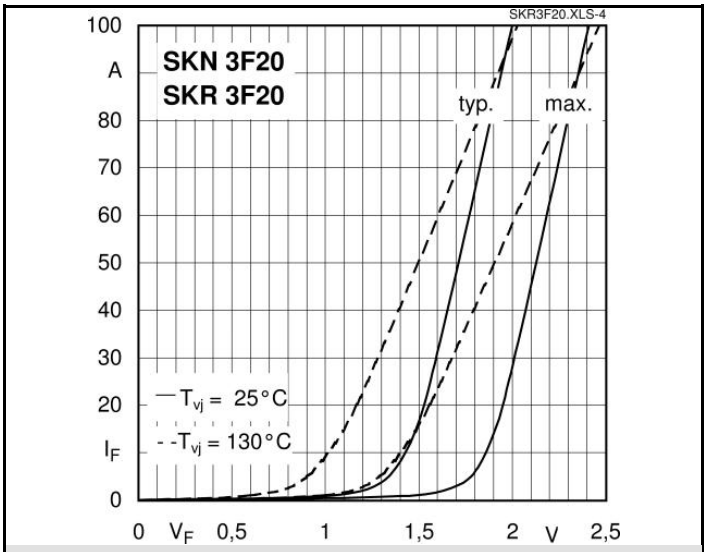


Fig. 4 Forward characteristics

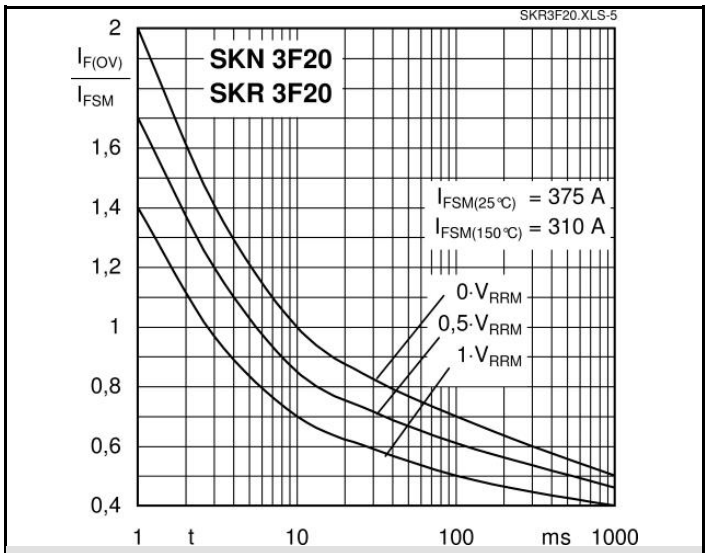
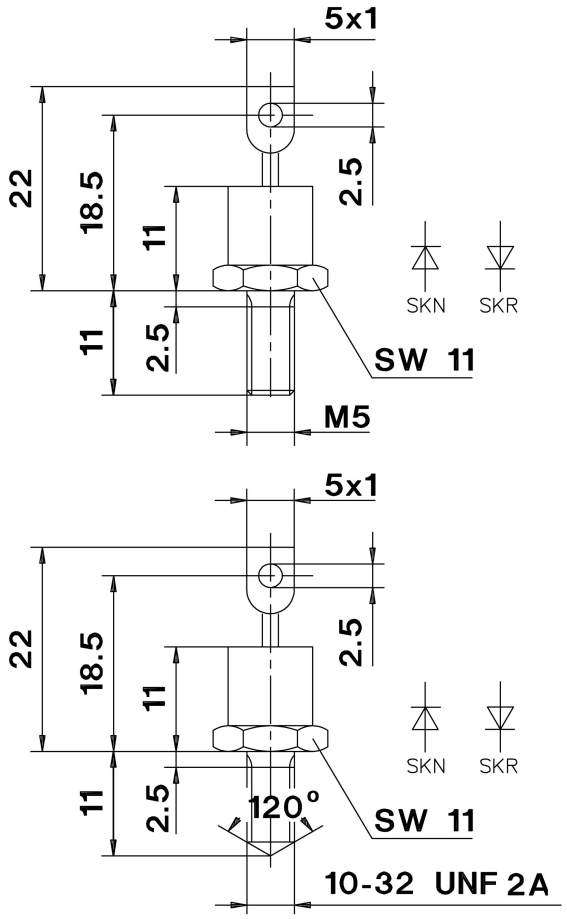


Fig. 5 Surge overload current vs. time

Dimensions in mm



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

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