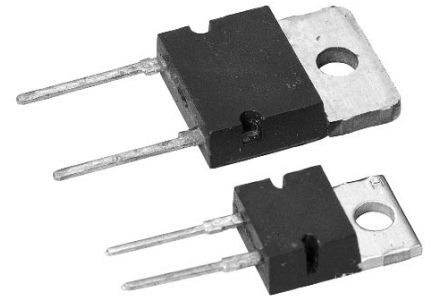


V _{RSM} V _{RRM} V	I _{FRMS} (maximum values for continuous operation)		
	30 A	47 A	72 A
	I _{FAV} (sin. 180; T _{case} = 85 °C; 50 Hz)		
	20 A	31 A	48 A
1000	SKR 20F10	SKR 31F10	SKR 48F10
1200	SKR 20F12	SKR 31F12	SKR 48F12

Fast Recovery Rectifier Diodes ¹⁾

SKR 20 F
SKR 31 F
SKR 48 F



Symbol	Conditions	SKR20F	SKR31F	SKR48F	Units
I _{FAV}	sin. 180; T _{case} = 85 °C	20	31	48	A
I _{FSM}	T _{vj} = 25 °C; 10 ms	150	320	500	A
	T _{vj} = 150 °C; 10 ms	140	300	450	A
i ² t	T _{vj} = 25 °C; 8,3 ... 10 ms	110	510	1250	A ² s
	T _{vj} = 150 °C; 8,3 ... 10 ms	100	450	1000	A ² s
I _{RRM}	T _{vj} = 25 °C	12 ²⁾	19 ³⁾	23 ⁴⁾	A
	T _{vj} = 125 °C	16 ²⁾	25 ³⁾	35 ⁴⁾	A
Q _{rr}	T _{vj} = 25 °C typ.	1,5 ²⁾	2 ³⁾	3 ⁴⁾	μC
	T _{vj} = 125 °C typ.	2,7 ²⁾	4,5 ³⁾	8 ⁴⁾	μC
t _{rr}	T _{vj} = 25 °C typ.	80 ²⁾	100 ³⁾	80 ⁴⁾	ns
I _R	T _{vj} = 25 °C; V _R = V _{RRM}	0,1	0,1	0,2	mA
	T _{vj} = 125 °C; V _R = V _{RRM}	2	4	4	mA
V _F	T _{vj} = 25 °C; max (I _F = ... A)	2,5 (15)	2,35 (25)	2,5 (50)	V A
V _(TO)	T _{vj} = 150 °C	1,2	1,2	1,2	V
r _T	T _{vj} = 150 °C	70	44	22	mΩ
R _{thjc}		0,70	0,45	0,35	°C/W
R _{thch}		0,30	0,30	0,25	°C/W
T _{vj}		- 40 ... 150			°C
T _{stg}		- 40 ... 150			°C
M ₁	to heatsink SI Units US units	0,55...0,8 4,8 ... 7,1	0,7...1 6,2...8,8	0,7...1 6,2...8,8	Nm lb. in.
w	approx.	2	5	5	g
Case		E 39	E 40	E 40	

Features

- Very short recovery times
- Soft recovery under all conditions
- Up to 1200 V reverse voltage
- Epoxy meets UL 94V-0 flammability classification

Typical Applications

- Inverse diode for power transistors
- Inverter, UPS
- Snubber and clamping diode

¹⁾ CAL (controlled axial lifetime) technology, patent No. DE 43 10 44

²⁾ I_F = 15 A, di/dt = 400 A/μs, V_R = 600 V

³⁾ I_F = 25 A, di/dt = 500 A/μs, V_R = 600 V

⁴⁾ I_F = 50 A, di/dt = 800 A/μs, V_R = 600 V

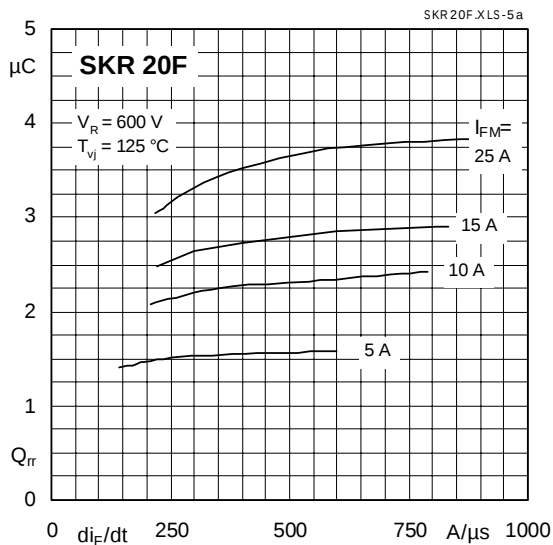


Fig. 5 a Typ. recovered charge

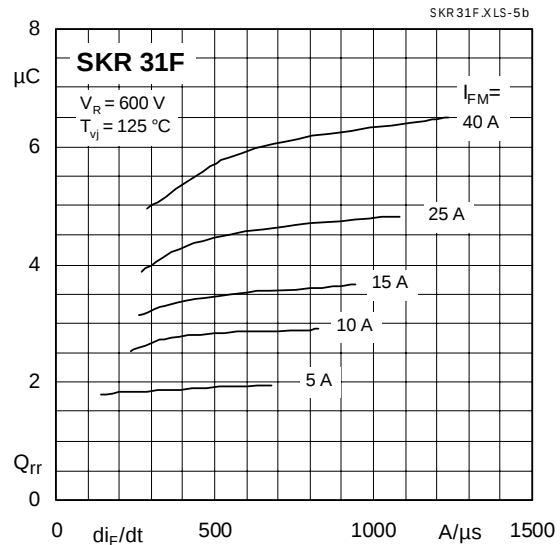


Fig. 5 b Typ. recovered charge

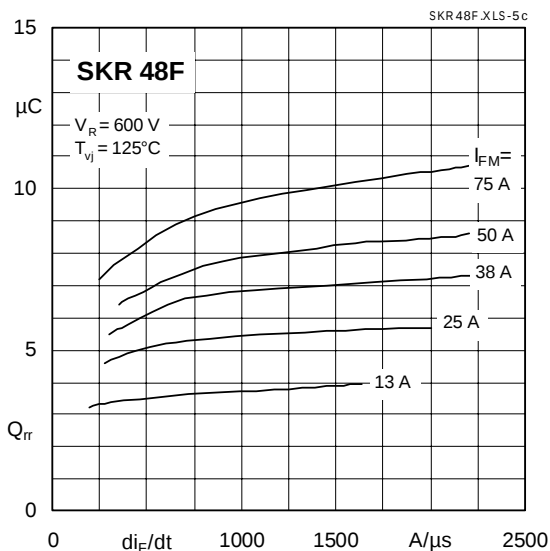


Fig. 5 c Typ. recovered charge

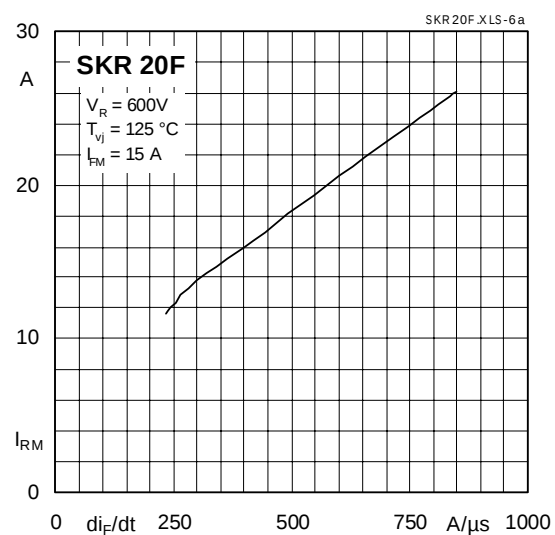


Fig. 6 a Typ. peak reverse recovery current

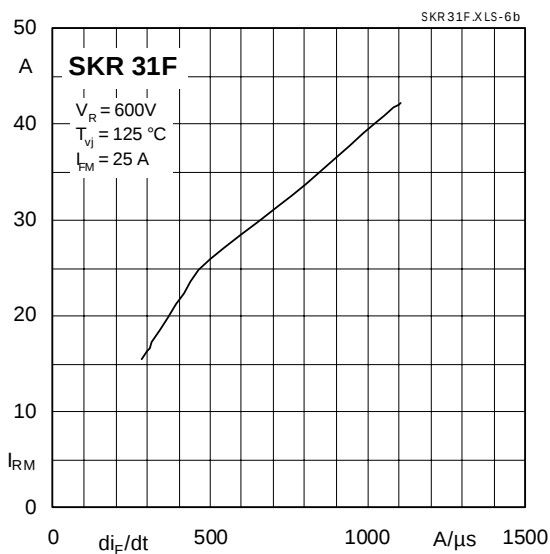


Fig. 6 b Typ. peak reverse recovery current

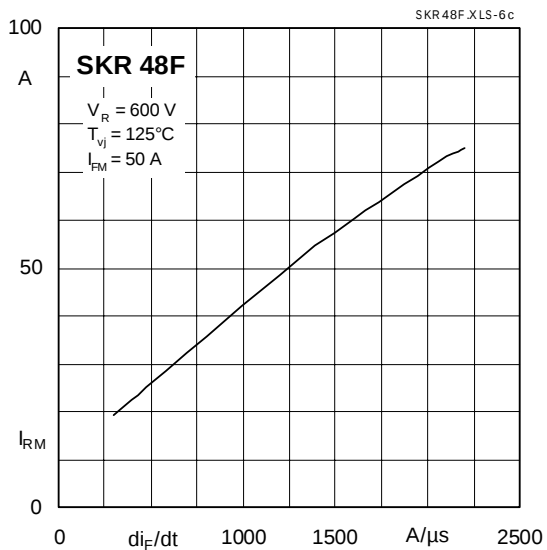


Fig. 6 c Typ. peak reverse recovery current

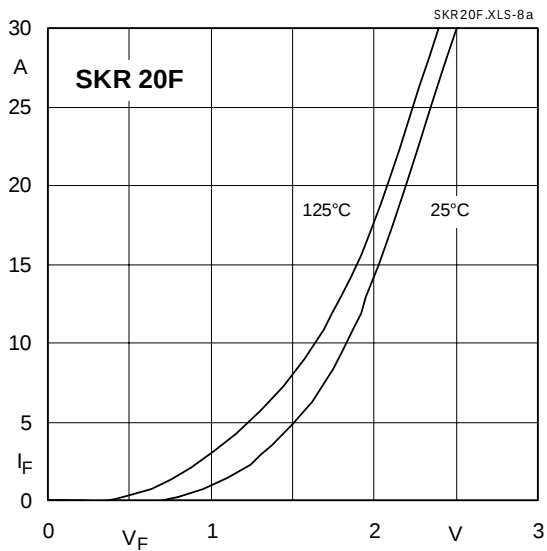


Fig. 8 a Typ. forward characteristics

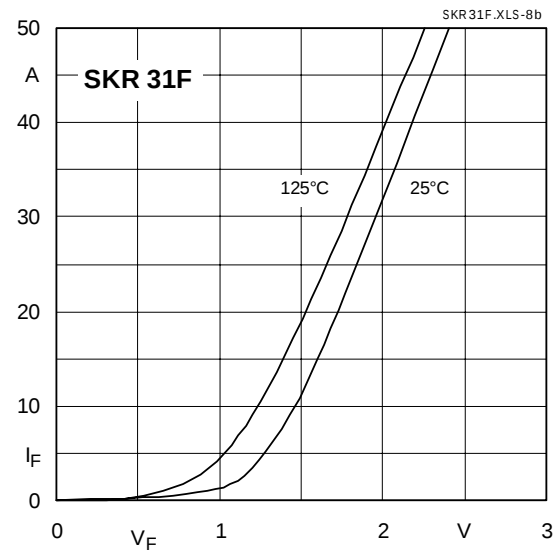


Fig. 8 b Typ. forward characteristics

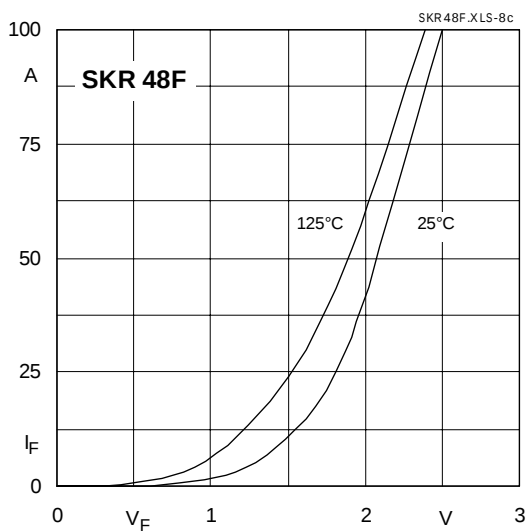


Fig. 8 c Typ. forward characteristics

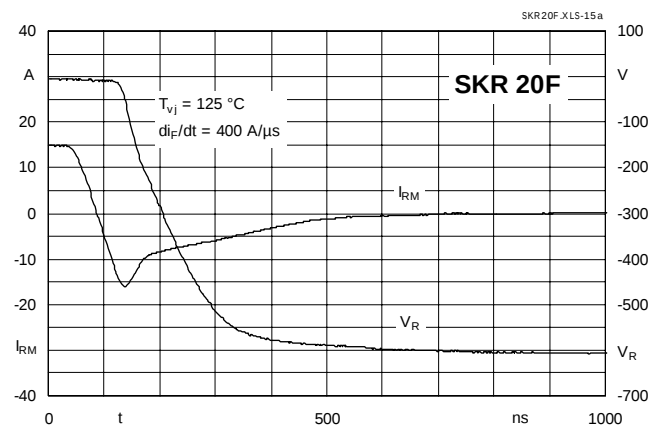


Fig. 15 a Typ. reverse recovery characteristics

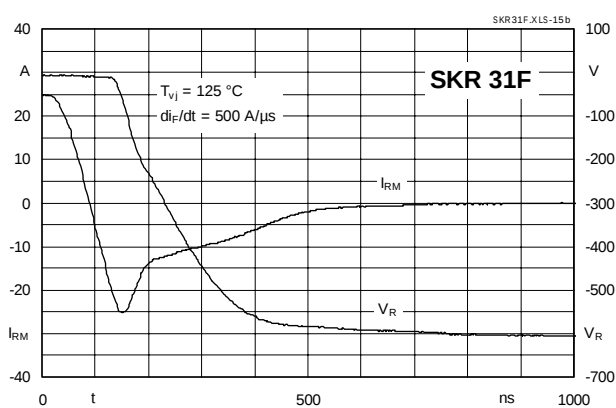


Fig. 15 b Typ. reverse recovery characteristics

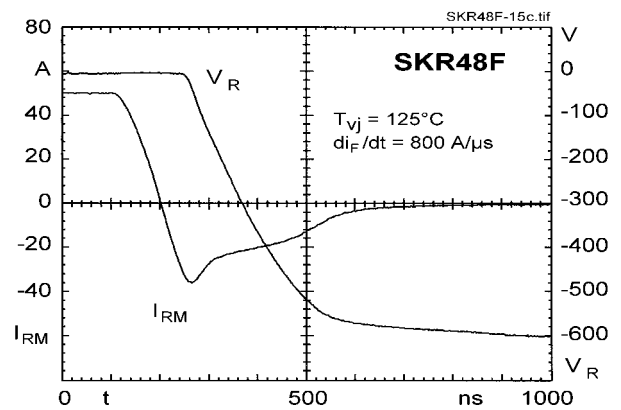
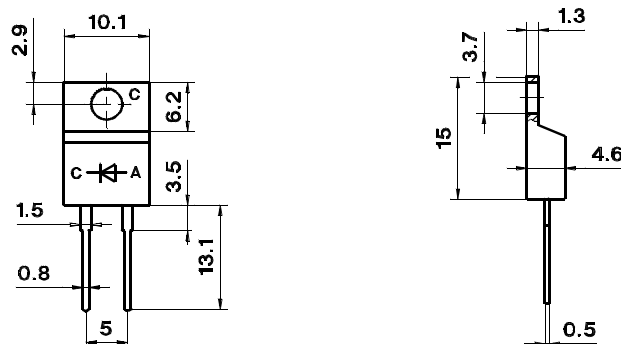


Fig. 15 c Typ. reverse recovery characteristics

SKR 20 F

Case E 39

TO-220 AC

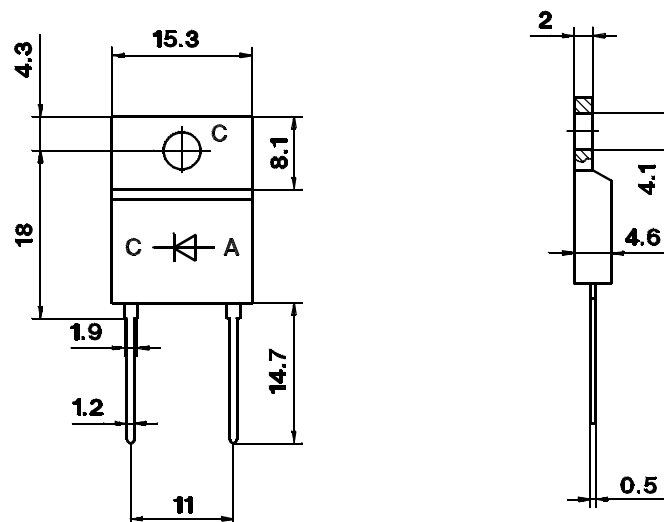


SKR 31 F

SKR 48 F

Case E 40

TO-218



Dimensions in mm