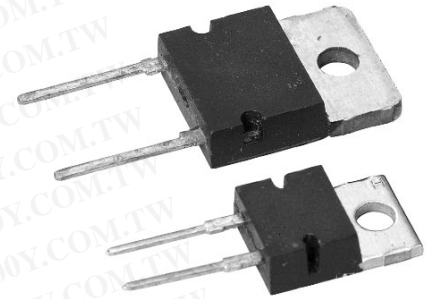


V <sub>RSM</sub> V <sub>RRM</sub>	I <sub>FRMS</sub> (maximum values for continuous operation)		
	30 A	47 A	72 A
V	I <sub>FAV</sub> (sin. 180; T <sub>case</sub> = 85 °C; 50 Hz)		
	20 A	31 A	48 A
1000	<b>SKR 20F10</b>	<b>SKR 31F10</b>	<b>SKR 48F10</b>
1200	<b>SKR 20F12</b>	<b>SKR 31F12</b>	<b>SKR 48F12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

## Fast Recovery Rectifier Diodes <sup>1)</sup>

**SKR 20 F**  
**SKR 31 F**  
**SKR 48 F**

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

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

<sup>2)</sup> I<sub>F</sub> = 15 A, di/dt = 400 A/μs, V<sub>R</sub> = 600 V

<sup>3)</sup> I<sub>F</sub> = 25 A, di/dt = 500 A/μs, V<sub>R</sub> = 600 V

<sup>4)</sup> I<sub>F</sub> = 50 A, di/dt = 800 A/μs, V<sub>R</sub> = 600 V

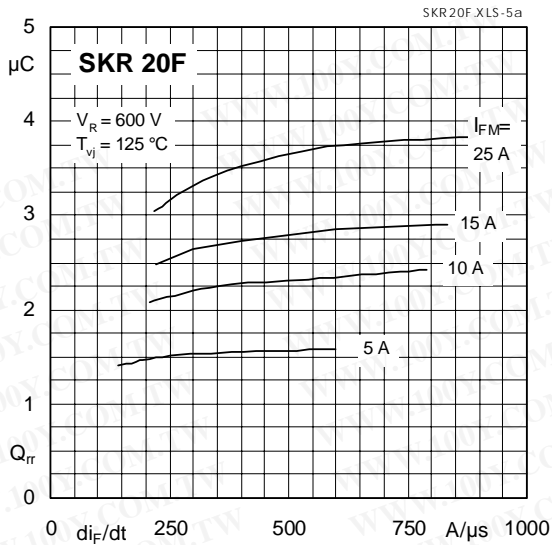


Fig. 5 a Typ. recovered charge

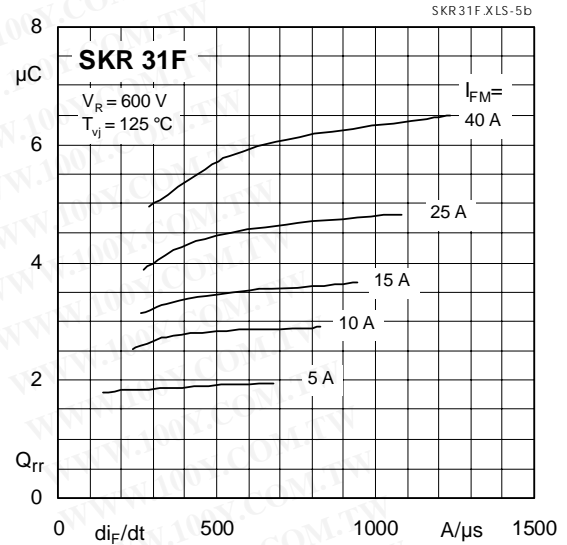


Fig. 5 b Typ. recovered charge

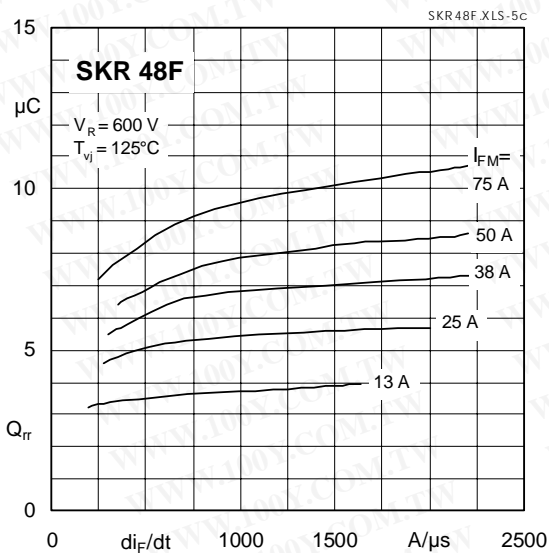


Fig. 5 c Typ. recovered charge

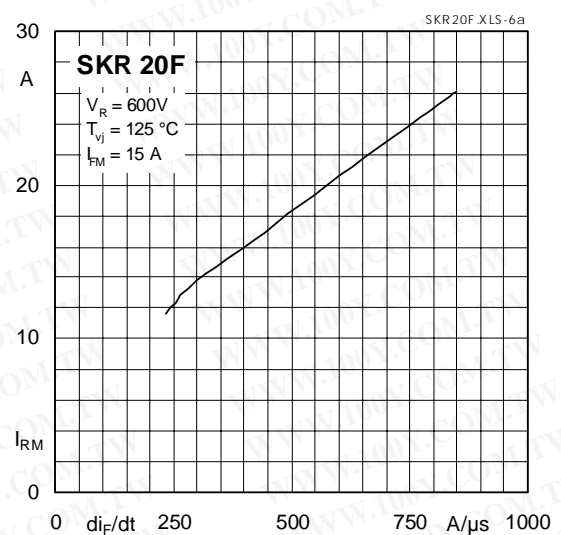


Fig. 6 a Typ. peak reverse recovery current

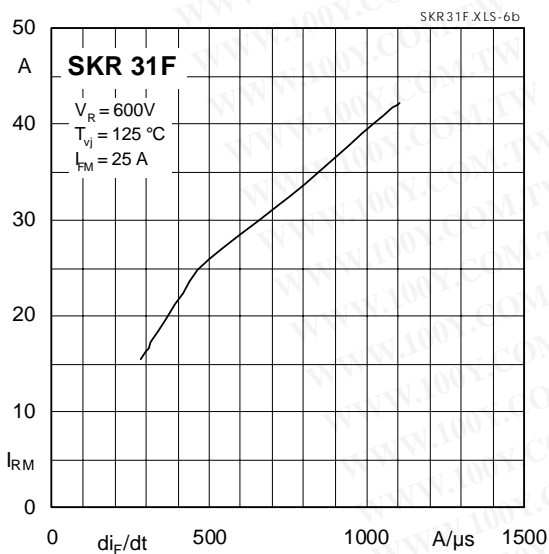


Fig. 6 b Typ. peak reverse recovery current

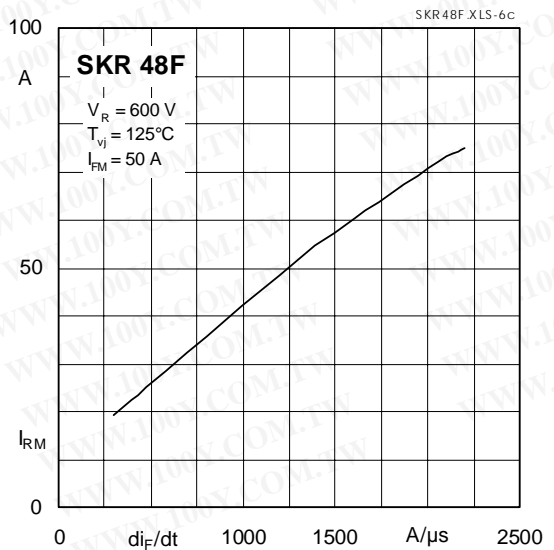


Fig. 6 c Typ. peak reverse recovery current

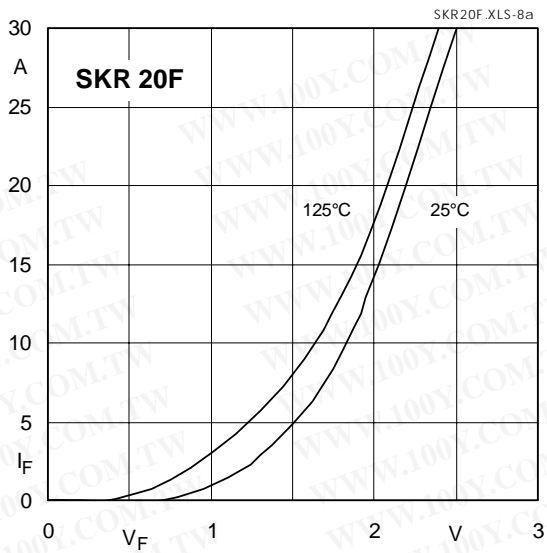


Fig. 8 a Typ. forward characteristics

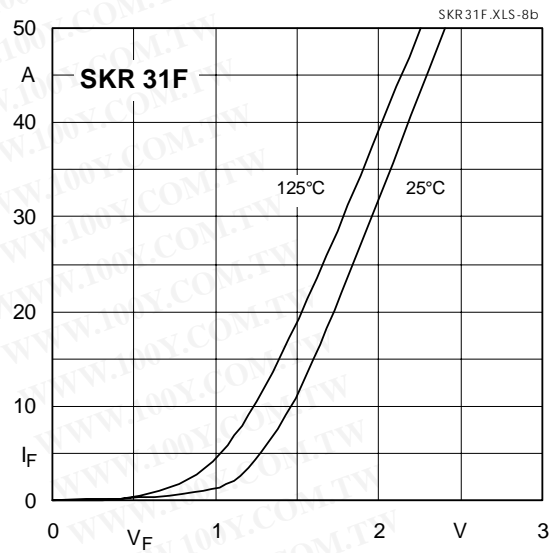


Fig. 8 b Typ. forward characteristics

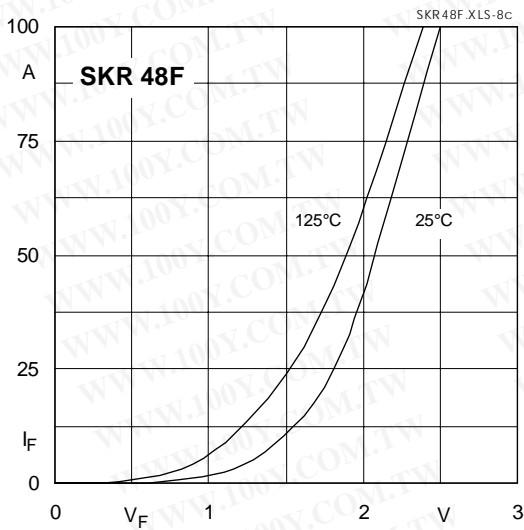


Fig. 8 c Typ. forward characteristics

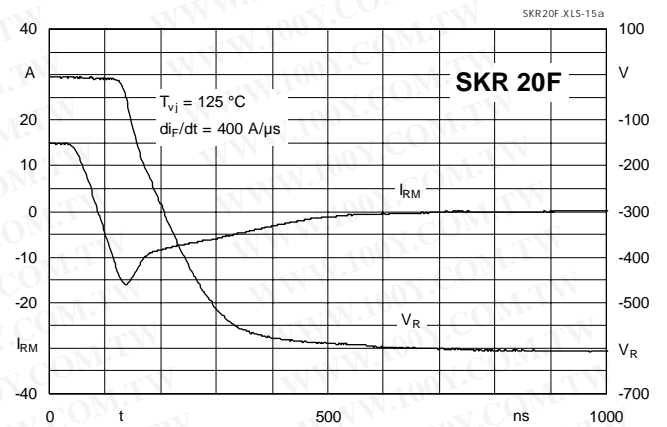


Fig. 15 a Typ. reverse recovery characteristics

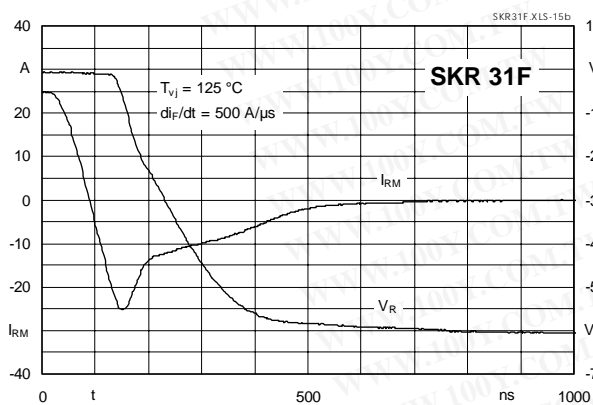


Fig. 15 b Typ. reverse recovery characteristics

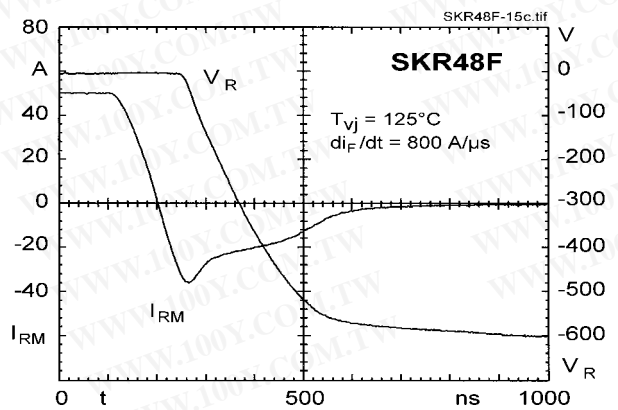
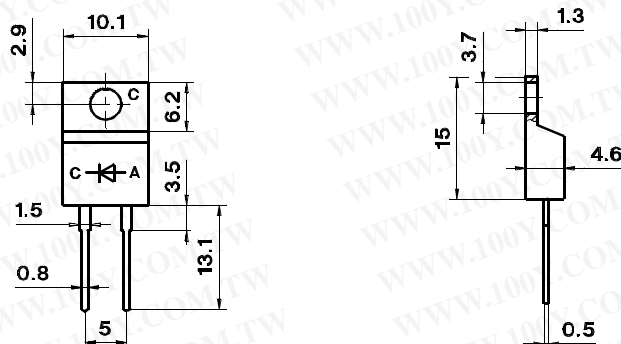


Fig. 15 c Typ. reverse recovery characteristics

### SKR 20 F

Case E 39

TO-220 AC

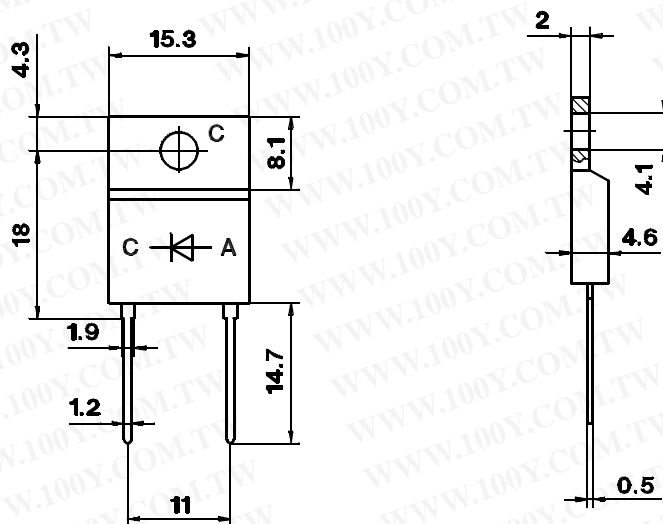


### SKR 31 F

### SKR 48 F

Case E 40

TO-218



Dimensions in mm

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