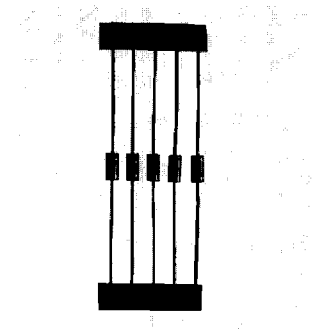
Fast Recovery Rectifier Diodes

SK 09 F
SK 09 H
SK 09 L



V_{RSM}	I_{FRMS} (maximum values for continuous operation)		
V_{RRM}	3 A	3 A	3 A
	I_{FAV} (sin. 180; T_{ref} = 120 °C, L = 10 mm; f ≤ 1 kHz)		
V	1,1 A	1,1 A	1,1 A
100	**SK 09 F 01**	**SK 09 H 01**	–
200	**SK 09 F 02**	**SK 09 H 02**	**SK 09 L 02**
400	**SK 09 F 04**	**SK 09 H 04**	**SK 09 L 04**
600	**SK 09 F 06**	**SK 09 H 06**	**SK 09 L 06**
800	–	**SK 09 H 08**	**SK 09 L 08**
1000	–	**SK 09 H 10 ***	**SK 09 L 10**

Symbol	Conditions	SK 09 F	SK 09 H	SK 09 L	Units
I_{FAV}	T_{ref} = 100 °C; L = 10 mm; sin./rec. 180	1,24[1]	1,24[2]	1,24[3]	A
	T_{amb} = 45 °C; sin./rec. 180; R_{thja} = 80 °C/W	0,9[1]	0,9[2]	0,9[3]	A
I_{FSM}	T_{vj} = 25 °C; t = 10 ms		40		A
	T_{vj} = 175 °C; t = 10 ms		30		A
	t = 8,3 ms		35		A
i^2t	T_{vj} = 25 °C; 8,3 ... 10 ms		8		A^2s
	T_{vj} = 175 °C; 8,3 ... 10 ms		4,5		A^2s
Q_{rr}	T_{vj} = 150 °C; I_{FM} = 5 A; – di_F/dt = 100 A/µs;	0,8	1,3	2,2	µC
I_{RM}	V_R = 100 V; max.	10	13	16	A
t_{rr}	T_{vj} = 25 °C; I_{FM} = 0,5 A; I_{RM} = 1 A; i_{rr} = 0,25 A; max.	80	150	300	ns
t_{fr}	T_{vj} = 25 °C; I_{FM} = 2 A; di_F/dt = 100 A / µs; typ.	100	500	500	ns
I_R	T_{vj} = 25 °C; V_R = V_{RRM}; max.		5		µA
	T_{vj} = 150 °C; V_R = V_{RRM}; typ.		400		µA
V_F	T_{vj} = 25 °C; I_F = 1 A; max.		1,5		V
$V_{(TO)}$	T_{vj} = 175 °C		0,95		V
r_T	T_{vj} = 175 °C		200		mΩ
R_{thjr}	L = 10 mm		30		°C/W
R_{thja}	p.c.b. 50 x 50 mm		80		°C
T_{vj}			– 40 ... + 175		°C
T_{stg}			– 55 ... + 175		°C
T_{solder}	max. 10 s, L = 9 mm		280		°C
a			5 · 9,81		m/s^2
w	approx.		0,4		g
Case	→ page B 9 – 18		E 32		

* Available in limited quantities

Features

- Axial lead diodes, taped
- Glass passivated silicon chip
- Void-free moulded plastic acc. to Underwriters Laboratory (UL) flammability classification 94 V-0
- Polarity: Band denotes cathode terminal
- Peak inverse voltage up to 1000 V
- High surge current of 40 A
- Available with formed leads on request

Typical Applications

- Switched mode power supplies
- TV sets
- Inverters
- Ultrasonic generators
- For printed circuit board mounting

[1] f ≤ 50 kHz
[2] f ≤ 30 kHz
[3] f ≤ 15 kHz

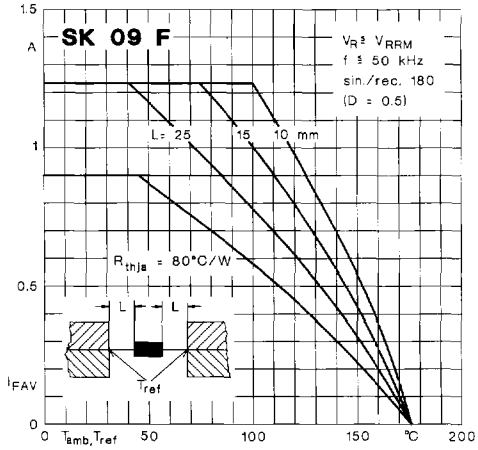


Fig. 12 a Rated forward current vs. temperature

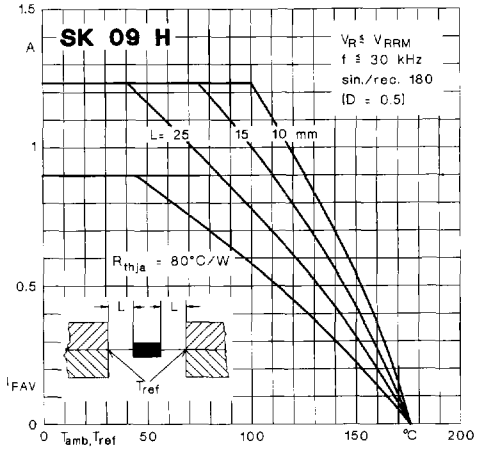


Fig. 12 b Rated forward current vs. temperature

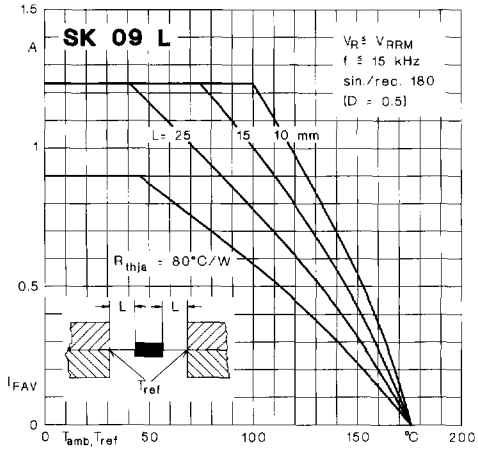
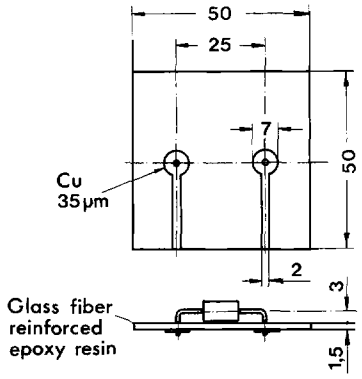


Fig. 12 c Rated forward current vs. temperature

P.C.B. for R_{thja} = 80 °C/W



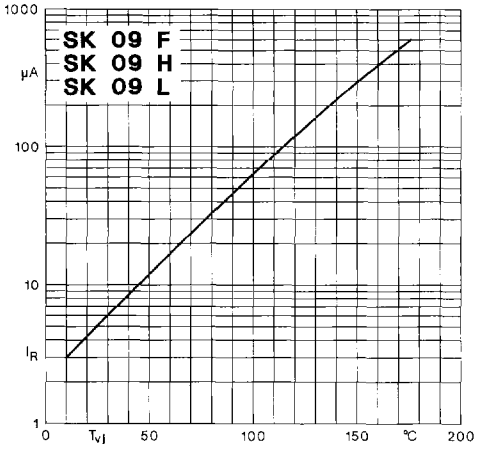


Fig. 13 Reverse current vs. junction temperature

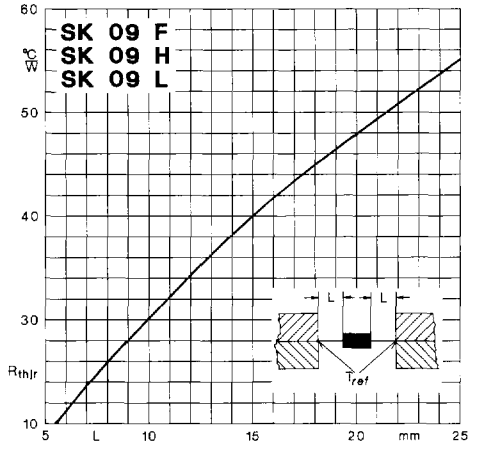


Fig. 14 Thermal resistance vs. lead length

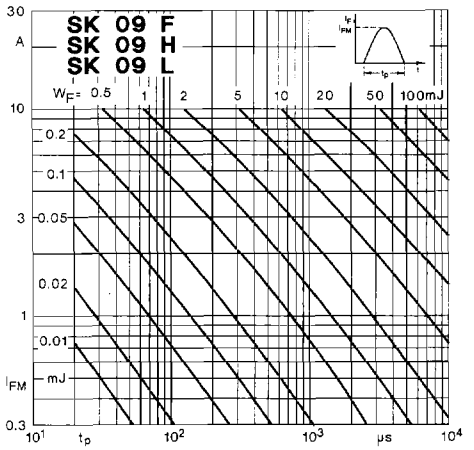


Fig. 2 Forward energy dissipation, sinusoidal

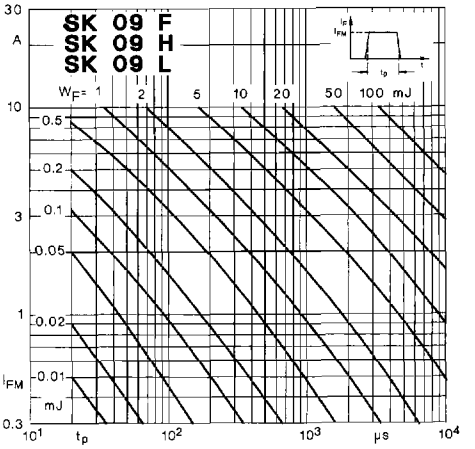


Fig. 4 Forward energy dissipation, rectangular

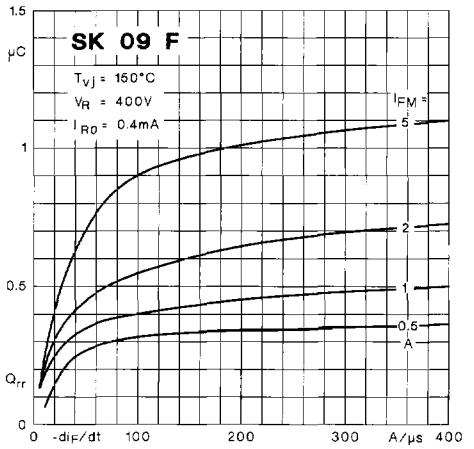


Fig. 5 a Recovered charge

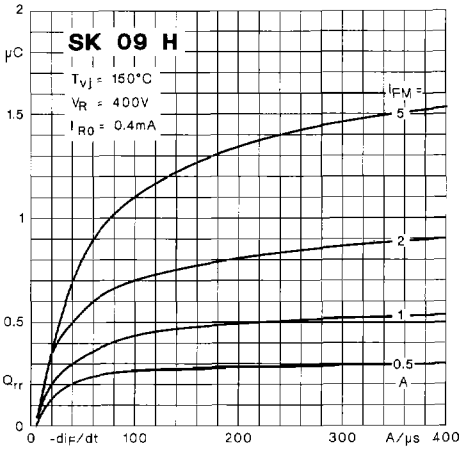


Fig. 5 b Recovered charge

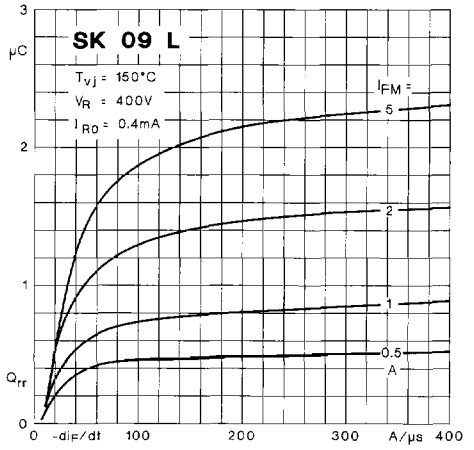


Fig. 5 c Recovered charge

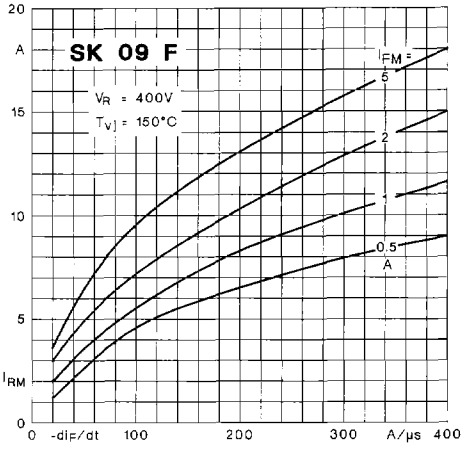


Fig. 6 a Peak reverse recovery current

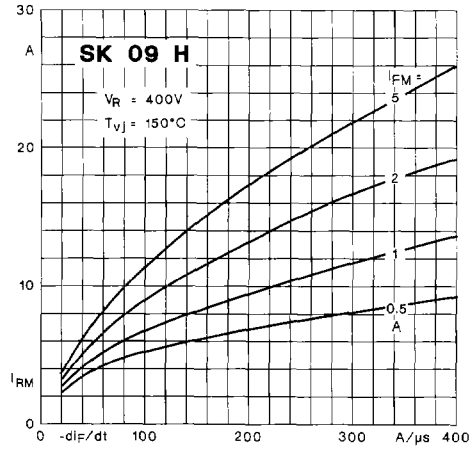


Fig. 6 b Peak reverse recovery current

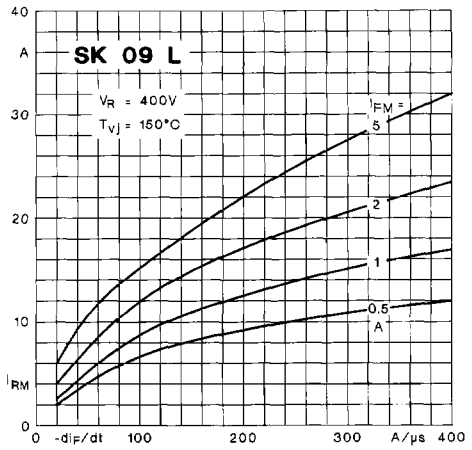


Fig. 6 c Peak reverse recovery current

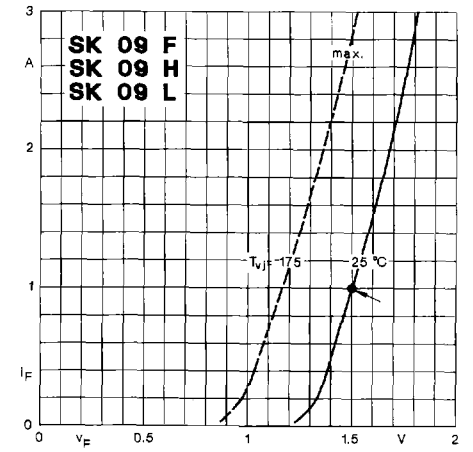


Fig. 8 Forward characteristics

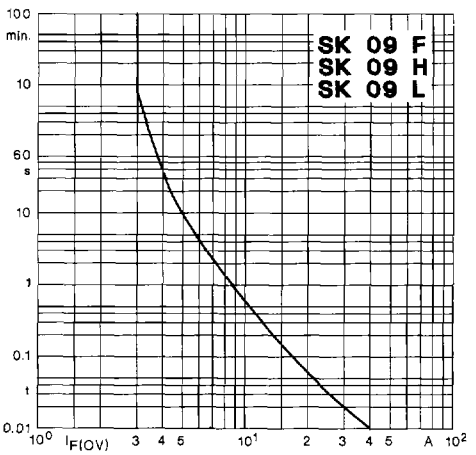


Fig. 11 Rated surge overload current

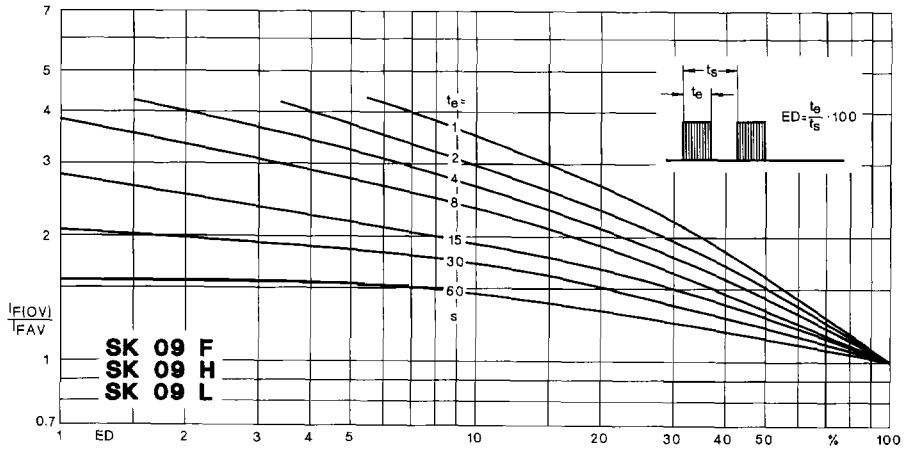


Fig. 10 Intermittent duty overload current