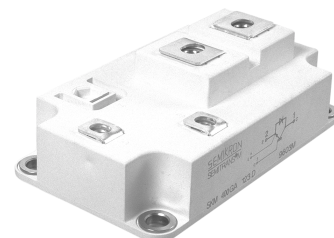


V_{RSM} V_{RRM}	I_{FRMS} (maximum values for continuous operation) 450 A
V	I_{FAV} (sin. 180; $T_{case} = 103\text{ °C}$; 50 Hz) 290 A
1000	SKKE 600 F 10
1200	SKKE 600 F 12

SEMIPACK® Fast Diode ¹⁾ Modules

SKKE 600 F



SKKE

Symbol	Conditions	SKKE 600 F	Units
I_{FDC}	$T_{case} = 92\text{ °C}$	450	A
I_{FDC}	$T_{amb} = 45\text{ °C}$; $R_{thha} = 0,05\text{ °C/W}$	360	A
I_{FDC}	$T_{amb} = 45\text{ °C}$; $R_{thha} = 0,15\text{ °C/W}$ (1/6 P16/300F)	250	A
I_{FSM}	$T_{vj} = 25\text{ °C}$; 10 ms	7 000	A
	$T_{vj} = 150\text{ °C}$; 10 ms	5 800	A
i^2t	$T_{vj} = 25\text{ °C}$; 8,3 ... 10 ms	245 000	A ² s
	$T_{vj} = 150\text{ °C}$; 8,3 ... 10 ms	168 000	A ² s
Q_{rr}	$T_{vj} = 25\text{ (150) °C}$	26 (80)	μC
I_{RM}	$I_F = 600\text{ A}$	200 (280)	A
E_{off}	$-di_F/dt = 4000\text{ A/μs}$	(20)	mJ
t_{rr}	$V_R = 600\text{ V}$	typ. 800	ns
I_R	$T_{vj} = 25\text{ °C}$; $V_R = V_{RRM}$	4	mA
	$T_{vj} = 150\text{ °C}$; $V_R = V_{RRM}$	30	mA
V_F	$T_{vj} = 25\text{ °C}$; $I_F = 600\text{ A}$; max.	2,5	V
$V_{(TO)}$	$T_{vj} = 150\text{ °C}$	1,2	V
r_T	$T_{vj} = 150\text{ °C}$	1,9	mΩ
R_{thjc}	DC	0,0625	°C/W
R_{thch}		0,038	°C/W
T_{vj}		- 40 ... + 150	°C
T_{stg}		- 40 ... + 130	°C
V_{isol}	a. c. 50 Hz; r.m.s; 1 s/1min	3000 / 2500	V~
M_1	to heatsink SI units (M6)	3 ... 5	Nm
	US units	27 ... 44	lb. in
M_2	to terminals SI units (M6)	2,5 ... 5	Nm
	US units	22 ... 44	lb. in
a		5 x 9,81	m/s ²
w		475	g
Case	SEMITRANS 4 → page B 2 – 52	A 68	

Features

- Heat transfer through aluminium oxide DCB ceramic isolated metal baseplate
- Small recovered charge
- Fast & soft recovery CAL diodes ¹⁾
- UL recognized, file no. E 63 532
- Creepage distance 20 mm
- Clearance 12 mm

Typical Applications

- Freewheeling diodes for IGBT
- Freewheeling diode for inductive loads
- Brake choppers
- Inverters and DC choppers
- AC motor control
- Boost choppers
- up to 20 kHz

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

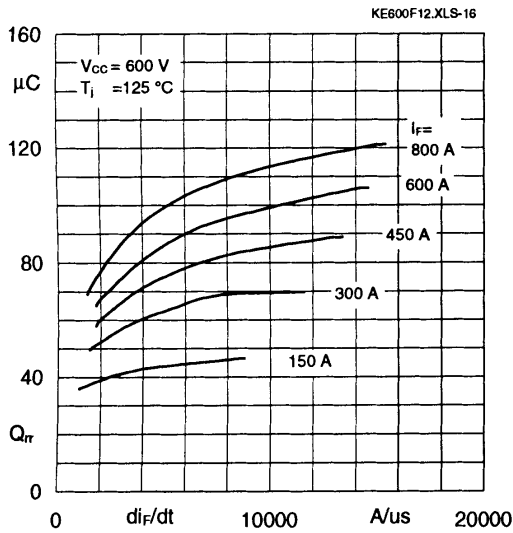


Fig. 16 Typ. recovered charge vs. current decrease

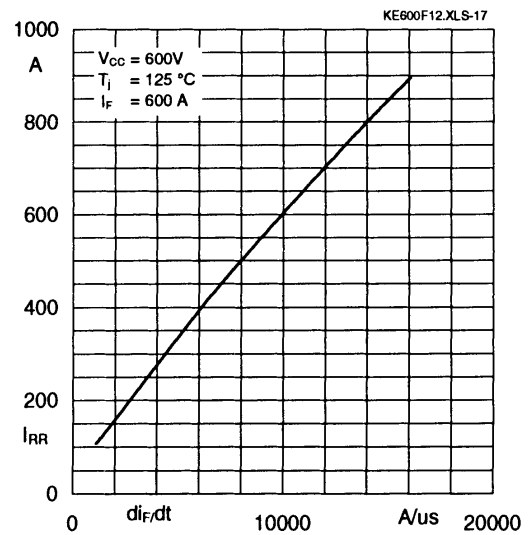


Fig. 17 Typ. peak recovery current vs. current decrease

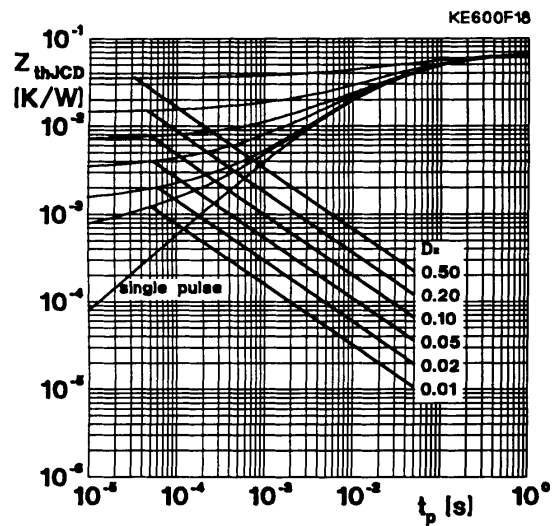


Fig. 18 Transient thermal impedance vs. time

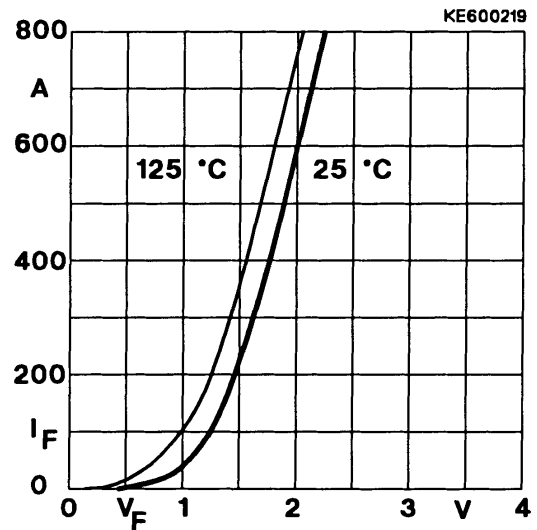


Fig. 19 Typ. forward characteristic

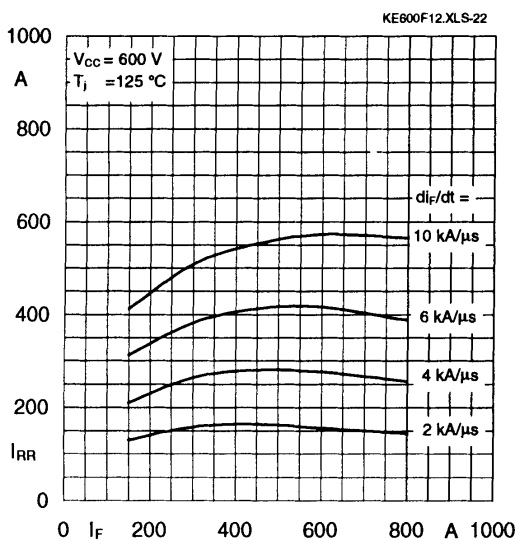


Fig. 22 Typ. peak reverse recovery current
 $I_{RR} = f(I_F; di_F/dt)$

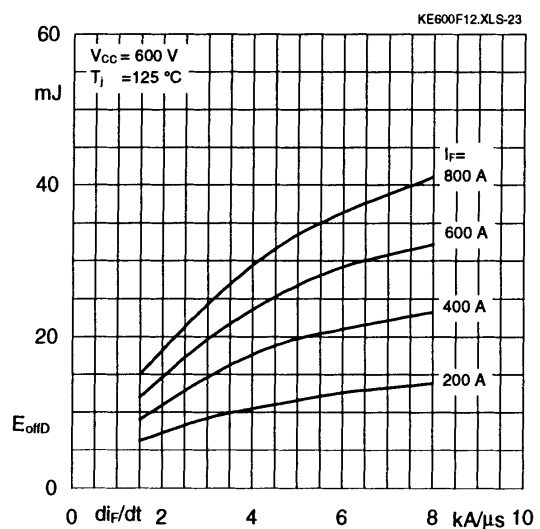
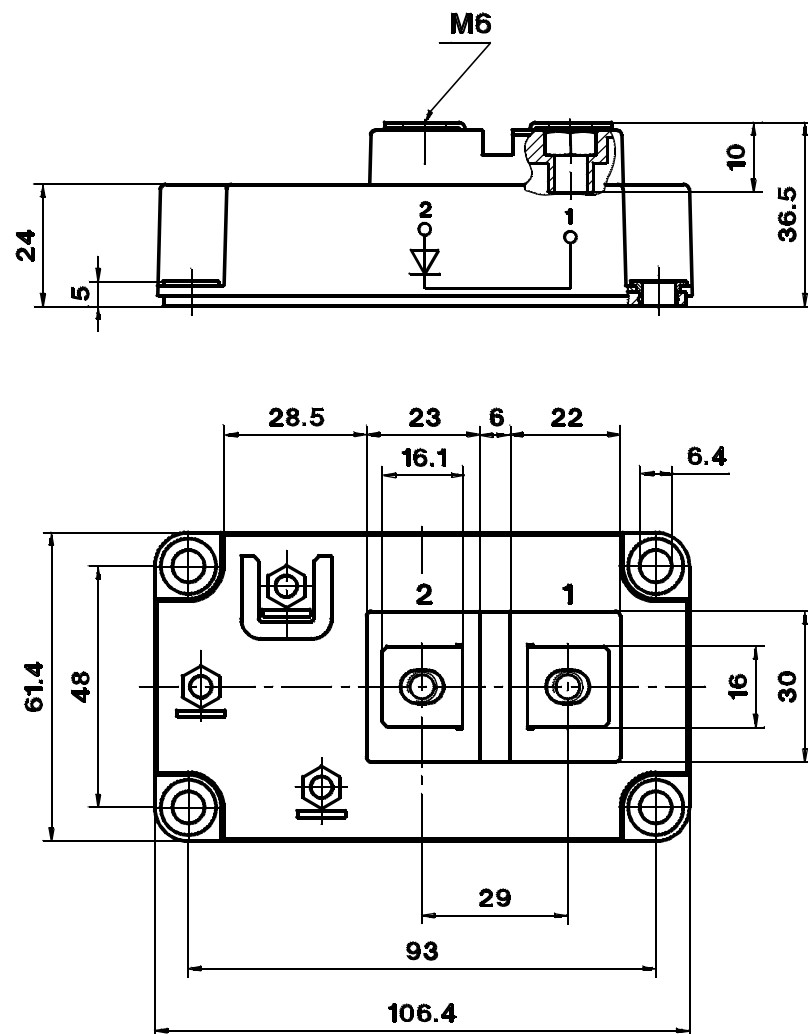


Fig. 23 Typ. turn-off energy dissipation per pulse
 $(E_{offD} = f(di_F/dt; I_F))$

SKKE 330 F
SKKE 600 F
Case A 68

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Dimensions in mm