AS ENERGI

Fast Diode Modules
AMKE 600F

Symbols and parameters				Values	Units
I_{FAV}	Mean forward current	sin 180; T_j = 150°C; T_C = 85 (100)°C		360 (305)	A
V_{RSM}	Non-repetitive peak reverse voltage			1200	V
V_{RRM}	Repetitive peak reverse voltage			1200	V
I_{FSM}	Surge forward current	T_j = 25°C; 10 ms T_j = 150°C; 10 ms		7000 5800	A A
i^2t	I^2t value, rating for fusing	T_j = 25°C; 10 ms T_j = 150°C; 10 ms		245000 168200	A^2s A^2s
V_F	Forward voltage	T_j = 25°C; I_F = 600 A		max. 2.5	V
$V_{(TO)}$	On-state threshold voltage	T_j = 150°C		max. 1.2	V
r_T	On-state slope resistance	T_j = 150°C		max. 1.9	mΩ
I_R	Reverse current	$V_R = V_{RRM}$	T_j = 25°C T_j = 150°C	max. 4 max. 30	mA mA
Q_{RR}	Reverse recovery charge	I_F = 600 A di/dt_{off} = 4000 A/µs V_R = 600 V	T_j = 150°C	typ. 80	µC
I_{RRM}	Peak reverse recovery current		T_j = 150°C	typ. 280	A
t_{rr}	Reverse recovery time		T_j = 150°C	typ. 0.78	µs
E_{rr}	Energy dissipation during reverse recovery		T_j = 150°C	typ. 21	mJ
$R_{th(j-c)}$	Thermal resistance, junction to case	per chip / per module		typ. 0.062	K/W
$R_{th(c-s)}$	Thermal resistance, junction to heatsink	per chip / per module		typ. 0.038	K/W
T_j	Junction temperature			-40 … +150	°C
T_{stg}	Storage temperature range			-40 … +125	°C
V_{isol}	Insulation test voltage (r.m.s.)	a.c. 50 Hz; r.m.s.; 1s / 1min.		4800 / 4000	V
M_S	Mounting torque on heatsink	min / max		3 / 5	Nm
M_t	Mounting torque for terminals	min / max		2.5 / 5	Nm
a	Maximum allowable acceleration			5*9.81	m/s^2
W	Weight			330	g

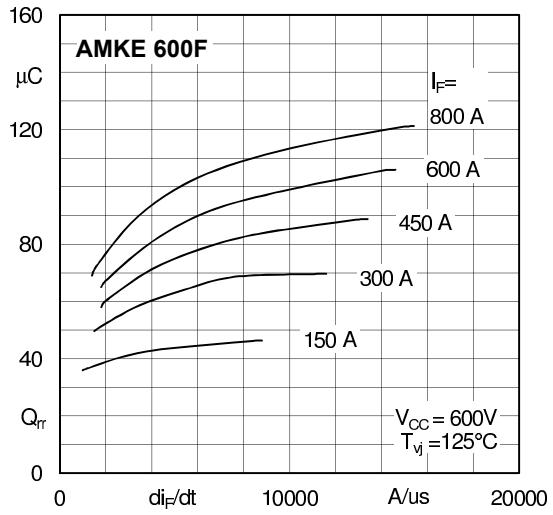


Fig. 1: Typ. recovery charge vs. current decrease

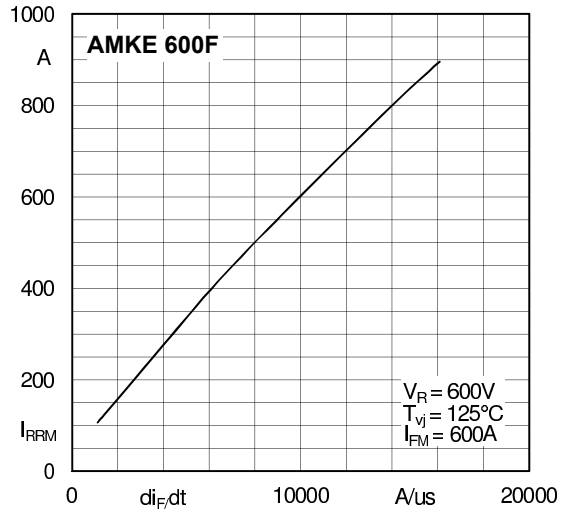


Fig. 2: Peak recovery current vs. current decrease

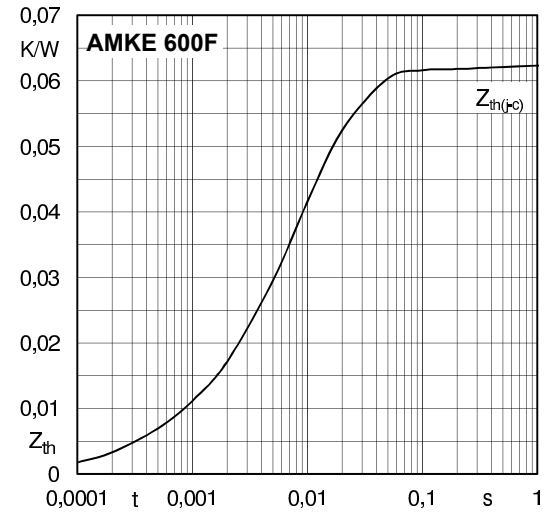


Fig. 3: Transient thermal impedance vs. time

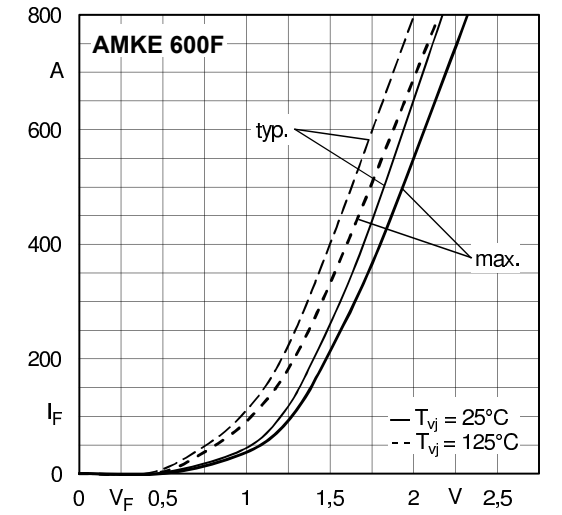


Fig. 4: Forward characteristics

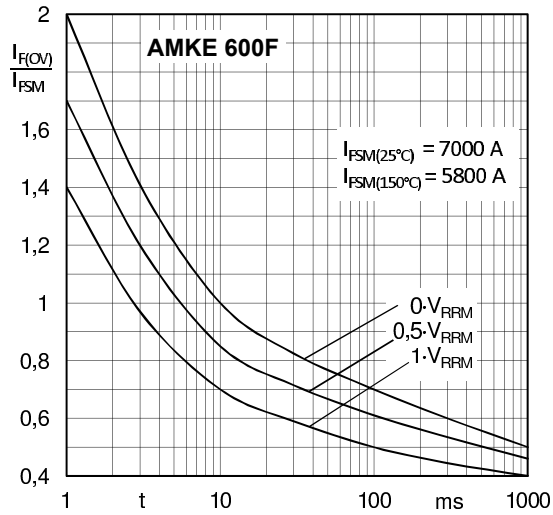


Fig. 5: Surge overload current vs. time

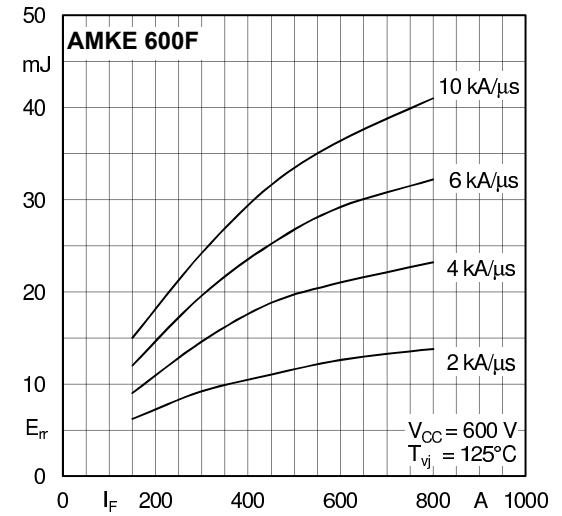
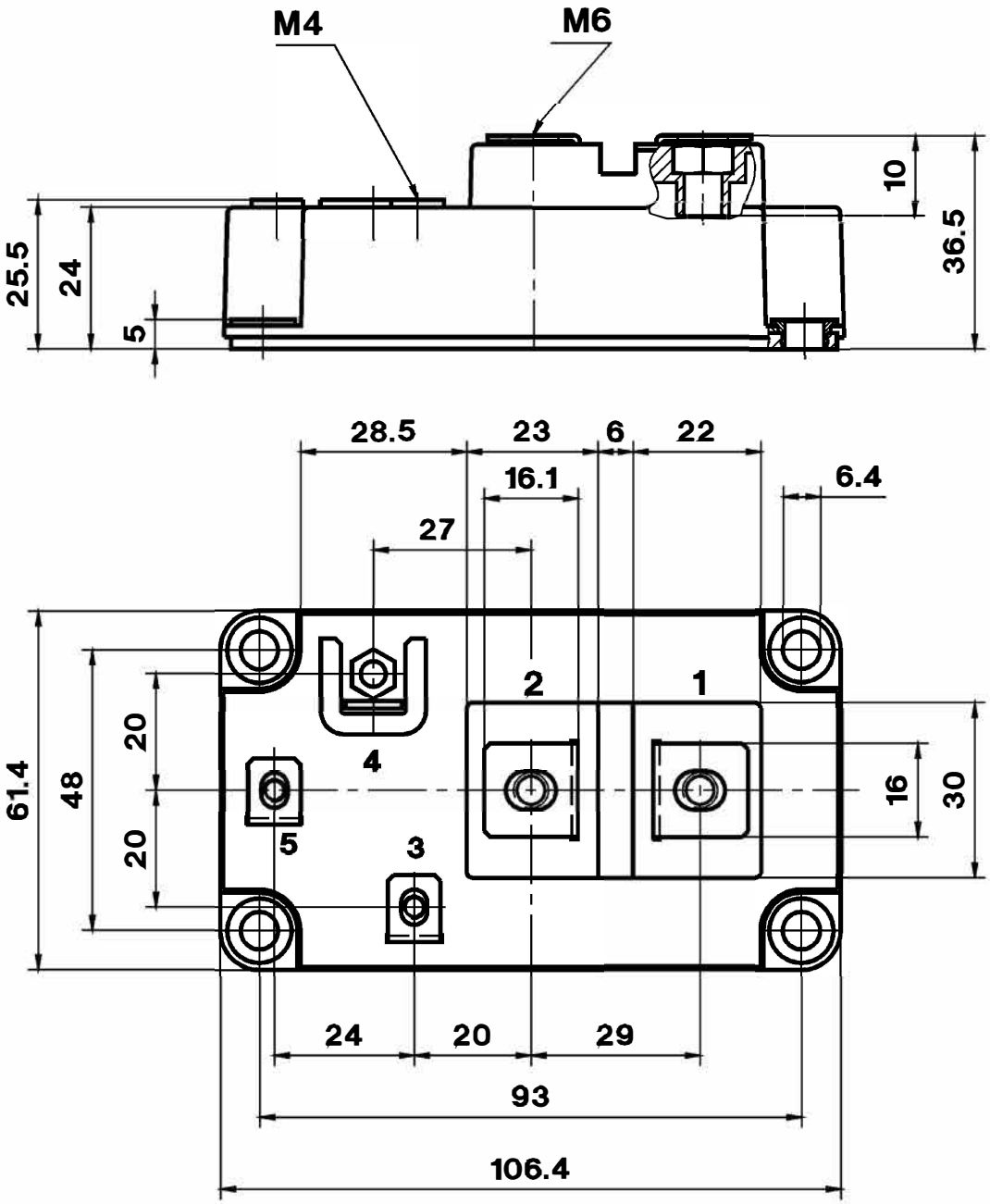


Fig. 6: Typ. turn-off energy dissipation per pulse

DIMENSIONS



General tolerance ± 0.5 mm

Dimensions in mm

TOPOLOGY OF INTERNAL CONNECTION